

Received: 29 July 2025 • Accepted: 14 October 2025 • Published: 19 March 2026

Topic editor: Tony Robillard • Section editor: Gavin Broad • Desk editor: Pepe Fernández

Monograph

urn:lsid:zoobank.org:pub:739674C3-F576-4088-9CB5-4B1BB7D10DFF

The *Sierola* (Hymenoptera: Bethylidae) of Australia

Karl MAGNACCA  

Department of Natural Sciences, Bishop Museum, 1525 Bernice Street, Honolulu,
Hawai‘i 96817, USA.
Email: knm956@gmail.com

Abstract. *Sierola* Cameron, 1881 is a highly diverse genus of aculeate ectoparasitoid wasps found across the Indo-Pacific region. Species are found on almost all Pacific high islands and mainland Asia. A few species have been described from Australia, but the genus has never been comprehensively treated there. Here, the Australian *Sierola* is reviewed for the first time, focusing on taxa that lack a high, sharp, clypeal carina. One hundred sixty-nine species from all regions are described as new, and *S. vibrissata* Ward, 2013 is recorded from Australia for the first time. As a result, there are now 177 species of *Sierola* recorded from Australia. This remains a first step on fully analyzing the genus, and at least as many or more species remain undescribed.

Keywords. Bethylinae, Chrysidoidea, taxonomy, new species, dark taxa.

Magnacca K. 2026. The *Sierola* (Hymenoptera: Bethylidae) of Australia. *European Journal of Taxonomy* 1045: 1–416. <https://doi.org/10.5852/ejt.2026.1045.3225>

Introduction

Sierola Cameron, 1881 is the second-largest genus in Bethylidae Haliday, 1839, and largest in the subfamily Bethylinae Haliday, 1839, with 321 extant species described prior to this work (Fullaway 1920; Azevedo *et al.* 2018; Magnacca 2020, 2024a, 2024c; Wang *et al.* 2021). It is widespread and diverse on nearly all Pacific islands, with many undescribed species, but relatively rare and with few species on mainland Asia compared to the closely related *Goniozus* Förster, 1856 (Santhosh 2017; Wang *et al.* 2021). The only species currently found outside the Indo-Pacific region, *S. larifuga* Evans, 1978 in California, is probably introduced (Magnacca 2020). However, fossils from Baltic and Rovno amber indicate that it formerly had a wider distribution (Sorg 1988; Ramos *et al.* 2014).

This is the first monograph revising the Australian *Sierola*. Like many Australian arthropod taxa, it is poorly studied relative to the diversity present on the continent (Cassis *et al.* 2017). Only five species had been described previously: *S. antipoda* Ashmead, 1901, *S. ellingtoni* Gordh, 1998, *S. leeuwinensis* Turner, 1915, *S. thorpei* Magnacca, 2019, and *S. websteri* Ashmead, 1901 (Ashmead 1901a; Turner 1915; Gordh 1998; Magnacca 2019). One additional species, *S. angulata* (Muesebeck, 1933), was recently transferred to *Sierola* from *Goniozus* (Magnacca 2024b); and based on its close similarity to *S. ellingtoni*, *S. larifuga* Evans, 1978 is almost certainly native to Australia as well (Magnacca 2020). This is despite the large number of specimens known to be present in Australian collections (Azevedo 2006).

This work primarily covers the species that lack a distinct, high, sharp dorsal clypeal carina. Some such division is necessary in order to make the monumental task of describing the Australian *Sierola* manageable. However, it is an imperfect and unsatisfactory one, since these species do not form a natural group, and the Australian species are more variable in this character than previously-treated species found on Pacific islands and mainland Asia. For example, many have a sharp but very low carina, which is often difficult to discern as sharp compared to merely weakly angulate (these are treated here); and a brief examination of the specimens with a strong, sharp carina indicates that some members of well-defined clusters such as the *compressa* species group fall there. Furthermore, I have included the representatives of the *vibrissata* species group here, because they clearly form a distinct, closely-related cluster of species, though they have the clypeal carina ranging from ambiguous to clearly sharp.

The gender of *Sierola* was not specified at the time of its description (Cameron 1881), and the name of the type species *S. testaceipes* Cameron, 1881 does not have a gender-specific termination. It has traditionally been considered feminine, but Gordh (1998) treated it as neuter without explanation. I have been unable to determine the origin of the name, including whether it comes from Latin or Greek at all as might be expected for a name of that period (Magnacca 2020). According to Article 30.2.4 of the ICZN (ICZN 1999), for words that are not Latin or Greek, “If no gender was specified or indicated, the name is to be treated as masculine, except that, if the name ends in -a the gender is feminine, and if it ends in -um, -on, or -u the gender is neuter.” Furthermore, the second species described was *S. leuconeura* Blackburn & Cameron, 1886, indicating that Cameron intended it to be considered feminine even if it is Latin or Greek derived. Thus, I consider it to be definitively of feminine gender.

Material and methods

Species concept

As in previous studies on the species of Hawaii (Magnacca 2020, 2024c), for determining species boundaries I use the phylogenetic species concept as defined by Nixon & Wheeler (1990) and Wheeler & Platnick (2000): the smallest aggregation of populations diagnosable by a unique combination of character states. Although this can lead to over-splitting due to assessing character states as diagnosable due to the small number of individuals or local host races of widespread species, I prefer over-splitting to over-lumping because it retains more information about individuals and populations. For the most part, the species treated here are fairly clearly differentiated, and there are relatively few difficult cases. DNA sequences for the COI ‘barcode’ are available for only a few species, but confirm that similar species can occur even sympatrically, so it is likely that if anything there is more cryptic diversity to be discovered.

Morphology

Morphometric measurements of holotypes are given for all species; for all species with three or more specimens, all available were measured for major characters, and these are presented as ranges. Morphometrics follows Magnacca (2020), using the following abbreviations (Fig. 1): head length (LH), head depth (DH), eye-vertex distance (EV), eye height (HE), head width (WH), frons width (WF), width of the ocellar triangle (WOT), ocellar-ocular length (OOL), third antennomere (A3, first flagellomere) length/width, profemur length (FL) and width (FW), metafemur length (HFL) and width (HFW), mesosoma length (LM), mesosoma depth (DM), length of the fore wing (LFW), and cell 2R1 length/width. Aside from LM and LFW (measured in millimeters), these are recorded as the ratios DH/LH, WH/LH, EV/HE, EV/WF, WF/HE, WH/WF, OOL/WOT, A3 L/W, DM/LM, FL/FW, HFL/HFW, and 2R1 L/W. Measurements were taken with an Olympus SZ61 dissecting microscope at 67.5× or 90× using an eyepiece micrometer with a tick length of 0.0146 mm.

General morphological terminology follows Azevedo *et al.* (2018); specific character state terminology follows Magnacca (2020; see Morphology section and Figures 1–10). In brief, most of the useful

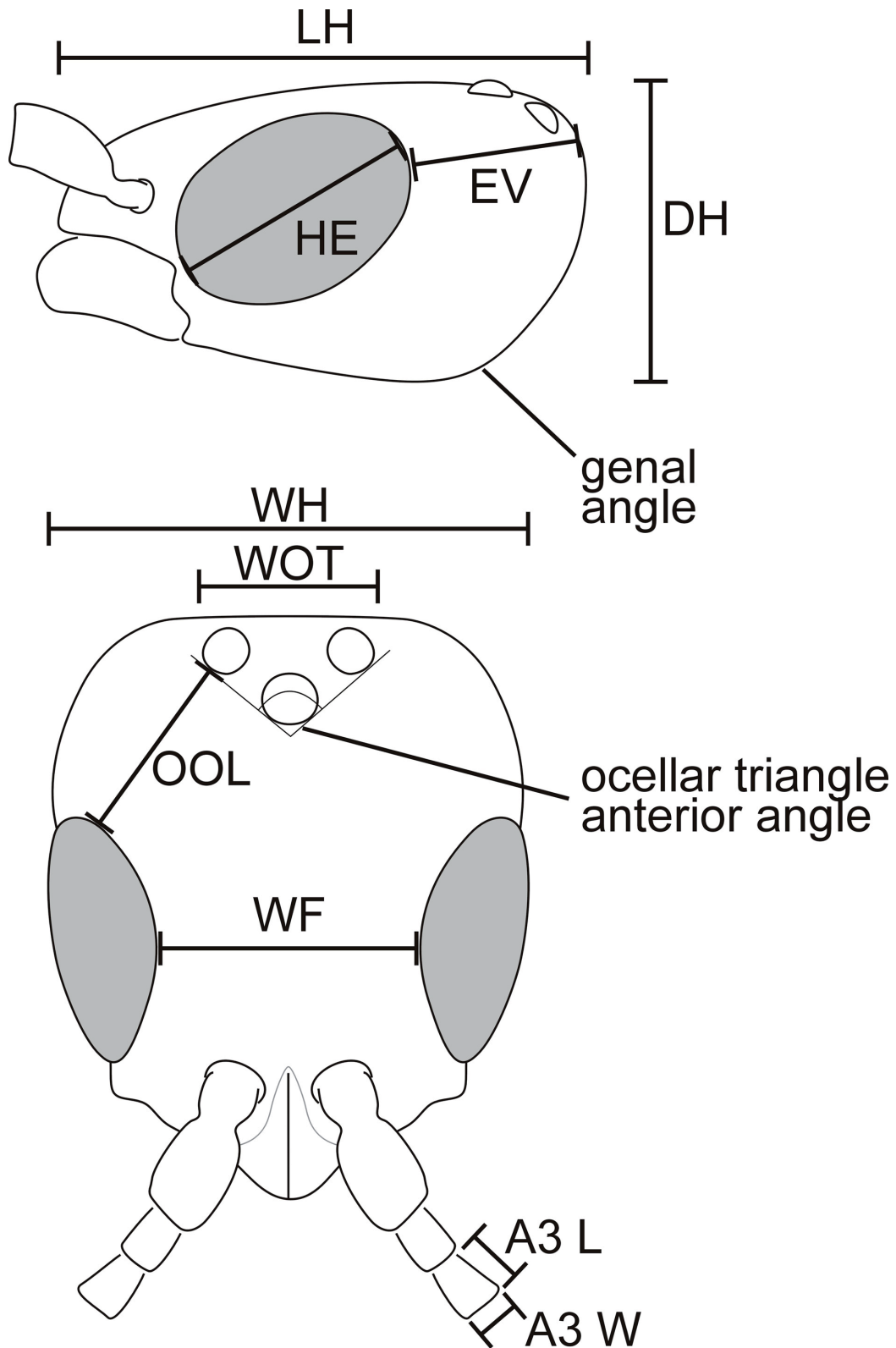


Fig. 1. Head measurements, shown on a stylized generic *Sierola* Cameron, 1881. Abbreviations: A3 L = length of third antennomere (= first flagellomere); A3 W = width of third antennomere; DH = depth of head; EV = eye-vertex distance; HE = height (= length) of eye; LH = length of head; OOL = ocellar-ocular length; WF = width of frons; WH = width of head; WOT = width of ocellar triangle.

characters are on the head, primarily the clypeus, mandible, microsculpture and punctuation, and ocellar arrangement. Without any qualifiers, ‘clypeus’ refers to the median lobe process; the lateral lobes are small and inconspicuous. The Australian species include a wider variety of morphologies than have been treated previously in Hawaii, including many with a dorsal carina that is sharp but low, and a few where it is bifurcate (Fig. 2); these are treated here. The mandibles are highly variable and extremely important for separating species, although difficult to describe unambiguously. The mandible is often distinctly narrowed between the base and apex (ventral margin concave or incurved), and the apical portion may also be convex on the outward (external) face, or twisted relative to the plane of articulation (Fig. 3). The shape of the ocellar triangle, when used without qualification, refers to the anterior angle. Other major characters include the differentiated setae of the vertex crest and gena (Fig. 4), genal sculpture (Fig. 5), width of the pro- and metafemora, and setation of cells R and 1Cu of the fore wing (collectively referred to as the basal wing cells; Fig. 6). The wing cells range from nearly glabrous (only a few setae, not in distinct rows), to sparsely setose (one or two rows of setae in each cell), to densely setose (three or more rows of setae), to very densely setose (five or more rows of setae). Some species are intermediate (typically with two rows in both cells, or two rows with a few extra setae); these are keyed out both ways. Many species have cell 2R1 narrowly to distinctly open (Fig. 6A–B). Since there is no external differentiation between the ancestral metapostnotum and first abdominal segment, “propodeum” is used to refer to the entire metapectal-propodeal complex. Most species have the propodeum unmodified as

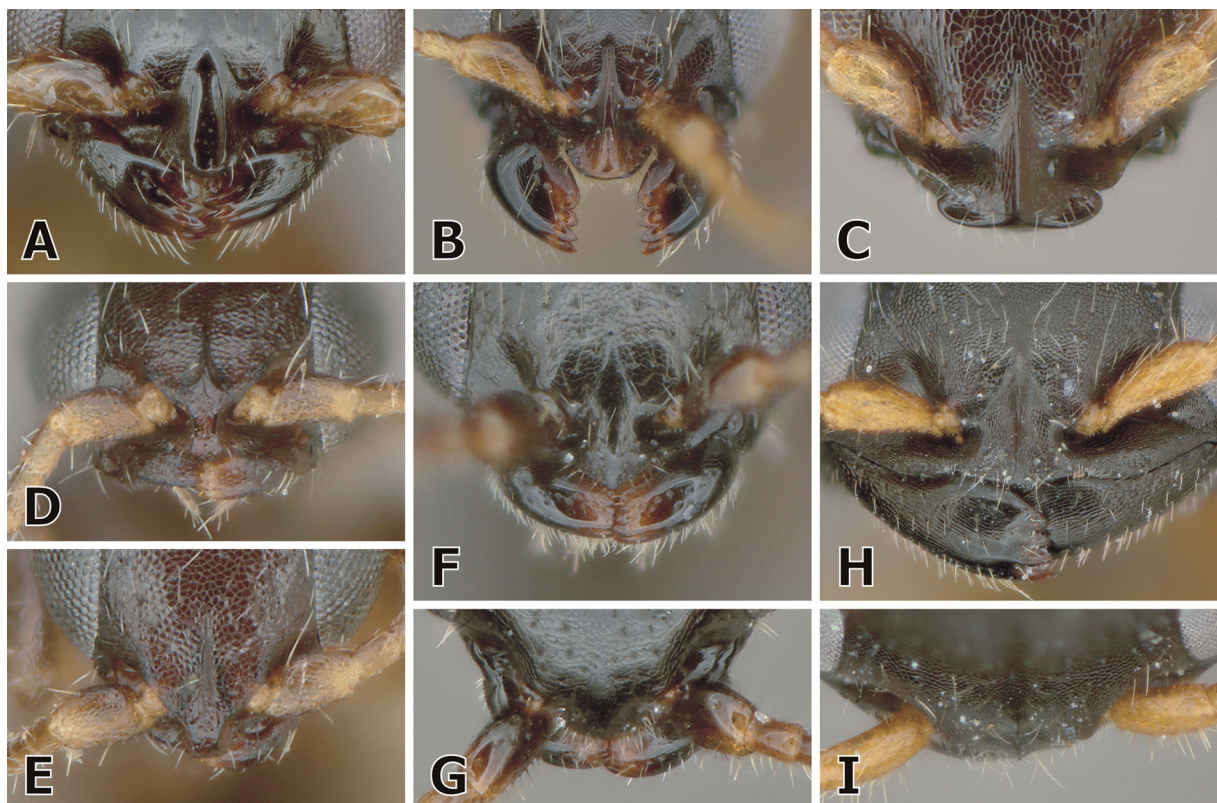


Fig. 2. Clypeus variation. **A.** *Sierola aulacifrons* sp. nov. (holotype, ♀, ANIC 32-154812), widely bifurcate. **B.** *S. bicarinata* sp. nov. (holotype, ♀, ANIC 32-154814), narrowly bifurcate. **C.** *S. curtirostris* sp. nov. (holotype, ♀, ANIC 32-154826), low carina. **D–E.** *S. contracta* sp. nov. (holotype, ♀, UCRC 537324), narrowed and flat. **F–G.** *S. elasson* sp. nov. (holotype, ♀, TMAG F180581), convex. **H–I.** *S. megacephala* sp. nov. (holotype, ♀, ANIC 32-154853), flat with low, narrow, sharp carina. A–D, F, H: anterior view; E, G, I: posterodorsal view.

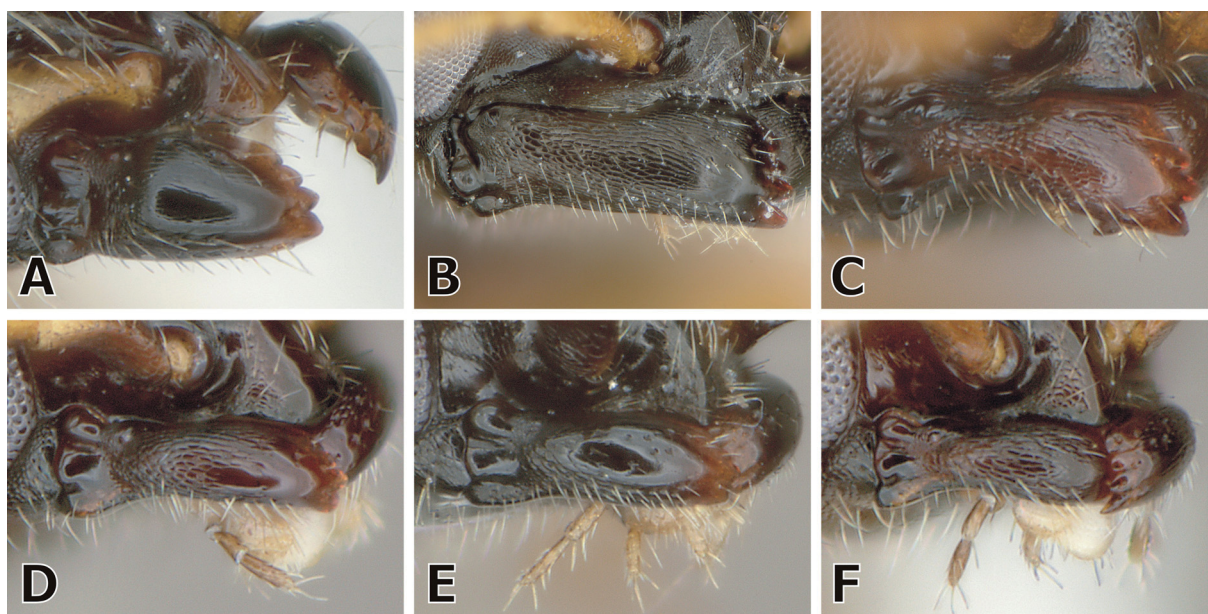


Fig. 3. Mandible variation. **A.** *Sierola bicarinata* sp. nov. (holotype, ♀, ANIC 32-154814), broad and strongly twisted. **B.** *S. megacephala* sp. nov. (holotype, ♀, ANIC 32-154853), moderately broad, parallel-sided. **C.** *S. limitata* sp. nov. (holotype, ♀, ANIC 32-154847), moderately broad, distinctly concave ventrally. **D.** *S. remota* sp. nov. (holotype, ♀, ANIC 32-154873), narrow, ventral margin parallel-sided beyond base. **E.** *Sierola elasson* sp. nov. (holotype, ♀, TMAG F180581), moderately narrow, ventral margin slightly concave. **F.** *Sierola pelion* sp. nov. (holotype, ♀, ANIC 32-154864), moderately narrow, ventral margin distinctly concave. E flipped horizontally.

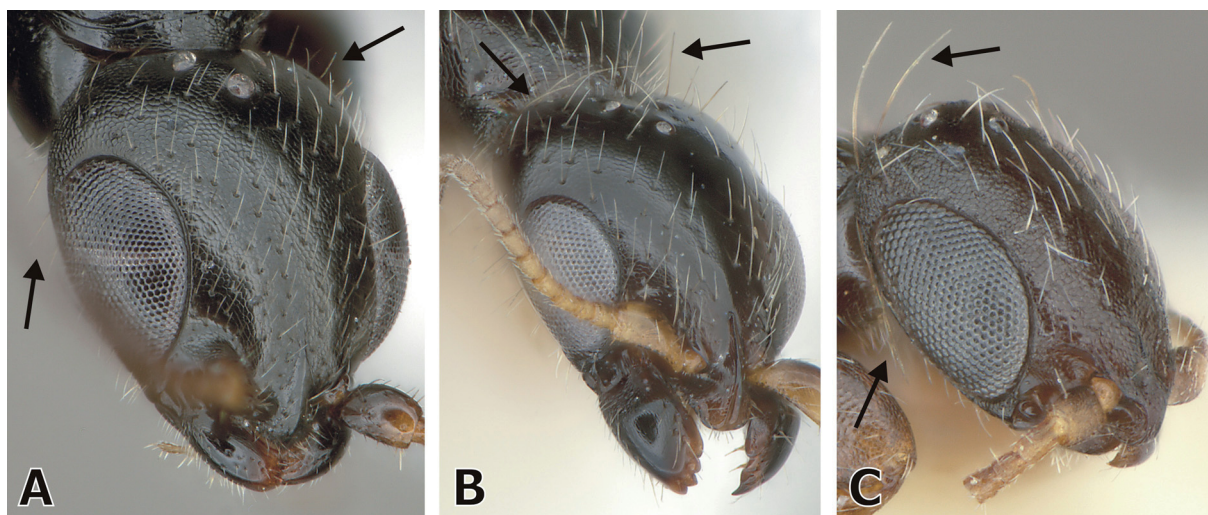


Fig. 4. Vertex and gena setae (indicated with arrows). **A.** *Sierola elasson* sp. nov. (holotype, ♀, TMAG F180581), similar to frons setae. **B.** *S. bicarinata* sp. nov. (holotype, ♀, ANIC 32-154814), about twice as long as frons setae, erect and conspicuous. **C.** *S. contracta* sp. nov. (holotype, ♀, UCRC 537324), thickened and bristle-like, about three times as long as frons setae. A flipped horizontally.

in typical *Sierola* from elsewhere, but some have diagnostic propodeal sculpture (i.e., the presence of highly polished areas) or distinct transverse or medial carinae.

The metasoma has relatively few useful characters, but some are of interest. The numbering of the terga and sterna refers to the segments of the metasoma, not the true abdominal segments. In most species the terga are predominantly polished, but in those with distinct dorsal sculpture it is generally consistent. Many Australian species have one or two pairs of elongate setae on the posterior margins of the sterna, much longer than the normal prostrate marginal setae. These are often longer on the posterior segments, particularly S6. They may be conspicuous, but are also somewhat fragile and often broken off. The short setae of S6 are variable in form and density, mostly intergrading. However, there is a distinct form in a few species where the setae are all evenly short, lacking a median glabrous strip, and often directed anteriorly rather than posteriorly as usual.

Males have been associated for relatively few species due to their more generalized morphology and the large number of similar species often found sympatrically, and the genitalia have not been studied

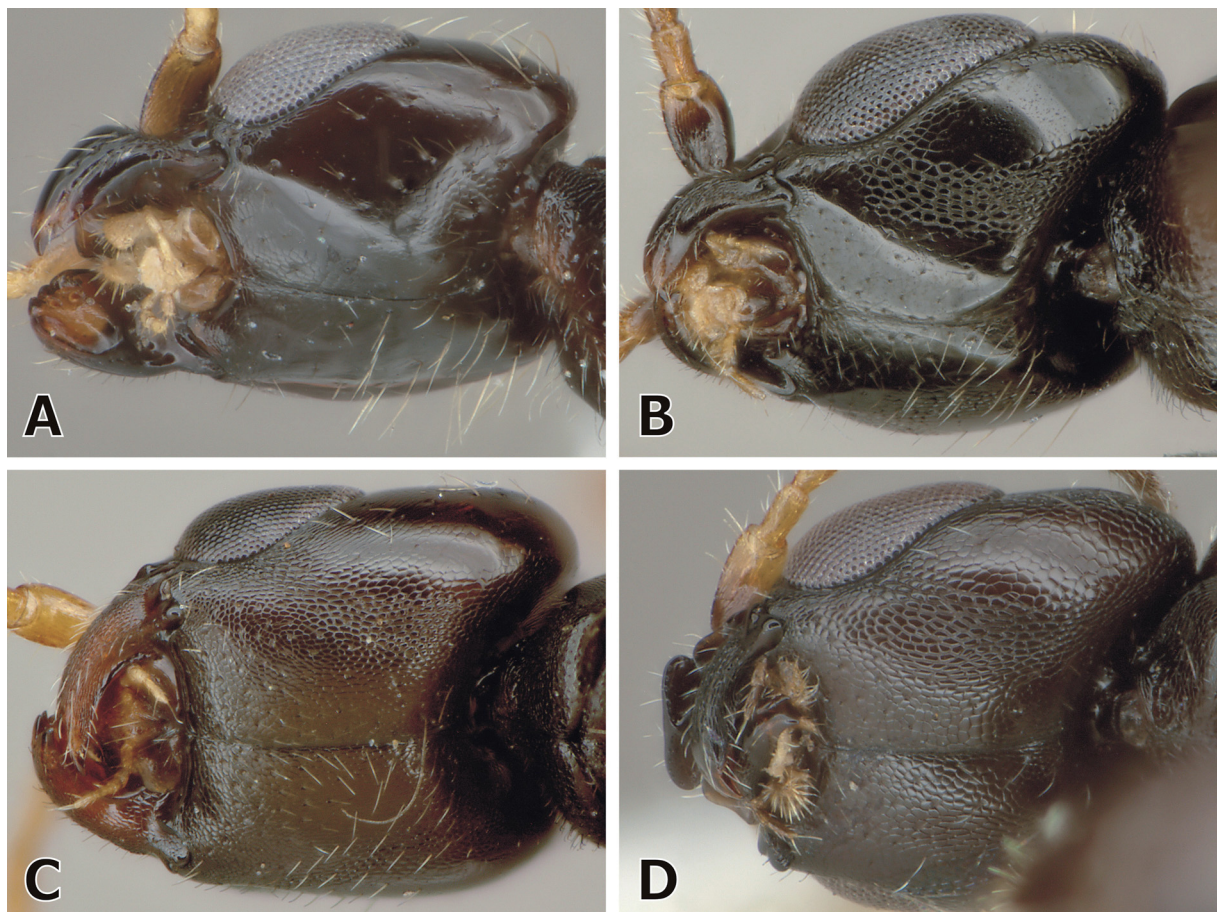


Fig. 5. Gena sculpture. **A.** *Sierola bicarinata* sp. nov. (holotype, ♀, ANIC 32-154814), smooth and evenly, finely microreticulate. **B.** *S. elasson* sp. nov. (holotype, ♀, TMAG F180581), smooth and highly polished ventrally and posterolaterally, with broad band of strong tessellate sculpture between anteroventral eye margin and occiput. **C.** *S. limitata* sp. nov. (holotype ♀, ANIC 32-154847), coriaceous ventrally, weakly reticulate posterolaterally, with tessellate band in between. **D.** *S. curtirostris* sp. nov. (holotype, ♀, ANIC 32-154826), coriaceous ventrally and posterolaterally, with tessellate band in between. A, D flipped horizontally.

(Magnacca 2020, 2024a). Here, males are included only where they could be definitively associated by unique morphology shared with females, and/or by DNA sequencing.

Specimens

The following institutions were visited, and all available *Sierola* without a strongly carinate clypeus were examined or borrowed (Supp. file 1). The Queen Victoria Museum (Launceston, Australia) and Western Australia Museum (Perth, Australia) were also searched but had no Australian *Sierola*.

- AM = Australian Museum, Sydney, Australia (Matt Shaw, Andrew Mitchell)
 ANIC = Australian National Insect Collection, Canberra, Australia (Federica Turco, Juanita Rodriguez)
 BIOUG = Centre for Biodiversity Genomics, Guelph, Canada (Dina Soliman, Allison Brown)
 BPBM = Bernice Pauahi Bishop Museum, Honolulu, USA (Neal Evenhuis)
 MVMA = Museums Victoria, Entomology and Arachnology Collection, Melbourne, Australia (Simon Hinkley)
 NHMUK = The Natural History Museum, London, UK (David Notton)
 NZAC = New Zealand Arthropod Collection, Auckland, New Zealand (Darren Ward)
 QM = Queensland Museum, Brisbane, Australia (Susan Wright, Karin Koch)

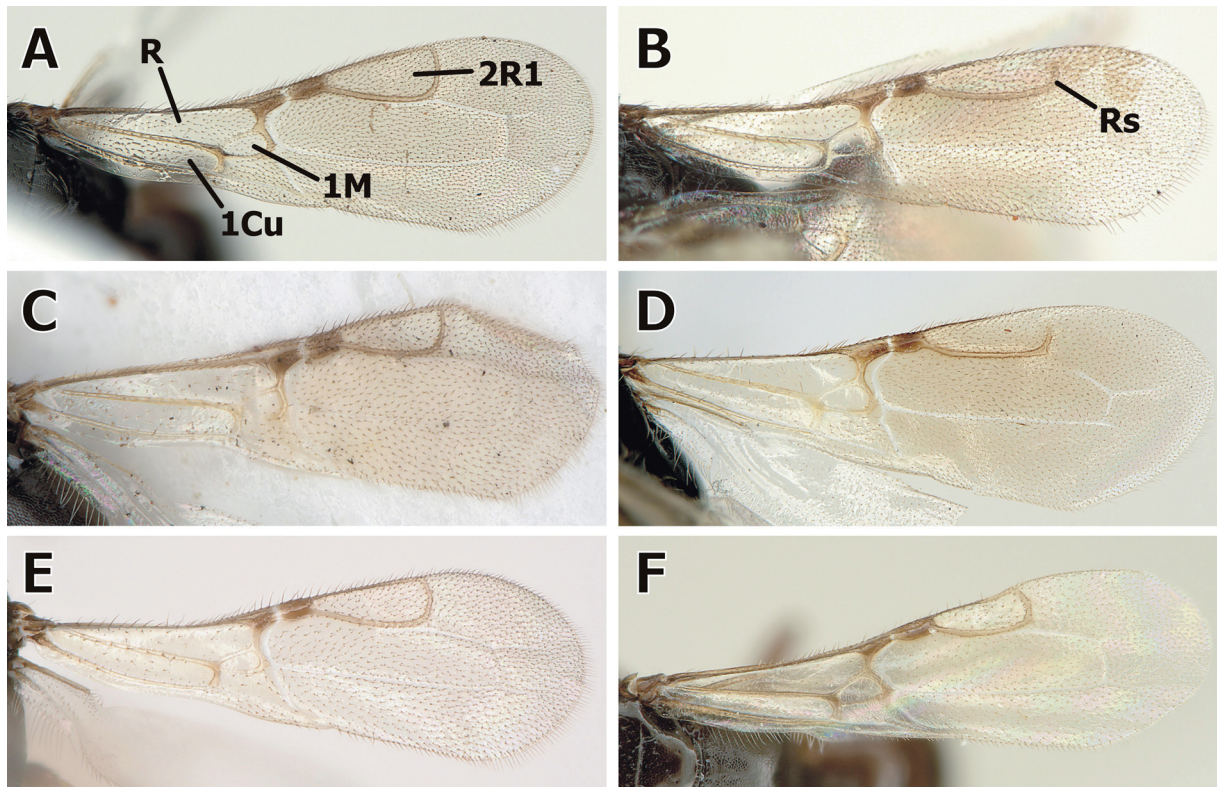


Fig. 6. Fore wing venation and setation. **A.** *Sierola alveolata* sp. nov. (holotype, ♀, QM T262152), basal cells (R and 1Cu) very densely setose. **B.** *S. contracta* sp. nov. (holotype, ♀, UCRC 537324), basal cells densely setose, vein Rs ending remote from anterior wing margin. **C.** *S. specularis* sp. nov. (holotype, ♀, MVMA HYM-86592), basal cells intermediate. **D.** *S. aulacifrons* sp. nov. (holotype, ♀, ANIC 32-154812), basal cells intermediate, vein Rs ending remote from anterior wing margin. **E.** *S. diversa* sp. nov. (paratype, ♀, QM), basal cells sparsely setose. **F.** *S. aphelops* sp. nov. (paratype, ♀, UCDC), basal cells nearly glabrous, cell 1M angulate posterodistally. F flipped horizontally.

SAMA	=	South Australian Museum, Adelaide, Australia (Ben Parslow)
TMAG	=	Tasmanian Museum and Art Gallery, Hobart, Australia (Simon Grove)
UCDC	=	University of California-Davis, R.M. Bohart Museum of Entomology, Davis, USA (Lynn Kimsey)
UCRC	=	University of California-Riverside Entomology Research Museum, Riverside, USA (Doug Yanega)
USNM	=	Smithsonian National Museum of Natural History, Washington DC, USA (Seán Brady)
WINC	=	Waite Insect and Nematode Collection, University of Adelaide, Adelaide, Australia (Andrew Austin, Erinn Fagan-Jeffries)

Holotypes of all previously-described species of *Sierola* were examined, except for the ten species from East and South Asia and *S. jamiei* (Ward, 2013) of New Zealand. Morphological data for all species were entered in DELTA (Dallwitz 1980; Dallwitz *et al.* 2000), using the Open DELTA implementation (Atlas of Living Australia 2011; Supp. file 2). All descriptions are based on females; males are generally not treated, as only a few could be associated with females based on unusually distinctive morphology or DNA sequences. Since males are only known for ten of the 173 species treated here, the genitalia were not dissected. Specimens were imaged at BPBM using a Leica LAS X montage system, images combined into a focus stack using CombineZP (Hadley 2010) or Helicon Focus 8 (Helicon Soft Ltd.), and artifacts removed and levels adjusted using Adobe Photoshop. The lectotype of *S. antipoda* and holotype of *S. leeuwinensis* were imaged at USNM and NHMUK respectively. The head of each was photographed in lateral, dorsal, and oblique frontal view to capture the mandibles, along with a lateral habitus. All of the images are of holotypes (except *S. vibrissata* Ward, 2013 for which the Tasmania specimen is imaged), and head images are all at the same scale except for the dorsal views of *S. aulacifrons* sp. nov., *S. clavicula* sp. nov., *S. megacephala* sp. nov., and *S. planifrons* sp. nov., as indicated by scale bars. The descriptions of *S. antipoda* and *S. thorpei* are largely repeated from Magnacca (2019), with minor updates to conform to the characters used here and accommodate additional variation found in the latter.

Older Australian labels with locality coordinates are typically written on as degrees-minutes (although written with a decimal point, e.g., 27.21 152.55, which makes them look like decimal degrees), and are thus only accurate to around 2 km. These were also probably recorded by plotting on a map, and may not have accurately reflected the actual collecting locality. Coordinates are recorded in the format they are on the label, with the addition of appropriate degree and minute marks. For specimens without coordinates, locations were approximated based on the label locality information for the map figures. Maps were generated using QGIS ver. 3.26, with ESRI World Imagery (ESRI, Inc.) as a basemap.

Results

A total of 173 species are treated here, 169 of them newly described, based on 447 specimens. There are a number of fairly clearly defined species groups present (Table 1); however, about 60% of the species do not fall into one. The geographic distribution of collections is highly biased. Over 75% of both collections and specimens come from the eastern third of the continent (Queensland, New South Wales, Victoria, and Tasmania). While these areas undoubtedly do have the greatest diversity of *Sierola* as they do of most other taxa, it is clear that even the wetter parts of Western Australia and South Australia are very undersampled. There are only a handful of collections from the Northern Territory; there are unquestionably many more species to be found there. Even in the east, there are sometimes striking concentrations of collections – for example, of the 99 specimens from Tasmania, 43 are from a single collecting trip in January–February 1983, and another 43 from just three other rounds of highly localized collecting in 1990 and 2023. Notably, there is little overlap in the species obtained by each, indicating that many more remain to be discovered.

Table 1 (continued on next four pages). Species treated in this work with species group assignment and distribution by state.

Species	Group	Qld	NSW/ACT	Tas	Vic	SA	WA	NT
<i>Sierola abrupta</i> sp. nov.				•				
<i>Sierola acrobeles</i> sp. nov.			•					
<i>Sierola acta</i> sp. nov.			•					
<i>Sierola adducta</i> sp. nov.		•						
<i>Sierola adelaidensis</i> sp. nov.	<i>ficicola</i>					•		
<i>Sierola adversa</i> sp. nov.				•				
<i>Sierola allithoros</i> sp. nov.	<i>cuneata</i>	•	•					
<i>Sierola alveolata</i> sp. nov.		•						
<i>Sierola ambitiosa</i> sp. nov.		•						
<i>Sierola amphilyke</i> sp. nov.				•				
<i>Sierola amputator</i> sp. nov.	<i>compressa</i>					•		
<i>Sierola ancognatha</i> sp. nov.	<i>ancognatha</i>		•					
<i>Sierola antipoda</i> Ashmead, 1901			•					
<i>Sierola aphelops</i> sp. nov.						•	•	
<i>Sierola apimelos</i> sp. nov.	<i>scutula</i>							•
<i>Sierola augustus</i> sp. nov.		•					•	
<i>Sierola aulacifrons</i> sp. nov.			•					
<i>Sierola badiorostris</i> sp. nov.				•				
<i>Sierola bicarinata</i> sp. nov.			•			•		
<i>Sierola bidawal</i> sp. nov.					•			
<i>Sierola bifida</i> sp. nov.							•	
<i>Sierola biloba</i> sp. nov.	<i>cuneata</i>					•		
<i>Sierola boggomoss</i> sp. nov.		•						
<i>Sierola campanula</i> sp. nov.	<i>cuneata</i>		•			•		
<i>Sierola camptostega</i> sp. nov.						•		
<i>Sierola capitata</i> sp. nov.	<i>megacephala</i>	•						
<i>Sierola carinifrons</i> sp. nov.			•		•	•		
<i>Sierola carruca</i> sp. nov.	<i>ficicola</i>	•						
<i>Sierola cathetognatha</i> sp. nov.		•						
<i>Sierola causia</i> sp. nov.	<i>kalarku</i>		•					
<i>Sierola cecidophila</i> sp. nov.					•			
<i>Sierola cernua</i> sp. nov.					•			
<i>Sierola circularis</i> sp. nov.	<i>kalarku</i>	•						
<i>Sierola cirrata</i> sp. nov.	<i>cuneata</i>	•						
<i>Sierola claniae</i> sp. nov.			•		•	•		
<i>Sierola clavacula</i> sp. nov.			•					
<i>Sierola collina</i> sp. nov.	<i>longifacies</i>	•						
<i>Sierola comparata</i> sp. nov.	<i>ficicola</i>				•			

Table 1 (continued).

Species	Group	Qld	NSW/ACT	Tas	Vic	SA	WA	NT
<i>Sierola compressa</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola confecta</i> sp. nov.	<i>vibrissata</i>		•					
<i>Sierola confinis</i> sp. nov.	<i>longifacies</i>	•						
<i>Sierola contracta</i> sp. nov.	<i>vibrissata</i>						•	
<i>Sierola corynognatha</i> sp. nov.		•						
<i>Sierola cremnophila</i> sp. nov.							•	
<i>Sierola crinita</i> sp. nov.			•	•				
<i>Sierola crowea</i> sp. nov.							•	
<i>Sierola cuneata</i> sp. nov.	<i>cuneata</i>				•	•	•	
<i>Sierola curtirostris</i> sp. nov.			•					
<i>Sierola cylindrica</i> sp. nov.	<i>longifacies</i>			•				
<i>Sierola desertorum</i> sp. nov.	<i>compressa</i>		•					
<i>Sierola digitata</i> sp. nov.			•					
<i>Sierola disjuncta</i> sp. nov.	<i>megacephala</i>		•	•				
<i>Sierola disseminata</i> sp. nov.				•				
<i>Sierola diversa</i> sp. nov.		•						
<i>Sierola dolichops</i> sp. nov.	<i>longifacies</i>	•						
<i>Sierola dolichothrix</i> sp. nov.	<i>vibrissata</i>	•						
<i>Sierola elasson</i> sp. nov.				•	•			
<i>Sierola elongata</i> sp. nov.	<i>longifacies</i>							•
<i>Sierola erugata</i> sp. nov.	<i>kalarku</i>	•	•					
<i>Sierola eurycephala</i> sp. nov.		•						
<i>Sierola euryops</i> sp. nov.					•			
<i>Sierola exilis</i> sp. nov.	<i>compressa</i>			•				
<i>Sierola exleyae</i> sp. nov.		•	•					
<i>Sierola ficicola</i> sp. nov.	<i>ficicola</i>	•						
<i>Sierola filicis</i> sp. nov.			•					
<i>Sierola flavicauda</i> sp. nov.			•					
<i>Sierola furtiva</i> sp. nov.	<i>compressa</i>		•					
<i>Sierola gingera</i> sp. nov.			•					
<i>Sierola glutinata</i> sp. nov.		•						
<i>Sierola glyphognatha</i> sp. nov.				•				
<i>Sierola gudang</i> sp. nov.	<i>truncata</i>	•						
<i>Sierola helena</i> sp. nov.			•					
<i>Sierola infecta</i> sp. nov.				•				
<i>Sierola intermedia</i> sp. nov.	<i>ficicola</i>	•						
<i>Sierola intonsa</i> sp. nov.			•	•				
<i>Sierola isolata</i> sp. nov.							•	
<i>Sierola jubaris</i> sp. nov.		•						

Table 1 (continued).

Species	Group	Qld	NSW/ACT	Tas	Vic	SA	WA	NT
<i>Sierola kalarku</i> sp. nov.	<i>kalarku</i>						•	
<i>Sierola kimseyana</i> sp. nov.						•		
<i>Sierola koala</i> sp. nov.					•			
<i>Sierola kuranda</i> sp. nov.		•						
<i>Sierola lacertella</i> sp. nov.	<i>ficicola</i>			•				
<i>Sierola lacustris</i> sp. nov.				•				
<i>Sierola lapis</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola latens</i> sp. nov.			•					
<i>Sierola latifrons</i> sp. nov.		•						
<i>Sierola leeuwinensis</i> Turner, 1915	<i>megacephala</i>						•	
<i>Sierola lemniscata</i> sp. nov.		•						
<i>Sierola leptadelpha</i> sp. nov.				•	•			
<i>Sierola leptognatha</i> sp. nov.		•						
<i>Sierola limitata</i> sp. nov.			•					
<i>Sierola lissonota</i> sp. nov.		•						
<i>Sierola littoralis</i> sp. nov.						•		
<i>Sierola longifacies</i> sp. nov.	<i>longifacies</i>	•						
<i>Sierola lophotes</i> sp. nov.		•						
<i>Sierola macrorrhina</i> sp. nov.	<i>cuneata</i>			•				
<i>Sierola maculicola</i> sp. nov.			•					
<i>Sierola magnifemur</i> sp. nov.		•						
<i>Sierola marginalis</i> sp. nov.	<i>ficicola</i>	•						
<i>Sierola medialis</i> sp. nov.	<i>compressa</i>						•	
<i>Sierola megacephala</i> sp. nov.	<i>megacephala</i>		•				•	
<i>Sierola megamera</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola miltos</i> sp. nov.			•					
<i>Sierola minorata</i> sp. nov.	<i>megacephala</i>					•		
<i>Sierola minutissima</i> sp. nov.		•						
<i>Sierola mirabilis</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola mucronervis</i> sp. nov.			•	•				
<i>Sierola namatjira</i> sp. nov.								•
<i>Sierola nasuta</i> sp. nov.						•		
<i>Sierola nauo</i> sp. nov.						•		
<i>Sierola nesomeson</i> sp. nov.				•				
<i>Sierola nidus</i> sp. nov.		•						
<i>Sierola nigrisetae</i> sp. nov.	<i>vibrissata</i>	•						
<i>Sierola nitidigena</i> sp. nov.				•				
<i>Sierola ocellata</i> sp. nov.		•						
<i>Sierola opprimator</i> sp. nov.			•					

Table 1 (continued).

Species	Group	Qld	NSW/ACT	Tas	Vic	SA	WA	NT
<i>Sierola ovata</i> sp. nov.		•						
<i>Sierola pandani</i> sp. nov.								•
<i>Sierola paracompressa</i> sp. nov.	<i>compressa</i>		•				•	
<i>Sierola paracontracta</i> sp. nov.	<i>vibrissata</i>					•		
<i>Sierola paractia</i> sp. nov.	<i>ficicola</i>				•			
<i>Sierola paraglutinata</i> sp. nov.					•			
<i>Sierola parallela</i> sp. nov.	<i>vibrissata</i>						•	
<i>Sierola pelion</i> sp. nov.				•				
<i>Sierola peras</i> sp. nov.							•	
<i>Sierola pericontracta</i> sp. nov.	<i>vibrissata</i>						•	
<i>Sierola planifrons</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola planirostris</i> sp. nov.		•						
<i>Sierola platyrhyncha</i> sp. nov.			•	•				
<i>Sierola pontilis</i> sp. nov.				•				
<i>Sierola porticola</i> sp. nov.						•		
<i>Sierola proboscidis</i> sp. nov.		•	•		•	•		
<i>Sierola pumila</i> sp. nov.		•						
<i>Sierola reburra</i> sp. nov.	<i>vibrissata</i>					•		
<i>Sierola redacta</i> sp. nov.				•				
<i>Sierola regulus</i> sp. nov.				•				
<i>Sierola remota</i> sp. nov.				•				
<i>Sierola rotundiceps</i> sp. nov.			•		•			
<i>Sierola samiata</i> sp. nov.		•						
<i>Sierola sarculata</i> sp. nov.			•					
<i>Sierola scaphogenia</i> sp. nov.							•	
<i>Sierola scutula</i> sp. nov.	<i>scutula</i>						•	
<i>Sierola setosipennis</i> sp. nov.	<i>compressa</i>	•						
<i>Sierola sila</i> sp. nov.						•		
<i>Sierola sinuata</i> sp. nov.			•	•				
<i>Sierola solitaria</i> sp. nov.	<i>ficicola</i>			•				
<i>Sierola specularis</i> sp. nov.	<i>compressa</i>							•
<i>Sierola sphenocephala</i> sp. nov.			•					
<i>Sierola splendida</i> sp. nov.		•			•			
<i>Sierola stenognatha</i> sp. nov.			•	•				
<i>Sierola stichtops</i> sp. nov.				•				
<i>Sierola stilboparia</i> sp. nov.					•			
<i>Sierola stipulata</i> sp. nov.	<i>megacephala</i>			•				
<i>Sierola strigula</i> sp. nov.	<i>ancognatha</i>		•	•				
<i>Sierola subcontracta</i> sp. nov.	<i>vibrissata</i>	•						

Table 1 (continued).

Species	Group	Qld	NSW/ACT	Tas	Vic	SA	WA	NT
<i>Sierola tenuifemur</i> sp. nov.		•						
<i>Sierola ternaria</i> sp. nov.		•						
<i>Sierola terpsilithus</i> sp. nov.				•				
<i>Sierola terrestris</i> sp. nov.			•		•			
<i>Sierola thorpei</i> Magnacca, 2019			•		•			
<i>Sierola torovertex</i> sp. nov.	<i>kalarku</i>	•	•					
<i>Sierola torulus</i> sp. nov.		•						
<i>Sierola trachycephala</i> sp. nov.	<i>compressa</i>					•	•	
<i>Sierola tractuosa</i> sp. nov.	<i>ficicola</i>						•	
<i>Sierola trinalis</i> sp. nov.					•			
<i>Sierola tropica</i> sp. nov.		•						
<i>Sierola truncata</i> sp. nov.	<i>truncata</i>					•	•	•
<i>Sierola uniloba</i> sp. nov.	<i>cuneata</i>					•		
<i>Sierola ustulata</i> sp. nov.				•				
<i>Sierola vibrissata</i> Ward, 2013	<i>vibrissata</i>			•		•		
<i>Sierola vibrissoides</i> sp. nov.	<i>vibrissata</i>						•	
<i>Sierola vulsa</i> sp. nov.	<i>vibrissata</i>	•						
<i>Sierola xanthops</i> sp. nov.	<i>truncata</i>						•	
Total		57	43	34	20	24	23	6

Many of the species have highly restricted ranges, but at least some of these are likely due to limited sampling; 91 of the new species are known only from single specimens, and more from single collections. One noteworthy pattern, seen in *S. aphelops* sp. nov., *S. cuneata* sp. nov., and *S. trachycephala* sp. nov., is collections from semi-arid zones of both South Australia and Western Australia. A few species – namely *S. augustus* sp. nov., *S. megacephala* sp. nov., and *S. paracompressa* sp. nov. – are represented by two or three specimens from widely-separated localities that show no sign of differentiation.

Taxonomy

Class Insecta Linnaeus, 1758
Order Hymenoptera Linnaeus, 1758
Family Bethylidae Haliday, 1839
Genus *Sierola* Cameron, 1881

Key to the Sierola of Australia

Species that are intermediate or ambiguous for characters are keyed out multiple times, which should make it broadly functional. Some of these are easily identifiable by unique combinations of characters, despite being intermediate in many of those used to separate major groupings. A multi-access DELTA key, including all other described species, is also included (Supp. file 3). The following may be used as a shortcut to major sections of the key. The ‘unusual species’ at the beginning are heterogeneous and will need to be run through for those unfamiliar with the group, but possess various distinctive characters that make them stand out from typical Bethylinae.

Bristle-like vertex and gena setae	2
Very unusual species	14
Clypeus large	24
Head flat dorsally	
Body strongly compressed	42
Body not unusually compressed	63
Head convex dorsally	
Basal wing cells glabrous	99
Basal wing cells setose	
Mandible reddish brown to yellow	130
Mandible black	150
1. With 2–3 vertex and gena setae very elongate, thick, and conspicuous, about three times as long as frons setae (Figs 4C, 141A, 208); metasomal sternites 3–6 each with a pair of long, thin setae near posterior margin (often broken off; Figs 141C, 208C), often all tergites with smooth but distinct microreticulation; basal wing cells usually very densely setose, with at least five rows of setae in cell R (Fig. 6A)	2
– Vertex and gena setae shorter, usually similar to frons setae (Fig. 4A), if elongate and conspicuous then only about twice as long as frons setae and/or not conspicuously thickened, and row of long setae present along vertex crest (often broken; Fig. 4B); other characters variable but basal wing cells rarely very densely setose, at most 3–4 rows of setae in cell R (Fig. 6B–F)	13
2. Distal portion of Rs not meeting anterior wing margin (Fig. 6B); antennal scrobes converging but usually not joined, clypeus with narrow flat-topped ridge anteriorly, sometimes very narrow and appearing carinate (Figs 54A, 56A, 148A)	3
– Vein Rs joining anterior wing margin; antennal scrobes always narrowing to sharp clypeal carina apically, or with continuous sharp dorsal carina (Figs 73A, 166A)	8
3. Clypeus dorsally slightly concave in profile, lacking any carina between and posterior of antennal sockets (Fig. 189A); mandible narrow, apical third pale; fore wing distinctly infusate in a transverse band between parastigma and apex of Rs (Qld)	<i>S. subcontracta</i> sp. nov.
– Clypeus dorsally flat with a low carina, extending posteriorly between antennal sockets (Figs 148A, 156A); mandible moderately narrow, all black; fore wing variable, if infusate then usually weakly so (distinct in <i>S. pericontracta</i> sp. nov.)	4
4. Anterior surface of clypeal ridge distinctly flat, somewhat broad (Fig. 56A, D); frons setae distinctly elongate, nearly twice as long as flagellum width; frons punctation dense anteriorly, sparser posteriorly; head narrower, WH/LH ~0.80, posterior corners strongly rounded off (WA)	<i>S. contracta</i> sp. nov.
– Anterior clypeal ridge flat on close inspection but narrow, may appear carinate (Figs 54A, 148A); frons setae shorter, about as long as flagellum width or slightly longer; frons punctation dense and even; head broader, WH/LH ~0.90, posterior corners more distinct	5
5. Ocellar triangle right; lateral ocelli slightly but distinctly separated from vertex crest; occipital margin narrowly rounded; head slightly deeper, DH/LH ~0.57 (WA)	<i>S. pericontracta</i> sp. nov.
– Ocellar triangle strongly obtuse; lateral ocelli nearly touching vertex crest; occipital margin carinate; head slightly more compressed, DH/LH ~0.54	6
6. Anterior clypeal ridge narrow but distinctly flat (Fig. 148A); malar space distinct, about 1/4 as long as base of mandible (SA)	<i>S. paracontracta</i> sp. nov.
– Anterior clypeal ridge very narrow, appearing carinate at low magnification, flat surface visible only on close inspection; malar space very small, about 1/6 as long as base of mandible	7

7. Clypeus in profile evenly curved (Fig. 54B); fore wing entirely hyaline (NSW) *S. confecta* sp. nov.
 – Clypeus in profile high, strongly arched (Fig. 152B); fore wing infusate distal of basal wing cells (WA) *S. parallela* sp. nov.
8. Long setae of vertex and gena yellow-brown (Fig. 209) 9
 – Long setae of vertex and gena black (Fig. 208) 11
9. Clypeal carina distinct anteriorly but low dorsally, merged onto frons anterior of antennal sockets; head broad, WH/LH ~0.92; metasoma with smooth but distinct microsculpture on all terga (Qld) ..
 *S. vulsa* sp. nov.
 – Clypeal carina thin, laminate, continuous posterior of antennal sockets; head narrow, WH/LH 0.76–0.83; metasoma with at least T1–3 mostly polished, lacking microreticulation except laterally 10
10. Mandible, anterior clypeus, and legs yellow; metasoma entirely polished dorsally (Qld)
 *S. dolichothrix* sp. nov.
 – Mandible, anterior clypeus, and coxae and femora black; metasoma with T4–5 microreticulate medially, at least on anterior half (SA) *S. reburra* sp. nov.
11. Head strongly convex dorsally, ventrally with moderately dense pubescence, genal angle prominent, DH/LH >0.62, WH/LH >1.06; clypeus triangular, apex pointed; vertex broadly, shallowly concave in dorsal view; propodeum with broad median polished strip (Qld)
 *S. nigrisetae* sp. nov., in part
 – Head weakly convex dorsally, ventrally evenly rounded, with sparse pubescence, DH/LH <0.58, WH/LH <0.92; clypeus semicircular, apex rounded; vertex nearly straight in dorsal view; propodeum without polished area 12
12. Frons microsculpture finely reticulate, somewhat shining; frons punctation somewhat open, 2–3 pit widths apart; basal wing cells moderately densely setose, about three rows of setae in each (Tas, SA, also New Zealand) *S. vibrissata* Ward, 2013
 – Frons microsculpture scutellate, individual cellules shining but reticulation strong so appearing dull at low magnification; frons with close punctures, 1 pit width apart or less; basal wing cells very densely setose, about five rows of setae in each (WA) *S. vibrissoides* sp. nov.
13. Clypeus dorsally with a distinct, high, sharp carina
 not covered in this work (three described species, *S. angulata* (Muesbeck, 1933), *S. ellingtoni* Gordh, 1998, and *S. websteri* Ashmead, 1901, go here)
 – Clypeus without a strong, sharp carina: dorsally flat, rounded, angulate, weakly carinate, or if carinate, carina low, not conspicuous or strongly raised, distinct only when viewed down its length, or largely flat dorsally converging to a sharp carina at apex, or bifurcate (Fig. 2) 14
14. Head yellow dorsally anterior of middle of inner eye margin and over entire ventral surface; head round, wider than long and moderately deep, WH/LH ~1.11, DH/LH ~0.60, vertex slightly convex (Fig. 210A); mandible yellow, moderately narrow at base and strongly broadened towards apex; clypeus very short, almost transverse, in profile weakly sloping dorsally and nearly vertical distally (WA) *S. xanthops* sp. nov.
 – Head black, not appearing strongly rounded in dorsal view, vertex almost always straight or concave, not convex (except *S. circularis* sp. nov.); head rarely wider than long and moderately deep and rarely mandible yellow, never in combination; clypeus in profile rarely vertical distally 15

15. Frons with dense, very deep, regular punctures between antennae and middle of inner eye margin, abruptly sparser posteriorly (Fig. 185A); head ventrally with dense pubescence, setae longer posteriorly; OOL/WOT < 1.00 (Tas) *S. stichtops* sp. nov.
 – Frons punctuation variable but never with such deep, dense punctuation anteriorly and sparser posteriorly; head usually sparsely setose ventrally, if pubescent then never with long setae posteriorly; OOL/WOT variable but usually > 1.00 16
16. Head ventrally posterior of mandibles strongly concave in lateral view, genal angle distinct and slightly pointed anterior (Fig. 173B); frons minutely colliculate between eyes, coriaceous posteriorly, punctuation obscured by microsculpture (WA) *S. scaphogenia* sp. nov.
 – Head ventrally posterior of mandibles flat or convex in lateral view, genal angle broadly rounded or absent, head convex ventrally; frons microsculpture variable but rarely colliculate anteriorly and coriaceous posteriorly 17
17. Propodeum elongate and narrow, disc from base to transverse carina slightly longer than width at base and much longer than width at declivity, coarsely rugulose; propodeum > 0.4 length of entire mesosoma; clypeus broadly transverse apically, flat dorsally, in profile evenly sloping or slightly concave; head narrow and compressed, WH ~ 0.75, DH/LH ~ 0.47; profemur extremely narrow, FL/FW 2.45–2.75 (NSW) *S. sphenocephala* sp. nov.
 – Propodeum never elongate and narrow, disc usually shorter than width at declivity; if rarely propodeum > 0.4 length of entire mesosoma then wide and sculpture finer; other characters not in combination 18
18. Clypeus weakly carinate dorsally, abruptly cut off distally, apex in profile nearly vertical or slightly angled back (Fig. 203A–B) 19
 – Clypeus not abruptly cut off distally, in profile curved or sloping anterior to apex even if transversely truncate in dorsal view; if shortly cut off in profile, then moderately elongate and semicircular in dorsal view 20
19. Mandible concave ventrally, narrowed just beyond base and broadened medially, slightly constricted again near teeth (Fig. 89D); basal cells of fore wing sparsely setose; head short posterior of eyes, EV/HE 0.50–0.75; frons somewhat narrow, WF/HE ~ 0.90; cell 2R1 2.5–3 times as long as wide (Qld) *S. gudang* sp. nov.
 – Mandible constricted near base, gradually broadened toward apex (Fig. 203D); basal cells of fore wing nearly glabrous; head long posterior of eyes, EV/HE 0.80–1.05; WF/HE ~ 1.2; cell 2R1 less than twice as long as wide (WA, SA, NT) *S. truncata* sp. nov.
20. Clypeus with two low carinae (Figs 27D, 32D) 21
 – Clypeus with single carina (or at least median carina present), or none 23
21. Clypeal carinae widely separated, subparallel beyond basal fork (Fig. 27D); mandible somewhat convex outwardly but not strongly twisted; vein Rs not reaching anterior wing margin, cell 2R1 not closed; basal wing cells with several rows of setae; profemur broad, much less than twice as wide as long (NSW) *S. aulacifrons* sp. nov.
 – Clypeal carinae narrowly separated, evenly diverging from a single ridge basally (Fig. 32D); mandible strongly twisted on apical half; vein Rs reaching anterior wing margin, cell 2R1 closed; basal wing cells nearly glabrous; profemur not strongly broadened, about twice as wide as long 22
22. Frons with visible microreticulation but generally smooth and shining; clypeus in profile elongate, apex strongly acute (NSW, ACT, SA) *S. bicarinata* sp. nov.
 – Frons distinctly coriaceous; clypeus in profile evenly curved, not so elongate, not strongly acute at apex (WA) *S. bifida* sp. nov.

23. Clypeus enlarged, parallel-sided or elongate trapezoidal, apically truncate, semicircular, or emarginate (Figs 33A, 48A, 62A, 120A, 160A, 172A) 24
- Clypeus normal, not projecting far beyond closed mandibles: rounded triangular, semicircular, semi-elliptical, or very short 40
24. Clypeus with distinct low carina 25
- Clypeus dorsally flat or convex, without trace of carina except sometimes faintly at base 31
25. Clypeus broadly truncate or emarginate apically; mandible conspicuously twisted; propodeal disc medially microreticulate and lacking carina; metasomal sternites 4–6 each with at least one pair of long setae, usually two (often broken off) 26
- Clypeus rounded apically; mandible not or only slightly twisted; propodeal disc medially with a carina or polished area; setae of metasomal sterna variable but without more than one pair of elongate setae, usually absent or only present on S5 28
26. Clypeus broadly truncate apically; transverse propodeal carina absent (SA) *S. uniloba* sp. nov.
- Clypeus emarginate apically, divided into two rounded lobes; transverse propodeal carina at least faintly present 27
27. Clypeal margins flat, surface with many fine carinulae radiating from median carina (Fig. 33D); lateral ocelli separated from vertex crest by about their length; propodeal transverse carina distinct; metasoma with faint but distinct microsculpture over all terga; vein Rs joining anterior wing margin (SA) *S. biloba* sp. nov.
- Clypeus bounded by carinae forming a triangular enclosure, inside mostly smooth aside from low median carina (Fig. 62D); lateral ocelli separated from vertex crest by less than their length; propodeal transverse carina faint, hardly differentiated from other striae; metasoma polished, with faint microsculpture only laterally; vein Rs not reaching anterior wing margin (WA, SA, Vic) *S. cuneata* sp. nov.
28. Frons broad, WF/HE > 1.0; propodeum with median polished strip extending from base to declivity; metasomal sternites lacking long setae; A3 at least slightly longer than wide; vein Rs strongly curved and meeting anterior wing margin at oblique angle (Tas) *S. macrorrhina* sp. nov.
- Frons narrow, WF/HE ~0.8; propodeum with anterior triangular polished area or at faint median carina; metasomal S5 with a pair of long setae; A3 about as long as wide or wider; vein Rs ending short of wing margin 29
29. Clypeus irregularly rugulose lateral of low median carina; ocellar triangle weakly obtuse to right, OOL/WOT 1.05–1.30; head laterally angulate, with rounded carina between eye and vertex; mandible narrower, slightly narrowed medially; propodeum with triangular polished area on basal $\frac{1}{3}$ (Qld) .
..... *S. cirrata* sp. nov., in part
- Clypeus not rugulose lateral of median carina; ocellar triangle strongly acute, OOL/WOT > 1.55; head laterally convex between eye and vertex; mandible broader, parallel-sided; propodeum with median carina, without polished area 30
30. Mandible reddish brown to orange, slightly twisted; malar space very small, indistinct; profemur predominantly yellow except dorsal margin, meso- and metafemora brown; median propodeal carina faint; small, LM < 0.70 (Qld, NSW) *S. allithoros* sp. nov., in part
- Mandible black, not twisted; malar space distinct, about $\frac{1}{3}$ as long as basal mandible width; all femora dark brown to black; median propodeal carina distinct; larger, LM > 0.75 (SA, ACT) *S. campanula* sp. nov.

31. Clypeus elongate trapezoidal, distinctly narrowed towards apex, apex truncate, dorsally convex (Figs 164A, 167A); head laterally posterior of eye flat with a broad area of tessellate microsculpture extending to vertex 32
 - Clypeus parallel-sided, apex rounded or quadrate and broadly truncate, usually flat dorsally (sometimes basal portion convex); head posterior of eye variable, usually convex with narrow strip of tessellate microsculpture extending to vertex 33
32. Frons microsculpture smooth to polished; vertex and genal setae elongate, conspicuous, erect and directed anterior; basal wing cells sparsely setose; head broader, WH/LH 0.84–0.90, OOL/WOT 1.00–1.30; T3–6 punctate with moderately long setae; S4–6 each with one or two pairs of very long, dark setae (NSW/ACT, Qld, Vic, SA) *S. proboscidis* sp. nov.
 - Frons with coriaceous to finely microreticulate sculpture; vertex and genal setae similar to and only slightly longer than those of frons; basal wing cells densely setose; head narrower, WH/LH 0.77–0.83, OOL/WOT 1.60–1.90; metasoma punctate laterally but without conspicuous setation (Tas) *S. redacta* sp. nov.
33. Clypeus quadrate, basal portion narrowly elevated and convex (Figs 48D, 50D) 34
 - Clypeus evenly flat across its width or very broadly convex (Figs 158D, 171D) 35
34. Apical portion of clypeus abruptly flat and polished; head narrow, WH/LH 0.76–0.81, more quadrate in dorsal view, parallel-sided immediately posterior of eyes; vein Rs reaching wing margin, cell 2R1 closed; propodeum with broad polished median strip from base to declivity (NSW, ACT, Vic, SA) *S. claniae* sp. nov.
 - Convex median ridge of clypeus broadening and extending to apex, dull and microreticulate; head broader, WH/LH 0.84–0.89, more circular in dorsal view, narrowed immediately posterior of eyes; vein Rs not reaching wing margin, cell 2R1 open; propodeum lacking median polished area (NSW, ACT) *S. clavicula* sp. nov.
35. Frons with minutely colliculate microsculpture at least between eyes, obscuring punctation; clypeus in profile straight, evenly sloping; head moderately long posterior of eyes, EV/HE >0.60 (Qld) *S. planirostris* sp. nov.
 - Frons microsculpture evident but smooth, punctation distinct; clypeus curved, or if mostly straight then flattened at apex, slightly concave; head short posterior of eyes, EV/HE usually <0.60 36
36. Clypeus in profile nearly straight, slightly flattened or upturned at apex, overall slightly concave, finely punctate (Fig. 172B); vertex in dorsal view straight; basal wing cells densely setose 37
 - Clypeus in profile convexly curved, highly polished, nearly impunctate except at apex (Fig. 171D); vertex in dorsal view at least slightly concave; basal wing cells sparsely setose to glabrous 38
37. Clypeus elliptic, slightly constricted at junction with head (Fig. 137A); head in lateral view weakly convex dorsally and ventrally; gena concave, ventral margin distinctly reflexed and carinate; ocellar triangle weakly obtuse, lateral ocelli separated from vertex crest by less than an ocellus length; propodeum with transverse carina distinct but median carina absent, with short basal triangular polished area; vein Rs not reaching wing margin (SA) *S. nasuta* sp. nov.
 - Clypeus broadly joined to head, not narrowed basally (Fig. 172A); head in lateral view strongly convex dorsally, genal angle prominent ventrally, DH/LH 0.53–0.57; gena normal, without a reflexed margin; ocellar triangle very strongly acute, lateral ocelli separated from vertex crest by about their own length; median carina of propodeum present, distinct, transverse carina only weakly present laterally (ACT) *S. sarculata* sp. nov.

38. Basal cells of fore wing sparsely setose; frons broad, distinctly wider than eye length, WF/HE 1.2–1.3; ocellar triangle weakly acute to right; propodeum medially with a narrow polished strip (Vic) *S. koala* sp. nov.
 – Basal cells of fore wing nearly glabrous; frons only slightly wider than eye length, WF/HE 1.0–1.1; ocellar triangle strongly obtuse; propodeum medially with a broad polished strip 39
39. Mandible black, broader (Fig. 160D); head generally more compressed, DH/LH 0.44–0.47; ocellar triangle generally narrower, OOL/WOT 0.95–1.15 (NSW, Tas) *S. platyrhyncha* sp. nov.
 – Mandible reddish brown to orange, narrow (Fig. 171D); head generally deeper, DH/LH 0.46–0.49; ocellar triangle generally broader, OOL/WOT 0.80–1.00 (Qld) *S. samiata* sp. nov.
40. Head in lateral view nearly flat dorsally, flat to weakly convex ventrally (Figs 53B, 127B, 136B, 200B) 41
 – Head in lateral view slightly to strongly convex dorsally, variable ventrally; if very weakly convex dorsally then strongly convex ventrally (Figs 18B, 29B, 94B, 111B) 98
41. Mesosoma flattened, DM/LM <0.33 (Figs 53C, 93C); head flat, DH/LH <0.48, and often broad, WH/LH >0.84, narrow in some species (0.52–0.82); ocellar triangle variable, often weakly acute to obtuse 42
 – Mesosoma not distinctly flattened, DM/LM >0.33; head depth and width variable but WH/LH <0.86 except in *S. planifrons* sp. nov., often DH/LH >0.48; ocellar triangle always acute (usually strongly) except in *S. gingera* sp. nov. 63
42. Head extremely thin, DH/LH 0.22–0.33, ventrally nearly glabrous posterior of mandibles; frons microsculpture evident but smooth, shining 43
 – Head not so extremely compressed, DH/LH 0.35–0.48, ventrally sparsely but distinctly setose posterior of mandibles; frons microsculpture variable, often coriaceous to dull and granular 44
43. Head and body exceedingly thin, DM/LM 0.15, DH/LH 0.22–0.26; mandible very narrow, including at base; vertex slightly convex in dorsal view (Qld) *S. mirabilis* sp. nov.
 – Head and body not so thin, DM/LM 0.25, DH/LH 0.29–0.32; mandible moderately narrow, distinctly concave ventrally; vertex more or less straight in dorsal view (Tas) *S. exilis* sp. nov.
44. Ocellar triangle strongly acute, lateral ocelli always distinctly separate from vertex (Figs 53A, 93A); head long posterior of eyes, OOL/WOT usually >1.90, often >2.20 45
 – Ocellar triangle weakly acute to obtuse, lateral ocelli usually nearly touching vertex (except in *S. furtiva* sp. nov., Figs 19A, 22A); head shorter posterior of eyes, OOL/WOT 1.10–1.75 55
45. Head extremely long and narrow, WH/LH ~0.52, EV/HE ~1.50, WF/HE <0.9 (Tas) *S. cylindrica* sp. nov.
 – Head width variable but not extremely long and narrow, WH/LH 0.70–0.95, EV/HE <1.30, WF/HE ≥1.0 46
46. Frons only moderately broad, WF/HE 0.95–1.15 or less, rarely to 1.18 47
 – Frons very broad, WF/HE >1.20, usually >1.30 51
47. Basal wing cells densely setose (Fig. 6A–B); margin of vertex slightly concave in dorsal view, narrowly carinate posterior of ocelli 48
 – Basal wing cells sparsely setose to nearly glabrous (Fig. 6E–F); vertex straight, not carinate posterior of ocelli 49

48. Legs entirely yellow; mandible tinged with reddish brown; head narrower and more compressed, WH/LH 0.75–0.79, DH/LH 0.42–0.44, OOL/WOT 2.35–2.65; profemur not so narrow, FL/FW 2.10–2.30 (Qld) *S. intermedia* sp. nov.
 - Coxae and meso- and metafemora dark brown to black; mandible black; head slightly broader and deeper, WH/LH 0.80–0.84, DH/LH 0.47–0.48, OOL/WOT 2.05–2.15; profemur very narrow, FL/FW 2.50–2.55 (Tas) *S. lacertella* sp. nov.
49. Mandible weakly convex outwardly, not twisted, moderately narrow; head nearly flat ventrally, depth in lateral view almost even; lateral ocelli separated from vertex crest by less than an ocellus length (WA, Qld) *S. augustus* sp. nov.
 - Mandible slightly twisted, not convex outwardly, moderately broad; head weakly but distinctly convex ventrally, deeper ventral of posterior margin of eye than near mandible; lateral ocelli separated from vertex crest by about their length 50
50. Mandible reddish brown, broadest at apex; clypeus in profile steep and short, distinctly curved, slightly recurved ventrally; metafemur broad, HFL/HFW <2.40 (NSW) *S. miltos* sp. nov., in part
 - Mandible black, becoming broadest at $\frac{2}{3}$ length; clypeus in profile steeply sloping, nearly straight ventrally; metafemur narrow, HFL/HFW >2.40 (Tas) *S. solitaria* sp. nov., in part
51. Clypeus in profile strongly rounded and recurved at apex (Fig. 53B) or evenly sloping (Fig. 147B), dorsally weakly carinate or nearly flat with only a trace of a carina 52
 - Clypeus in profile evenly curved from base to apex (Figs 61B, 126B), dorsally with a low carina 53
52. Clypeus in profile strongly rounded and recurved at apex; frons microreticulate and extremely dull, appearing velvety (Qld) *S. compressa* sp. nov.
 - Clypeus in profile evenly sloping, nearly straight; frons dull and granular but not velvety (WA, ACT) *S. paracompressa* sp. nov.
53. Coxae and femora dark brown to black; mandible nearly flat outwardly, only weakly convex; frons microsculpture coriaceous (WA) *S. crowea* sp. nov.
 - At least femora predominantly yellow; apical half of mandible semicylindrical, teeth on dorsal and distal surfaces; frons microsculpture dull, granular 54
54. Legs all yellow; posterior margin of cell 1M distinctly convex, corner medioapical; ocellar triangle strongly acute, OOL/WOT 1.75–1.95 (WA) *S. medialis* sp. nov., in part
 - Coxae and dorsal margins of femora brown; posterior margin of cell 1M weakly convex, corner posteroapical; ocellar triangle very strongly acute, OOL/WOT 2.00–2.20 (NSW) *S. desertorum* sp. nov.
55. Mandible reddish brown; basal wing cells sparsely setose to nearly glabrous; ocellar triangle strongly obtuse; metafemur very broad, HFW/HFL ~1.8 56
 - Mandible black; basal wing cells variable, sparsely to densely setose; ocellar triangle usually weakly obtuse to weakly acute (somewhat strongly obtuse in *S. specularis* sp. nov.); metafemur variable .. 58
56. Vertex carinate posterior of ocelli; basal wing cells nearly glabrous; frons narrow, WF/HE 0.80–0.90; mandible not strongly convex outwardly (NT) *S. apimelos* sp. nov.
 - Vertex not carinate posterior of ocelli; basal wing cells sparsely setose; frons broad, WF/HE >1.00; mandible distinctly convex outwardly 57

57. Posterior corners of head distinct, appearing quadrate in dorsal view; punctures of frons somewhat dense, in transverse rows, area around median ocellus mostly impunctate, setae appearing bristly in lateral view; vertex and gena setae long and conspicuous; head narrower, WH/LH 0.75–0.83 (SA) *S. amputator* sp. nov.
- Posterior corners of head strongly rounded off, appearing more ovate in dorsal view; punctures of frons moderately sparse, 2–3 pit widths apart; vertex and gena setae longer than those of frons but not conspicuous; head broader, WH/LH 0.85–0.93 (Qld) *S. megamera* sp. nov.
58. Head narrow, WH/LH <0.76, EV/WF >0.85 59
- Head broader, WH/LH >0.80, EV/WF <0.85 60
59. Mandible moderately broad, distinctly concave ventrally; frons microsculpture coriaceous; head shorter posterior of eyes, EV/HE 0.85–1.05; basal wing cells densely setose (NSW) *S. antipoda* Ashmead, 1901
- Mandible moderately narrow, more or less parallel-sided; frons microsculpture evident but smooth, shining; head longer posterior of eyes, EV/HE 1.00–1.20; basal wing cells sparsely setose (WA) ... *S. scutula* sp. nov.
60. Basal wing cells sparsely setose (sometimes intermediate, with a few extra setae); mandible distinctly convex outwardly on apical half; A3 distinctly wider than long 61
- Basal wing cells densely setose; mandible flat or weakly convex outwardly; A3 about as wide as long 62
61. Lateral ocelli distinctly separated from vertex crest, ocellar triangle weakly acute; frons microsculpture dull to coriaceous; OOL/WOT 1.55–1.75; cell 1M weakly convex posteriorly, evanescent R and M veins arising from same point (ACT) *S. furtiva* sp. nov.
- Lateral ocelli nearly touching vertex crest, ocellar triangle obtuse; frons microsculpture finely microreticulate, somewhat shining; basal wing cells densely setose; OOL/WOT 1.60–1.90; cell 1M distinctly convex posteriorly, origins of evanescent R and M veins separate (NT) *S. specularis* sp. nov.
62. Clypeus in profile evenly curved to apex; legs entirely yellow (Qld) *S. setosipennis* sp. nov.
- Clypeus in profile strongly rounded and recurved at apex; coxae and femora brown (SA, WA) ... *S. trachycephala* sp. nov.
63. Head about as wide as long, WH/LH 0.96–1.00 (Fig. 157A); clypeus distinct and somewhat prominent, semicircular (Qld) *S. planifrons* sp. nov.
- Head distinctly longer than wide, WH/LH <0.92; clypeus short, semi-elliptical to transverse and inconspicuous, broadly rounded to truncate apically 64
64. Frons broad, WF/HE >1.15, usually >1.20; head at least moderately broad, WH/LH ≥0.74; often large species, LM >1.00 mm 65
- Frons narrow, WF/HE <1.15, usually <1.05, or if somewhat broad (*S. elongata* sp. nov.) then head very narrow, WH/LH <0.72; usually small species, LM <1.00 mm 77
65. Mandible bright yellow; clypeus in profile elongate, evenly curved, strongly acute at apex (Qld) *S. lapis* sp. nov.
- Mandible reddish brown to black; clypeus in profile variable but not elongate, weakly acute to obtuse at apex 66

66. Clypeus flat, without a trace of a carina, in profile steep and short, nearly straight (Fig. 176A–B); mandible strongly elbowed in ventral view (SA) *S. sila* sp. nov.
 - Clypeus with a low carina or weakly carinate, in profile distinctly curved; mandible weakly to evenly curved in ventral view 67
67. Lateral ocelli separated from vertex by about twice an ocellus length or more (Figs 127A, 131A) 68
 - Lateral ocelli separated from vertex by about an ocellus length or less (Figs 68A, 126A) 72
68. Ocelli far anterior, separated from vertex by length of ocellar triangle or more; head laterally angulate between eye and vertex; legs all yellow (WA, NSW) *S. megacephala* sp. nov.
 - Lateral ocelli separated from vertex by about twice an ocellus length; head laterally evenly convex between eye and vertex; coxae and femora brown 69
69. Mandible almost parallel-sided, ventral margin only slightly concave near base; basal wing cells glabrous; head narrow, WH/LH ~0.76, WF/HE ~1.30; smaller, LH ~0.70 mm (SA) *S. minorata* sp. nov.
 - Mandible strongly concave ventrally; basal wing cells variable; head and frons usually broader; larger, LH >0.80 mm 70
70. Mandible reddish brown, abruptly constricted near base and gradually broadened apically; basal wing cells nearly glabrous (Qld) *S. capitata* sp. nov.
 - Mandible black, ventral margin broadly narrowed medially and broadened apically; basal wing cells sparsely setose 71
71. Head ventrally sparsely to moderately setose, without dense pubescence (Fig. 109B); head in lateral view slightly concave between eye and ocelli; vertex slightly but distinctly concave (WA) *S. leeuwinensis* Turner, 1915
 - Head ventrally covered with short, even, very dense pubescence (Fig. 187B); head in lateral view flat between eye and ocelli; vertex more or less straight in dorsal view (Tas) *S. stipulata* sp. nov.
72. Basal wing cells sparsely setose; head deep, DH/LH 0.53–0.57; OOL/WOT 1.60–1.80 (NSW) .. *S. limitata* sp. nov., in part
 - Basal wing cells densely setose; head usually more compressed, DH/LH 0.44–0.54; OOL/WOT 1.90–2.40 73
73. Clypeus in lateral view somewhat elongate, distinctly curved or straight and apical angle acute (Figs 68B, 126B); cell 2R1 short, about 2.5 times as long as wide, distal portion of vein Rs strongly curved into anterior wing margin 74
 - Clypeus in lateral view steep and short, slightly curved or nearly straight (Figs 103B 107B, 112B); cell 2R1 elongate, over 3 times as long as wide, distal portion of vein Rs nearly straight where it meets anterior wing margin 75
74. Occipital margin carinate posterior of ocelli, broadly rounded laterally; lateral ocelli separated from vertex crest by about their length; wing membrane somewhat infuscate; coxae, femora, and antennae except basoventrally dark brown (NSW, Tas) *S. disjuncta* sp. nov.
 - Occipital margin rounded, not carinate posterior of ocelli; lateral ocelli separated from vertex crest by less than an ocellus length; wing membrane hyaline; legs and antennae entirely bright yellow (WA) *S. medialis* sp. nov., in part

75. Mandible not twisted, only weakly convex outwardly, distinctly reddish brown to orange; femora broad, FL/FW ~ 1.95 – 2.15 , HFL/HFW ~ 2.10 – 2.30 (Qld) *S. latifrons* sp. nov.
 – Mandible slightly twisted and convex outwardly, black or only slightly reddish brown; femora narrow, FL/FW ~ 2.30 – 2.60 , HFL/HFW ~ 2.40 – 2.90 76
76. Head clearly flat dorsally in lateral view; clypeus in profile steep and curved; mesosoma somewhat compressed, DM/LM ~ 0.33 (Tas) *S. lacertella* sp. nov., in part
 – Head slightly convex dorsally in lateral view; clypeus in profile nearly straight sloping; mesosoma deeper, DM/LM ~ 0.42 (Tas, Vic) *S. leptadelpha* sp. nov., in part
77. Mandible yellow, narrow, distinctly concave ventrally; legs all yellow (Qld) *S. tropica* sp. nov.
 – Mandible reddish brown to black, moderately broad to broad, often not or only weakly concave ventrally; coxae and femora brown to black except in *S. longifacies* sp. nov. 78
78. Head narrowed posterior of eyes, posterior corners strongly rounded, and moderately broad, WH/LH 0.79 – 0.87 (Fig. 31A); occipital margin carinate posterior of ocelli (Vic)
 *S. bidawal* sp. nov., in part
 – Head parallel-sided posterior of eyes, posterior corners broadly rounded but somewhat square, width variable but usually narrow, WH/LH ≤ 0.79 (Figs 75A, 136A); occipital margin usually broadly rounded, rarely carinate posterior of ocelli 79
79. Ocellar triangle strongly obtuse, lateral ocelli nearly touching vertex; vertex and gena setae elongate and conspicuous, nearly twice as long as frons setae (ACT) *S. gingera* sp. nov., in part
 – Ocellar triangle acute, lateral ocelli distinctly separate from vertex crest; vertex and gena setae sometimes longer than frons setae but not conspicuous 80
80. Head deep, DH/LH 0.57 – 0.61 ; frons dull, granular; clypeus in profile evenly sloping, nearly straight (NT) *S. namatjira* sp. nov.
 – Head not so deep, DH/LH 0.45 – 0.55 ; frons variable but usually somewhat shining, finely microreticulate; clypeus variable, often curved 81
81. Lateral ocelli separated from vertex by more than their length; mandible at least slightly twisted, not strongly convex outwardly 82
 – Lateral ocelli at most separated from vertex by an ocellus length; mandible variable but often either distinctly convex outwardly or nearly flat and not twisted 84
82. Head somewhat quadrate in dorsal view, not extremely elongate, WH/LH ~ 0.78 , OOL/WOT ~ 1.95 , EV/HE ~ 1.08 , and somewhat deeper, DH/LH > 0.49 ; mandible slightly twisted, somewhat concave ventrally; vertex more or less straight in dorsal view; propodeum microreticulate medially, lacking a polished strip, transverse carina distinct (WA) *S. tractuosa* sp. nov.
 – Head very long and narrow, WH/LH 0.62 – 0.70 , OOL/WOT > 2.40 , EV/HE > 1.20 , and more compressed, DH/LH < 0.48 ; mandible either strongly twisted or convex outwardly; vertex slightly concave in dorsal view; transverse carina very faint or absent 83
83. Clypeus in profile recurved ventrally; mandible convex outwardly, moderately broad and distinctly concave ventrally; head very long posterior of eyes, EV/HE > 1.45 , OOL/WOT > 2.80 ; head more compressed, DH/LH 0.39 – 0.43 (NT) *S. elongata* sp. nov.
 – Clypeus in profile evenly sloping; mandible strongly twisted, broad and parallel-sided; head not so extremely elongate or compressed, EV/HE 1.20 – 1.40 , OOL/WOT 2.40 – 2.60 , DH/LH 0.44 – 0.48 (Qld) *S. longifacies* sp. nov., in part

84. Clypeus in profile elongate, apex strongly acute (Figs 106B, 122B) 85
 - Clypeus in profile short, steeply curved, blunt and recurved, or straight (Figs 52B, 55B) 87
85. Clypeus in profile straight sloping, in dorsal view trapezoidal, apex truncate; mandible strongly twisted, flat and in line with slope of clypeus in lateral view when closed (NSW) *S. maculicola* sp. nov.
 - Clypeus in profile distinctly curved, in dorsal view semicircular to rounded triangular, apex rounded; mandible strongly convex outwardly or only slightly twisted 86
86. Head in lateral view narrowed anteriorly, much deeper posterior of eye than at anterior eye margin; mandible moderately narrow, parallel-sided, outwardly strongly convex; vertex and gena setae distinctly longer than those of frons; vertex not carinate posterior of ocelli; basal wing cells very densely setose; vein Rs ending remote from wing margin, cell 2R1 open (Qld)
 - *S. adducta* sp. nov.
 - Dorsal and ventral margins of head almost parallel in lateral view, head scarcely deeper posterior of eye than at anterior eye margin; mandible moderately broad, slightly concave ventrally, slightly twisted; vertex narrowly carinate posterior of ocelli; basal wing cells mostly glabrous, cell R with apical setae; vein Rs meeting wing margin, cell 2R1 closed (NSW) *S. latens* sp. nov.
87. Ocellar triangle very strongly acute, distinctly narrower than equilateral (Fig. 71A); head compressed, DH/LH 0.40–0.44; frons microsculpture dull, granular (Qld) *S. dolichops* sp. nov.
 - Ocellar triangle strongly acute, approximately equilateral (Fig. 52A); head not so compressed, DH/LH 0.46–0.54; frons coriaceous to smooth 88
88. Mandible strongly convex or slightly angulate outwardly, second ventral tooth prominent (Fig. 12D); side of head with a line of distinct, tessellate microsculpture extending from eye to vertex crest; vertex often carinate posterior of ocelli or at least with faint rugulae 89
 - Mandible more or less flat or weakly convex outwardly, second ventral tooth not prominent; side of head posterior of eye without differentiated coarse microsculpture; vertex never carinate posterior of ocelli 91
89. Clypeus semi-elliptical, apex distinctly rounded; mandible distinctly concave ventrally; head shorter posterior of eye, EV/HE < 1.00 (SA) *S. adelaidensis* sp. nov.
 - Clypeus short and transverse, apex truncate; mandible weakly concave ventrally; head longer posterior of eye, EV/HE ≥ 1.00 90
90. Vertex carinate posterior of ocelli; frons coriaceous, distinctly dull; basal wing cells with sparse setae scattered irregularly; head slightly deeper, DH/LH ~0.52 (Vic) *S. comparata* sp. nov.
 - Vertex not or indistinctly carinate posterior of ocelli; frons finely microreticulate, somewhat shining; basal wing cells each with a single row of setae, that of cell R broadly interrupted medially; head more compressed, DH/LH ~0.48 (Vic) *S. paractia* sp. nov.
91. Mandible distinctly broader on apical half than at basal articulation, slightly twisted; eye large relative to frons and posterior head, EV/HE 0.81–0.85, WF/HE 0.78–0.81; fore wing with posterior margin of cell 1M distinctly convex, corner medioapical, cell 2R1 short and broad, less than twice as long as wide (Vic) *S. euryops* sp. nov. in part
 - Mandible sometimes narrowed medially but not broader at apex than at basal articulation, usually not twisted; eye small, head elongate posteriorly, EV/HE > 0.90, WF/HE > 0.88 (usually > 0.95); fore wing with posterior margin of cell 1M weakly convex, corner posteroapical, cell 2R1 elongate, over twice as long as wide (usually much more) 92

92. Lateral ocelli nearly touching vertex crest; basal wing cells nearly glabrous (Qld) *S. marginalis* sp. nov.
 – Lateral ocelli distinctly separated from vertex crest in dorsal view; basal wing cells at least slightly setose 93
93. Head very narrow and elongate, WH/LH 0.66–0.69 (Figs 51A, 55A) 94
 – Head broader, WH/LH 0.70–0.79 (Figs 40A, 81A) 96
94. Clypeal carina low but prolonged posteriorly to about $\frac{1}{3}$ eye height (Fig. 51A); mandible broad, not narrowed from base, not twisted (Qld) *S. collina* sp. nov.
 – Clypeal carina not prolonged posteriorly, indistinct posterior of toruli (Fig. 55A); mandible moderately broad, at least slightly narrowed just distad of base, slightly twisted (Qld) 95
95. Posterior corners of head strongly rounded off (Fig. 55A); lateral ocelli separated from vertex crest by about their length (Qld, NSW?) *S. confinis* sp. nov., in part
 – Posterior corners of head somewhat squared (Fig. 69A); lateral ocelli separated from vertex crest by much less than their length (Tas) *S. disseminata* sp. nov.
96. Lateral ocelli separated from vertex crest by about their length; mandible slightly twisted; femora narrow, FL/FW > 2.20, HFL/HFW > 2.50; antenna elongate, A3 distinctly longer than wide (Tas) ... *S. solitaria* sp. nov., in part
 – Lateral ocelli separated from vertex crest by much less than their length; mandible not twisted; femora broader, FL/FW < 2.20, HFL/HFW < 2.30; antenna short, A3 about as long as wide 97
97. Mandible reddish brown, not twisted; head ventrally with moderately dense pubescence; transverse carina of propodeum faintly present (Qld) *S. ficicola* sp. nov.
 – Mandible black, slightly twisted; head ventrally with sparse pubescence; transverse carina of propodeum absent (Qld) *S. carruca* sp. nov.
98. Basal wing cells nearly glabrous, with only a few scattered setae (Fig. 6F) 99
 – Basal wing cells sparsely to densely setose, at least one distinct row of setae or patch near apex of cell R present (Fig. 6A–E) 128
99. Mandible yellow; profemur extremely broad, FL/FW ~1.6–1.7; ocellar triangle strongly obtuse; transverse propodeal carina distinct, strong; cell 1M distinctly convex posteriorly, corner medioapical (Qld) *S. magnifemur* sp. nov.
 – Mandible orange-brown to black; profemur not so broad, FL/FW > 1.75, usually > 1.90; ocellar triangle weakly obtuse to strongly acute; transverse propodeal carina usually absent, at most faintly indicated; cell 1M weakly convex posteriorly, corner posteroapical 100
100. Vertex in dorsal view broadly, shallowly concave, with a distinct protuberance between lateral ocelli (Qld, ACT) *S. torovertex* sp. nov.
 – Vertex in dorsal view sometimes slightly concave but never with a protuberance between lateral ocelli 101
101. Head extremely narrow and long posterior of eyes, WH/LH 0.62–0.70, EV/HE 1.20–1.40, OOL/WOT 2.35–2.65 (Fig. 118A); mandible broad, strongly twisted; ocellar triangle very strongly acute, lateral ocelli separated from vertex by more than their length; legs all yellow; propodeum with a broad polished strip from base to declivity (Qld) *S. longifacies* sp. nov., in part
 – Head broader and shorter posterior of eyes, WH/LH > 0.79, EV/HE < 1.05, OOL/WOT < 1.90; mandible sometimes strongly twisted but narrow; lateral ocelli separated from vertex by less than ocellus length; coxae and femora brown to black; propodeum variable but often with a narrow polished strip or only a short triangular basal area 102

102. Head very broad, nearly as wide as long or wider than long, WH/LH 0.95–1.03 104
- Head narrow to moderately broad, always distinctly longer than wide, WH/LH <0.92 107
103. Metasoma bright yellow (Fig. 84C); clypeus very short, almost transverse, truncate apically; frons microsculpture colliculate; ocellar triangle strongly acute (NSW) *S. flavicauda* sp. nov.
- Body entirely black; clypeus sometimes short but distinctly projecting, semi-elliptical to triangular, rounded or pointed apically; frons microsculpture smooth to finely microreticulate; ocellar triangle weakly acute to obtuse 104
104. Head deep, DH/LH 0.59–0.63; dorsum of head in lateral view strongly convex; clypeus in profile steep and short; frons narrow, WF/HE ~0.9, with moderately dense, uneven punctures, 1–3 pit widths apart, sometimes denser near antennae, microsculpture coriaceous (Vic, ACT) *S. terrestris* sp. nov.
- Head not so deep, DH/LH 0.50–0.55; dorsum of head in lateral view weakly to moderately convex; clypeus in profile evenly curved; frons with sparse, scattered punctures, 3 pit widths apart or more, with microreticulation visible but smooth, shining, width variable but often WF/HE > 1 105
105. Eyes smaller and head longer posterior, EV/HE 0.65–0.75, OOL/WOT 1.30–1.50; ocellar triangle right; postgenal depression deep, distinct, broad; propodeum microreticulate medially; legs entirely yellow (NT) *S. pandani* sp. nov.
- Eyes distinctly large, head short posterior, EV/HE 0.35–0.50, OOL/WOT <1.20; ocellar triangle obtuse; postgenal depression weak or absent; propodeum with a broad polished strip from base to declivity; coxae and femora dark brown to black 106
106. Mandible black; clypeus weakly carinate or with a blunt, rounded carina; malar space very small, almost absent (Qld) *S. lissonota* sp. nov., in part
- Mandible orange to reddish brown; clypeus evenly convex dorsally, without any trace of carina or ridge; malar space distinct, about 1/3 as long as width of mandible base; cell 1M elongate triangular, posterodistal corner extended into a point (Tas, ACT) *S. mucronervis* sp. nov.
107. Clypeus in profile evenly sloping, nearly straight, or if slightly curved then elongate and apex strongly acute (Figs 76B, 98B) 108
- Clypeus in profile distinctly curved, apex weakly acute to obtuse (Figs 38B, 82B) 118
108. Clypeus flat dorsally, no trace of carina; mandible strongly twisted 109
- Clypeus raised dorsally, weakly carinate or with low carina; mandible not or slightly twisted, sometimes bent ventrad near base 112
109. Head weakly convex ventrally and compressed, DH/LH 0.47–0.51; vein Rs joining anterior wing margin (WA) *S. kalarku* sp. nov.
- Head ventrally with a broadly rounded genal angle, or if evenly convex then DH/LH >0.52; vein Rs not reaching anterior wing margin 110
110. Head strongly convex in lateral view, distinctly round in dorsal view, posterior corners strongly rounded off, vertex convex; lateral ocelli distinctly separate from vertex crest, ocellar triangle weakly acute; propodeum with basal median polished triangular area extending about 1/3 distance from base to declivity (Qld) *S. circularis* sp. nov.
- Head moderately convex in lateral view, more or less triangular in dorsal view, posterior corners somewhat rounded but distinct, vertex slightly concave; lateral ocelli nearly touching vertex crest, ocellar triangle weakly obtuse; propodeum with narrow median polished strip extending from base to declivity or entirely microreticulate 111

111. Metafemur very broad, HFL/HFW <2.00; propodeum entirely microreticulate dorsally; clypeus apex very broadly rounded or truncate (NSW) *S. causia* sp. nov., in part
 – Metafemur narrower, HFL/HFW >2.00; propodeum with polished median strip extending to declivity; clypeus apex evenly curved, not appearing truncate (Qld, NSW) *S. erugata* sp. nov.
112. Clypeus irregularly rugulose lateral of low median carina; propodeum with triangular polished area on basal $\frac{1}{3}$; head laterally angulate, with rounded carina between eye and vertex; head narrow, WH/LH ~0.70; ocellar triangle weakly obtuse to right, OOL/WOT 1.05–1.30; vein Rs not reaching anterior wing margin (Qld) *S. cirrata* sp. nov., in part
 – Clypeus not rugulose lateral of median carina; propodeum either lacking polished area or with broad polished strip from base to declivity; head convex laterally between posterior eye margin and occiput; other characters variable but not in above combination 113
113. Head strongly flattened and long posterior of eyes, DH/LH ~0.41, EV/HE ~0.90; clypeus triangular, apex pointed (Fig. 8A); frons sparsely punctate, about 3 pit widths apart; occipital margin carinate; profemur narrow but metafemur broad, FL/FW ~2.50, HFL/HFW ~1.95 (NSW)
 *S. acrobeles* sp. nov.
 – Head not so flattened, DH/LH >0.50, EV/HE <0.80; clypeus rounded triangular to semi-elliptical, blunt apically; frons moderately to densely punctate between eyes (rarely appearing impunctate due to microsculpture); occipital margin rounded; profemur much broader, FL/FW <2.15, always broader than metafemur 114
114. Vein Rs apically not reaching anterior wing margin (Fig. 6A, D); mandible moderately broad; head weakly convex dorsally, nearly flat between eye and ocelli in lateral view, and narrow, WH/LH 0.70–0.76; ocellar triangle strongly acute; antenna short, A3 only as long as wide or wider 115
 – Vein Rs apically joining anterior wing margin (Fig. 6A, C, E–F); mandible narrow; head more strongly convex, evenly curved dorsally, and usually broader, WH/LH >0.76; ocellar triangle weakly acute to weakly obtuse; A3 at least slightly longer than wide 116
115. Mandible reddish brown to orange, slightly twisted; malar space very small, indistinct; profemur predominantly yellow except dorsal margin, meso- and metafemora brown; median propodeal carina faint; small, LM <0.70 (Qld, NSW) *S. allithoros* sp. nov., in part
 – Mandible black, not twisted; malar space distinct, about $\frac{1}{3}$ as long as basal mandible width; all femora dark brown to black; median propodeal carina distinct; larger, LM >0.75 (SA, ACT)
 *S. campanula* sp. nov., in part
116. Head moderately convex dorsally; malar space distinct, at least $\frac{1}{3}$ as long as base of mandible; vertex crest slightly concave in dorsal view; lateral head posterior of eye with somewhat smoothly reticulate sculpture, only faintly tessellate; propodeum with broad median polished strip from base to declivity (ACT) *S. acta* sp. nov.
 – Head strongly convex dorsally; malar space very small, nearly absent; vertex crest straight; lateral head posterior of eye with broad area of coarse tessellate-colliculate sculpture; propodeum lacking median polished area 117
117. Mandible distinctly tapered between base and midpoint, narrowing again to apex in lateral view due to strong twist (Fig. 21D); frons microsculpture finely microreticulate, punctation distinct; head evenly convex ventrally and more compressed, DH/LH 0.50–0.54 (NSW)
 *S. ancognatha* sp. nov., in part
 – Mandible only weakly and indistinctly narrowed between base and midpoint, twisted at apex but not appearing narrowed in lateral view (Fig. 188D); frons smoothly scutellate anteriorly, minutely colliculate posterior of eyes, largely obscuring punctation; head slightly angulate ventrally and deeper, DH/LH 0.55–0.59 (Tas, ACT) *S. strigula* sp. nov., in part

118. Occipital margin carinate posterior of ocelli, broadly rounded laterally; transverse carina of propodeum faintly present; head compressed, DH/LH 0.48–0.52 119
- Occipital margin rounded, including posterior of ocelli; transverse carina of propodeum usually absent; head depth variable 120
119. Clypeus weakly carinate or with rounded carina; side of head evenly convex between eye and vertex; OOL/WOT 1.35–1.55; profemur narrow, FL/FW > 2.10 (Tas) *S. badiorostris* sp. nov.
- Clypeus with low but sharp carina; side of head distinctly angulate, with a rounded carina from eye to vertex; OOL/WOT 1.05–1.25; profemur moderately broadened, FL/FW < 2.10 (SA)
..... *S. kimseyana* sp. nov.
120. Head long posterior of eyes, EV/HE 0.85–1.20, OOL/WOT 1.90–2.50; frons broad, WF/HE > 1.1; ocellar triangle strongly acute, lateral ocelli separated from vertex by about their own length; mandible moderately broad, weakly concave ventrally 121
- Head short posterior of eyes, EV/HE 0.25–0.75, OOL/WOT 0.85–1.35; frons narrow, WF/HE always < 1.10, usually < 0.90; mandible distinctly concave ventrally, width variable but not so broad; ocellar triangle weakly acute to obtuse, lateral ocelli usually nearly touching vertex, if separate then by less than an ocellus length 122
121. Cell 1M triangular, Rs connecting in middle; mesosoma normal, not flattened, and head deeper, DH/LH 0.50–0.54; OOL/WOT 2.00–2.25; propodeum with a very narrow, slightly raised, polished median line, transverse carina faintly present laterally (WA, SA) *S. aphelops* sp. nov.
- Cell 1M elongate, Rs connecting near distal end; mesosoma flattened and head compressed, DH/LH 0.44–0.48; OOL/WOT 2.25–2.50; propodeum without a median carina or polished area, transverse carina absent (NSW) *S. miltos* sp. nov., in part
122. Fore wing distinctly infusate (Fig. 82C); apical half of mandible strongly convex outwardly; OOL/WOT ~1.40; propodeum lacking median polished area (NSW) *S. filicis* sp. nov.
- Fore wing hyaline, at most faintly tinged with yellow; mandible weakly convex outwardly or slightly twisted; OOL/WOT < 1.25; propodeum variable but usually with a polished area (except in *S. peras* sp. nov.) 123
123. Head deep, DH/LH ~0.61, strongly convex ventrally; head with patches of orange color near eye, along medial margin and anteroventral corner (sometimes faint; Fig. 92B); propodeum with triangular median polished area on posterior $\frac{2}{3}$, broadest posteriorly (Tas) *S. infecta* sp. nov.
- Head not so deep, DH/LH $\leq$ 0.58, moderately to weakly convex ventrally; head entirely black; propodeum with median polished area, if present, either parallel-sided and extending full length or triangular on anterior $\frac{1}{3}$, broadest anteriorly 124
124. Frons microsculpture evident but smooth, shining; lateral ocelli often distinctly separate from vertex, ocellar triangle variable; vertex in dorsal view slightly concave; propodeum with broad polished median strip from base to declivity (faintly microreticulate from some angles) 125
- Frons microsculpture coriaceous; lateral ocelli always nearly touching vertex, ocellar triangle right to obtuse; vertex in dorsal view straight; propodeum with basal triangular polished area, extending only about $\frac{1}{3}$ length of disc 126
125. Lateral ocelli nearly touching vertex, ocellar triangle obtuse; head deepest beneath posterior margin of eye; head laterally angulate, with rounded carina between eye and vertex; pronotal disc distinctly flattened in lateral view, setae short, inconspicuous; metafemur broad, HFL/HFW 1.75–2.15 (Qld) *S. lissonota* sp. nov., in part

- Lateral ocelli distinctly separate from vertex, ocellar triangle acute; head deepest beneath eye; head laterally convex or flat between eye and vertex; pronotal disc slightly convex in lateral view, setae at least as long as flagellar width; metafemur not so broad, HFL/HFW > 2.15 (SA, Vic, ACT) *S. carinifrons* sp. nov.
- 126. Head compressed, DH/LH 0.50–0.54; mandible mostly orange-brown, basal third black; S6 evenly covered with short, anteriorly-directed setae (SA) *S. porticola* sp. nov.
- Head deeper, DH/LH > 0.56; mandible predominantly black, sometimes discolored with orange-brown medially; S6 glabrous medially, with somewhat sparse setae laterally 127
- 127. Mandible moderately narrow, evenly curved in ventral view; head ventrally with relatively sparse setae; frons broad, WF/HE ~1.00; head usually longer posterior of eyes, EV/HE 0.55–0.75 (WA) *S. peras* sp. nov.
- Mandible moderately broad, distinctly elbowed in ventral view; head ventrally with moderately dense setae; frons broad, WF/HE 0.80–0.90; head usually shorter posterior of eyes, EV/HE 0.40–0.50 (Qld) *S. lemniscata* sp. nov.
- 128. Clypeus with low median carina basally, becoming indistinct on apical projection which has numerous fine irregular lateral rugulae; apex of Rs not quite meeting anterior margin of fore wing; vertex and gena setae not strongly differentiated (Qld) *S. cirrata* sp. nov., in part
- Clypeus variable but always smooth laterally, never rugulose; apex of Rs usually joining anterior margin of fore wing 129
- 129. Mandible reddish brown to yellow 130
- Mandible black (rarely reddish to yellow at apex) 150
- 130. Clypeus in profile rounded and recurved at apex (Figs 91B, 193B) 131
- Clypeus in profile evenly curved or straight, apex slightly to strongly acute (Figs 96B, 113B, 116B, 198B) 133
- 131. Mandible very narrow, including at base, slightly bent ventrad near middle; ocellar triangle strongly obtuse; genal angle distinct, broadly rounded; clypeus dorsally rounded, lacking carina or angle; anterior margin of pronotum strongly angulate in lateral view, pronotal disc slightly convex (Tas, ACT) *S. stenognatha* sp. nov.
- Mandible moderately narrow, distinctly concave ventrally, not bent; ocellar triangle weakly acute to right; genal angle absent, head weakly convex ventrally 132
- 132. Head in dorsal view more rounded, distinctly narrowed posterior of eyes, and broader, WH/LH ~0.88, OOL/WOT ~1.10 (Fig. 91A), laterally angulate between posterior eye margin and occiput (NSW) *S. helena* sp. nov.
- Head in dorsal view more quadrate, somewhat parallel-sided posterior of eyes, and narrower, WH/LH ~0.79, OOL/WOT ~1.40 (Fig. 193A), laterally convex between posterior eye margin and occiput (Tas) *S. terpsilithus* sp. nov., in part
- 133. Profemur extremely narrow, FL/FW > 2.70, narrower than metafemur; mandible flat to weakly convex outwardly; A3 elongate, more than 1.5 times as long as wide (Qld) *S. tenuifemur* sp. nov.
- Profemur weakly broadened but not so narrow, FL/FW < 2.65; apical half of mandible variable but often semicylindrical, strongly convex outwardly; A3 almost always less than 1.5 times as long as wide (except in *S. trinalis* sp. nov.) 134

134. Clypeus in profile evenly sloping, or if curved dorsally then short and steep overall (Figs 96B, 198B) 135
- Clypeus in profile moderately elongate and distinctly, evenly curved (Figs 113B, 116B) 137
135. Clypeus moderately large, elongate in profile, apex strongly acute; transverse carina of propodeum faintly present; mandible yellow to orange (Qld) *S. torulus* sp. nov.
- Clypeus short, semi-elliptical or almost transverse, strongly curved in profile, apex right to weakly acute; transverse carina of propodeum absent; mandible color variable, often reddish brown to nearly black 136
136. Clypeus in profile short and curved; mandible strongly narrowed medially (Fig. 96D); OOL/WOT <2.00; frons narrower, WF/HE <1.20; metafemur broader, HFW/HFL <2.40 (Qld) *S. jubaris* sp. nov.
- Clypeus in profile evenly sloping, nearly straight; mandible moderately narrowed medially (Fig. 112D); OOL/WOT >2.00; frons broader, WF/HE >1.20; metafemur narrower, HFW/HFL >2.40 (Vic, Tas) *S. leptadelpha* sp. nov., in part
137. Head parallel-sided and elongate posterior of eyes, EV/HE ~1.00; lateral ocelli separated from vertex crest by about their length, ocellar triangle strongly acute; head more or less flat dorsally and ventrally, ventrally with moderately dense setae; basal wing cells sparsely setose (NSW) *S. limitata* sp. nov., in part
- Head at least somewhat narrowed posterior of eyes and shorter, EV/HE <0.85; lateral ocelli separated from vertex crest by less than their length, ocellar triangle weakly acute to obtuse; head distinctly convex dorsally and ventrally, ventrally with sparse dense setae; basal wing cells variable but often densely setose 138
138. Clypeus dorsally flat or very weakly convex, not angulate or carinate; lateral ocelli distinctly separate from vertex crest; head moderately narrow and long posterior of eye, WH/LH 0.76–0.79, EV/HE 0.74–0.82 (Tas) *S. remota* sp. nov., in part
- Clypeus dorsally at least angulate or weakly carinate; usually with lateral ocelli touching vertex crest and head broader, WH/LH ≥0.80, EV/HE <0.75, never differing in more than one of these ... 139
139. Head not so deep, DH/LH 0.41–0.54; mandible more or less parallel-sided beyond base or weakly concave ventrally; head usually deepest beneath posterior margin of eye; basal wing cells variable, often sparsely setose 140
- Head deep, DH/LH 0.54–0.65; mandible usually distinctly concave ventrally; head deepest in line drawn through eye; basal wing cells densely setose 144
140. Clypeus very short, almost transverse, apex broadly rounded or nearly truncate; propodeum with a narrow polished median strip from base to declivity, transverse carina faintly present laterally (SA) *S. littoralis* sp. nov.
- Clypeus distinct, semi-elliptical to rounded triangular, apex rounded; propodeum without a median polished strip, transverse carina absent 141
141. Mandible slightly twisted, outwardly slightly curved so that ventral tooth slightly posterior of second; ocellar triangle strongly obtuse; genal angle absent, head weakly convex ventrally (Qld) *S. leptognatha* sp. nov.
- Mandible not twisted or distinctly convex outwardly; ocellar triangle weakly obtuse to right; genal angle distinct or head broadly convex ventrally 142

142. Vein Rs not reaching anterior wing margin; malar space distinct, about $\frac{1}{3}$ as long as mandible base; antenna longer, A3 slightly but distinctly longer than wide; vertex in dorsal view slightly concave (NSW, Tas) *S. crinita* sp. nov., in part
- Vein Rs reaching anterior wing margin, cell 2R1 closed; malar space very small; antenna shorter, A3 wider than long; vertex in dorsal view straight or slightly convex 143
143. Basal wing cells sparsely setose; head strongly compressed, DH/LH 0.43–0.47; frons moderately punctate, 2–3 pit widths apart all over; vertex in dorsal view slightly convex, occipital margin carinate (Qld) *S. pumila* sp. nov.
- Basal wing cells densely setose; head not so compressed, DH/LH 0.49–0.53; frons punctation dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes; vertex in dorsal view more or less straight, occipital margin broadly rounded (Qld) *S. lophotes* sp. nov.
144. Mandible moderately broad, ventral margin sinuate, slightly broadened medially and then narrowed at apex (Fig. 42B); ocellar triangle strongly obtuse, OOL/WOT < 0.90 (Qld) *S. cathetognatha* sp. nov.
- Mandible narrow to moderately narrow, ventral margin distinctly and evenly concave (Figs 151D, 206D); ocellar triangle weakly obtuse to acute, OOL/WOT usually > 1.15 145
145. Frons moderately broad, WF/HE ≥ 1.10 ; mandible moderately narrow, apical half semicylindrical, strongly convex outwardly; malar space very small; head generally deeper, DH/LH 0.60–0.64 (Tas) *S. ustulata* sp. nov.
- Frons narrow, WF/HE ≤ 1.00 ; mandible and malar space variable; head usually not so deep, DH/LH 0.54–0.61 146
146. Malar space nearly absent; head strongly convex ventrally; OOL/WOT > 1.40 (Qld) *S. glutinata* sp. nov.
- Malar space small but distinct, about $\frac{1}{4}$ as long as base of mandible; head moderately convex ventrally; OOL/WOT < 1.40 147
147. Transverse carina of propodeum distinct, complete; metafemur broad, HFL/HFW 2.15–2.50; OOL/WOT < 1.00 (Vic) *S. trinalis* sp. nov.
- Propodeum lacking transverse carina; metafemur narrow, HFL/HFW 2.50–2.90; OOL/WOT > 1.15 148
148. Cell 2R1 distinctly narrow, more than 3.5 times as long as wide (Tas) *S. nesomeson* sp. nov.
- Cell 2R1 typical, about 3 times as long as wide or less 149
149. Mandible dark reddish brown to nearly black (Fig. 94D); femora entirely dark brown to black; vertex not carinate posterior of ocelli (NSW, Tas) *S. intonsa* sp. nov.
- Mandible orange-yellow (Fig. 151D); coxae and femora pale brown; vertex carinate posterior of ocelli (Vic) *S. paraglutinata* sp. nov.
150. Head in lateral view somewhat curved ventrad anteriorly, concave posterior of mandible, thickness almost even, genal angle present posteriorly but not prominent (Fig. 45B); head compressed, DH/LH 0.37–0.41 (Vic) *S. cernua* sp. nov.
- Head in lateral view not curved ventrad anteriorly, convex or flat posterior of mandible, or if slightly concave then distinctly deeper and convex posteroventrally; head depth variable but usually not so compressed 151

151. Mandible with deep ventral notch near base, broadened and club-like distally, strongly elbowed with median angle conspicuously protruding in dorsal view (Fig. 88A–B, D); anterior frons flat except faintly raised median line indicating clypeal base, carinate laterally posterior of antennal fossae; clypeus narrowed to sharp anterior carina (Tas) *S. glyphognatha* sp. nov.
 - Mandible without deep ventral notch, broadly concave to parallel-sided in frontal view, rarely strongly elbowed; anterior frons usually at least slightly convex, lateral margin not carinate posterior of antennal fossa; clypeus variable but not forming a distinct sharp carina anteriorly 152
152. Mandible massive, broad and strongly elbowed with basal and apical portions perpendicular in ventral view, median angle conspicuously protruding in dorsal view even when fully closed (Fig. 144A); head as wide or wider than long, WH/LH ~1.03; gena ventral of eye conspicuously concave, posteroventral margin carinate and distinctly reflexed (NSW) *S. opprimator* sp. nov.
 - Mandible normal, more or less evenly curved in ventral view, not protruding anterolaterally when closed; head usually narrower, if rarely as wide as long then mandible distinctly narrow; gena convex to almost indistinctly concave, without reflexed margin 153
153. Clypeus dorsally rostrate, narrowly rounded, prolonged back posterior of antennae as low carina; in profile strongly rounded and recurved, projecting well beyond ventral apex; vein Rs not reaching wing margin, cell 2R1 open (ACT) *S. digitata* sp. nov.
 - Clypeus not as above, dorsally with a low carina, weakly carinate, broadly convex, or flat; rarely strongly rounded and recurved in profile, and if so not strongly projecting beyond ventral apex; vein Rs usually reaching wing margin 154
154. Clypeus very broadly transverse, broadened laterally anterior of antennal sockets (Figs 7A, 63A); ocellar triangle acute; occipital margin narrowly carinate between lateral ocelli; wing membrane at least slightly infusate 155
 - Clypeus not broadened laterally, if apex truncate in dorsal view then process short and trapezoidal, apex narrower than space between antennal sockets; other characters variable, rarely both occipital margin narrowly carinate between lateral ocelli and wing membrane infusate 156
155. Clypeus curved in profile, apex steeply cut off, nearly vertical (Fig. 7B); head moderately strongly convex ventrally and deeper, DH/LH ~0.57; basal wing cells mostly glabrous, cell R with patch of setae near apex, membrane tinged with yellow (Tas) *S. abrupta* sp. nov.
 - Clypeus somewhat elongate in profile, apex distinctly acute (Fig. 63B); head weakly convex ventrally, not as deep, DH/LH ~0.51; basal wing cells sparsely setose across their length, membrane distinctly infusate (NSW) *S. curtirostris* sp. nov.
156. Mandible unusual, sinuate in ventral view, bent inwards and conspicuously concave externally just past base, apical half convex and slightly swollen (Figs 58D, 177D) 157
 - Mandible not sinuate, evenly curved or straight at base and elbowed near middle 158
157. Frons narrow, WF/HE <1.0, OOL/WOT <1.15, with median strip of elongated cellules between median ocellus and clypeus (Fig. 58A); head narrower and more compressed, WH/LH 0.86–0.92, DH/LH 0.54–0.58; lateral ocelli nearly touching vertex crest; coxae and femora predominantly yellow, pro- and metafemora tinged with brown medially; cell 2R1 longer, about 2.7 times as long as broad (Qld) *S. corynognatha* sp. nov.
 - Frons broad, WF/HE >1.0, OOL/WOT >1.40, microsculpture more or less even, without differentiated median strip (Fig. 177A); head broader and deeper, WH/LH 0.91–0.95, DH/LH 0.58–0.62; lateral ocelli distinctly separate from vertex crest; coxae and femora entirely dark brown; cell 2R1 short and broad, about 2.2 times as long as broad (NSW, Tas) *S. sinuata* sp. nov.

158. Lateral ocelli separated from vertex crest by about their length; mandible broad to moderately broad, parallel-sided or weakly concave ventrally, slightly twisted (Figs 13B, D, 55B, D); A3 about as long as wide or longer 159
 - Lateral ocelli close to vertex crest, nearly touching in dorsal view or at most separate by about half their length; mandible variable but usually not as above, if so then antenna short, A3 wider than long 162
159. Head distinctly convex dorsally and ventrally (Fig. 13B), deeper and usually broader, DH/LH ~ 0.56 – 0.57 , WH/LH 0.82 – 0.87 ; EV/WF < 0.80 160
 - Head very weakly convex, nearly flat dorsally and ventrally (Fig. 55B), more compressed and at least moderately narrow, DH/LH 0.51 – 0.54 , WH/LH < 0.82 ; EV/WF > 0.90 161
160. Apical margin of clypeus evenly, broadly curved in dorsal view; frons coriaceous or slightly papillate, cellules distinctly convex at high magnification, somewhat dull; ocellar triangle narrower, OOL/WOT > 1.75 (Tas) *S. adversa* sp. nov.
 - Apical margin of clypeus broadly truncate in dorsal view, curved only at lateral margin; frons finely microreticulate, cellules more or less flat or very indistinctly convex, somewhat shining; ocellar triangle slightly wider, OOL/WOT < 1.75 (WA) *S. crennophila* sp. nov.
161. Head very narrow, WH/LH ~ 0.66 ; eyes not enlarged, frons relatively broad, WF/HE ~ 1.0 ; head elongate posterior of eye, EV/HE ~ 1.3 ; ocellar triangle very strongly acute, narrower than equilateral triangle (Qld, prob. NSW) *S. confinis* sp. nov., in part
 - Head broader, WH/LH 0.79 – 0.81 ; eyes large and strongly convex medially, frons narrow, WF/HE 0.78 – 0.81 ; head shorter posterior of eye, EV/HE 0.81 – 0.85 ; ocellar triangle moderately strongly acute, about equilateral triangle (Vic) *S. euryops* sp. nov., in part
162. Clypeus in profile evenly sloping, nearly straight (Figs 31B, 122B), or if slightly curved then elongate and apical angle strongly acute (Fig. 21B) 163
 - Clypeus in profile distinctly curved, apical angle slightly acute to slightly obtuse 169
163. Frons highly polished, almost lacking visible microsculpture, with sparse, inconspicuous punctation, mostly over 3 pit widths apart; ocellar triangle strongly acute, lateral ocelli nearly touching vertex; head strongly convex ventrally; very small species, LFW ~ 1.00 mm, LM ~ 0.50 mm (Qld)
 - Frons sometimes smooth but at least with visible microreticulate pattern, often somewhat dull and coriaceous, with distinct punctation, 1–3 pit widths apart; if ocellar triangle strongly acute, lateral ocelli usually distinctly separate from vertex (variable); head moderately to weakly convex ventrally; larger species, LFW 1.40 – 2.40 mm, LM 0.70 – 1.15 mm *S. minutissima* sp. nov. 164
164. Clypeus rounded triangular, apex pointed to narrowly rounded; head dorsally strongly convex, evenly curving to clypeus (Fig. 21) 165
 - Clypeus short, semi-elliptical to transverse, apex very broadly rounded to truncate; head weakly convex dorsally, clypeus distinctly steeper than anterior of head in lateral view (Figs 31, 122) 166
165. Mandible distinctly tapered between base and midpoint, narrowing again to apex in lateral view due to strong twist (Fig. 21B, D); frons microsculpture finely microreticulate, punctation distinct; head evenly convex ventrally and more compressed, DH/LH 0.50 – 0.54 (NSW)
 - Mandible only weakly and indistinctly narrowed between base and midpoint, twisted at apex but not appearing narrowed in lateral view (Fig. 188B, D); frons smoothly scutellate anteriorly, minutely colliculate posterior of eyes, largely obscuring punctation; head slightly angulate ventrally and deeper, DH/LH 0.55 – 0.59 (Tas, ACT) *S. ancognatha* sp. nov., in part 166

166. Mandible broad, ventral margin hardly concave, outwardly flat and twisted in lateral view (NSW) *S. maculicola* sp. nov., in part
– Mandible moderately broad to moderately narrow, ventral margin distinctly concave, outwardly weakly to strongly convex, not twisted 167
167. Head somewhat deep and compact, DH/LH ~0.58, OOL/WOT ~1.37; ocellar triangle right, lateral ocelli nearly touching vertex crest; head evenly convex ventrally; propodeum with anterior and posterior median triangular polished areas, connected narrowly; basal wing cells sparsely setose (Tas) *S. amphilyke* sp. nov.
– Head compressed and elongate, DH/LH 0.47–0.53, OOL/WOT > 1.70; ocellar triangle strongly acute, lateral ocelli distinctly separated from vertex crest; head weakly convex to nearly flat ventrally; propodeum without median polished area; basal wing cells densely setose 168
168. Mandible not distinctly twisted or outwardly convex; posterior corners of head strongly rounded off; vertex narrowly carinate between lateral ocelli; OOL/WOT < 1.95 (Vic) *S. bidawal* sp. nov., in part
– Mandible twisted and/or convex outwardly in lateral view; posterior corners of head rounded but distinct; vertex not carinate between lateral ocelli; OOL/WOT > 2.00 (Tas, Vic) *S. leptadelpha* sp. nov., in part
169. Head broad, WH/LH 0.94–0.97, ventrally slightly concave between mandible and genal angle; clypeus flat dorsally, without a trace of a carina; frons shining, microreticulation visible but smooth; basal wing cells sparsely setose; apex of vein Rs strongly curved, meeting anterior margin of fore wing at oblique angle (Qld, Vic) *S. splendida* sp. nov.
– Variable but above characters never occurring in combination: head usually narrower, WH/LH < 0.93, always ventrally flat or convex between mandible and deepest part of head, usually evenly convex between mandible and occiput, genal angle absent; clypeus often weakly carinate or with a low carina; frons usually with distinct texture, even if weak; basal wing cells variable, often densely setose ... 170
170. Vertex and gena setae elongate, about twice as long as frons setae, erect and conspicuous (Figs 34, 86, 192); clypeus dorsally convex, weakly carinate (angulate), or with a rounded carina, not sharp; mandible moderately narrow, parallel-sided or weakly concave ventrally 171
– Vertex and gena setae sometimes longer than those of frons but not erect and conspicuous, often similar; clypeus variable but often with a low, sharp carina; mandible variable, often different 175
171. Ocellar triangle strongly obtuse; metasoma polished dorsally; basal wing cells densely setose; head flatter, DH/LH 0.45–0.54 172
– Ocellar triangle right to acute; metasoma with faint but visible microreticulation dorsally at least on apical tergites; basal wing cells variable; head usually deeper, DH/LH 0.51–0.59 173
172. Vein Rs joining wing margin, cell 2R1 closed; head posterior of eye with narrow line of tessellate sculpture; head flatter, DH/LH ~0.47 (ACT) *S. gingera* sp. nov., in part
– Vein Rs ending before wing margin, cell 2R1 open distally; head posterior of eye broadly covered with colliculate sculpture, lacking differentiated tessellate line; head deeper, DH/LH ~0.52 (Tas) *S. regulus* sp. nov., in part
173. Posterior corners of head somewhat quadrate (Fig. 34A); propodeum without median polished area; profemur narrow, metafemur very broad, FL/FW > 2.00, HFL/HFW < 2.00 (Qld) *S. boggomoss* sp. nov.
– Posterior corners of head strongly rounded (Fig. 192A); propodeum with median polished area at least basally; profemur usually broader, metafemur always narrower, FL/FW < 2.10, HFL/HFW > 2.00 174

174. Clypeus elongate trapezoidal, apex truncate, dorsal ridge broad, flat dorsal surface distinct; basal wing cells sparsely setose; cell 1M elongate triangular, posteroapical corner extended into point; propodeum with narrow median polished strip extending from base to declivity, transverse carina absent; metasomal S3–6 with elongate erect setae (Qld, Vic, NSW, ACT, SA) *S. proboscidis* sp. nov., in part
- Clypeus semi-elliptical, apex broadly rounded, dorsal ridge a rounded carina, without flat dorsal surface; basal wing cells densely setose; cell 1M short triangular, posteroapical corner not extended into point; propodeum with median polished area triangular, extending about $\frac{1}{3}$ distance from anterior margin to declivity, transverse carina faintly present; metasomal sternites without elongate setae (Qld) *S. ternaria* sp. nov.
175. Mandible strongly constricted just beyond articulation, narrowest at about $\frac{1}{6}$ length from base, gradually broadened toward apex (Fig. 102B, D); frons microsculpture granular or colliculate between eyes, smoother posteriorly (Qld) *S. kuranda* sp. nov.
- Mandible gradually narrowed medially and broadened toward apex, narrowest about $\frac{1}{3}$ length from base, ventral margin sinuate; frons microsculpture more or less uniform from antennae to ocelli ..
..... 176
176. Head distinctly elongate and parallel-sided or slightly broadening posterior to eye, EV/HE > 0.90 , OOL/WOT 1.70–1.95, moderately narrow, WH/LH 0.67–0.83 177
- Head not elongate and parallel-sided posterior to eye, EV/HE < 0.90 , OOL/WOT < 1.70 , or if > 1.90 then WH/LH > 0.83 178
177. Head more or less flat ventrally, parallel-sided posterior of eyes in dorsal view, narrower and more compressed, WH/LH ~ 0.71 , DH/LH ~ 0.49 (SA) *S. camptostega* sp. nov.
- Head clearly convex ventrally, broadened posterior of eyes in dorsal view, wider and deeper, WH/LH ~ 0.79 , DH/LH ~ 0.54 (Vic) *S. cecidophila* sp. nov.
178. Frons broad, WF/HE ≥ 1.15 179
- Frons not so broad, WF/HE < 1.15 182
179. Head distinctly flattened in lateral view, ventrally nearly flat, DH/LH ~ 0.46 ; OOL/WOT > 1.90 ; mesosoma strongly compressed; metasomal sternites each with a pair of long erect setae (WA) ...
..... *S. crowea* sp. nov., in part
- Head distinctly convex ventrally in lateral view, DH/LH 0.52–0.56; OOL/WOT < 1.80 ; mesosoma normal, not strongly compressed; metasomal sternites often without modified long erect setae
..... 180
180. Head much more convex ventrally than dorsally in lateral view, dorsally somewhat flat (Fig. 16B); frons microsculpture dull and granular; femora broad, FL/FW 1.75–1.95, HFL/HFW ~ 2.00 (Qld)
..... *S. alveolata* sp. nov.
- Head clearly convex both dorsally and ventrally in lateral view, not flattened dorsally (Fig. 104B, 143B); femora narrow, FL/FW 2.08–2.40, HFL/HFW 2.35–2.55 181
181. Frons moderately punctate, mostly > 2 pit widths apart, setae only slightly longer than width of antennal flagellum, not appearing conspicuously setose; frons microsculpture coarsely colliculate, cellules large, convex and shining, partially obscuring punctuation; vertex slightly concave in dorsal view; basal wing cells sparsely setose, cell R sometimes with extra setae (Tas)
..... *S. lacustris* sp. nov.
- Frons more densely punctate, 1–2 pit widths apart, setae distinctly longer than width of antennal flagellum, appearing conspicuously hairy in lateral view; frons microsculpture finely granular, cellules small, creating a dull appearance; vertex straight in dorsal view; basal wing cells densely setose (Qld) *S. ocellata* sp. nov., in part

182. Head very deep, DH/LH 0.59–0.66 (usually >0.61), strongly convex or slightly angulate ventrally, and broad, WH/LH >0.89; lateral ocelli usually separated from vertex crest..... 183
 - Head not so deep, DH/LH ≤0.58, rarely strongly convex ventrally; if DH/LH rarely to 0.61 then lateral ocelli nearly touching vertex crest and not so broad, WH/LH <0.89 186
183. Head very broad, as wide or wider than long, WH/LH 0.98–1.03, and short posterior of eyes, EV/HE 0.30–0.40; mandible narrow, more or less parallel-sided; propodeum with basal triangular polished area narrowing to median carina, transverse carina distinct (NSW, ACT, Vic, New Zealand) *S. thorpei* Magnacca, 2019
 - Head broad but always distinctly longer than wide, WH/LH 0.89–0.95, slightly longer posterior of eyes, EV/HE 0.40–0.60; mandible width variable but ventral margin always distinctly concave; propodeum variable, sometimes with median carina but never with polished area, transverse carina absent or very weak 184
184. Gena ventral of eye entirely coriaceous; ocellar triangle strongly acute, OOL/WOT >1.35; metafemur narrow, HFL/HFW >2.60; propodeum lacking median carina (NSW, Vic) *S. rotundiceps* sp. nov.
 - Gena ventral of eye with broad polished area, lacking microreticulation (Fig. 5B); ocellar triangle weakly acute to weakly obtuse, OOL/WOT <1.25; metafemur broad, HFL/HFW <2.50, usually <2.00; propodeum variable 185
185. Head ventrally with distinct genal angle (Fig. 74B); malar space distinct, 1/4 as long as mandible base; ocellar triangle weakly acute to right; vertex crest straight; median carina of propodeum distinct; cell 1M straight posteriorly (Tas, Vic) *S. elasson* sp. nov.
 - Head ventrally evenly convex (Fig. 186B); malar space very small; ocellar triangle weakly obtuse; vertex crest shallowly emarginate between lateral ocelli; propodeum lacking median carina; cell 1M distinctly convex posteriorly (Vic) *S. stilboparia* sp. nov.
186. Head compressed, DH/LH <0.53 187
 - Head deeper, DH/LH >0.53 193
187. Head very broad, as wide or wider than long, WH/LH 0.98–1.03, and short posterior of eyes, EV/WF <0.50; vertex crest in dorsal view broadly, shallowly concave; ocellar triangle strongly obtuse; propodeum with broad median polished strip extending from base to declivity (Qld) *S. eurycephala* sp. nov., in part
 - Head narrower, WH/LH <0.90, and longer posterior of eyes, EV/WF >0.50; vertex more or less straight; ocellar triangle usually weakly acute to right (strongly obtuse in *S. regulus* sp. nov.); propodeum without median polished area, entirely microreticulate 188
188. Vein Rs not reaching anterior wing margin; vertex in dorsal view slightly concave 189
 - Vein Rs reaching anterior wing margin, cell 2R1 closed; vertex in dorsal view straight or slightly convex around ocelli 190
189. Clypeus semi-elliptical, apex broadly rounded, convex dorsally; head broader, WH/LH ~0.89; ocellar triangle strongly obtuse (Tas) *S. regulus* sp. nov., in part
 - Clypeus elongate, rounded triangular to trapezoidal, apex broadly truncate, dorsally with rounded carina; head narrower, WH/LH ~0.80–0.81; ocellar triangle weakly acute to weakly obtuse (Tas, NSW) *S. crinita* sp. nov., in part

190. Lateral ocelli nearly touching vertex crest, vertex narrowly carinate between; clypeus in profile gently curved, apical angle acute; mandible moderately broad, ventral margin distinctly concave, slightly narrowed at apex, obtusely elbowed in ventral view; frons narrower, WF/HE 0.80–0.94 .. 191
- Lateral ocelli slightly separated from vertex crest, vertex not carinate between; clypeus in profile more strongly curved, sometimes recurved at ventral apex, apical angle right to obtuse; mandible evenly curved in ventral view, width variable; frons broader, WF/HE > 0.95 192
191. At least profemur predominantly yellow, dark only on dorsal margin; OOL/WOT > 1.50 (Qld) *S. ambitiosa* sp. nov.
- Coxae and femora dark brown to black; OOL/WOT < 1.50 (WA) *S. isolata* sp. nov.
192. Clypeus in profile evenly curved, apical angle right; basal wing cells densely setose, wing membrane weakly infuscate; head weakly convex ventrally; mesosoma not strongly compressed (Qld) *S. nidus* sp. nov.
- Clypeus in profile strongly rounded and recurved at apex; basal wing cells sparsely setose, wing membrane hyaline; genal angle broadly rounded; mesosoma flattened (Tas) *S. terpsilithus* sp. nov., in part
193. Frons with regular, somewhat close punctation, 1–2 pit widths apart, somewhat obscured by dull granular sculpture, appearing rather densely setose, setae longer than antennal flagellum width; mandible moderately broad, distinctly concave ventrally; ocelli slightly enlarged and closely placed, lateral ocelli separated by less than twice their diameter (Qld) *S. ocellata* sp. nov., in part
- Frons moderately, irregularly punctate, 2–3 pit widths apart, not obscured by sculpture which is fine to coriaceous, appearing sparsely setose, setae about as long as flagellum width or scarcely more; mandible variable, often narrower; ocelli not enlarged, lateral ocelli separated by more than twice their diameter 194
194. Basal wing cells sparsely setose; antenna short, A3 about as wide as long (Figs 70, 138) 195
- Basal wing cells densely setose; A3 usually distinctly longer than wide (except in *S. ovata* sp. nov.; Figs 142A, 161A) 197
195. Mandible moderately broad, more or less parallel-sided or very weakly concave ventrally, slightly twisted; head lacking dull tessellate sculpture laterally posterior of eye; propodeum without any indication of transverse carina; frons narrow, WF/HE ~0.93 (Qld) *S. diversa* sp. nov.
- Mandible moderately narrow, distinctly concave ventrally, not twisted; head with line of dull tessellate sculpture laterally posterior of eye; propodeum with faint transverse carina laterally; frons broader, WF/HE > 1.00 196
196. Mandible elongate, strongly narrowed near base and gradually broadened toward apex; lateral ocelli distinctly separated from vertex crest by at least half diameter of ocellus; head with moderately dense setae ventrally, posterolaterally weakly reticulate and somewhat shining between lateral and ventral bands of tessellate sculpture (as in Fig. 5C); propodeum with narrow median polished strip (NSW, Qld) *S. exleyae* sp. nov.
- Mandible somewhat short, only moderately narrowed near base, broadening to greatest width by $\frac{2}{3}$ length; lateral ocelli touching or scarcely separated from vertex crest; head with sparse setae ventrally, posterolaterally coriaceous between lateral and ventral bands of tessellate sculpture (as in Fig. 5D); propodeum without median polished area (SA) *S. nauo* sp. nov.
197. Clypeus dorsally with low but sharp carina; mandible not strongly convex outwardly (Figs 145B, 161B) 198
- Clypeus weakly angulate or rounded dorsally, not sharp; mandible strongly convex outwardly, apical half semicylindrical in lateral view (Figs 142B, 154B, 169B) 199

198. Posterior corners of head rounded but straight lateral and posterior margins of head distinct in dorsal view, EV/HE > 0.60 (Fig. 145A); frons broad, WF/HE ~1.10; ocellar triangle weakly acute; head posterolaterally shining between lateral and ventral bands of tessellate sculpture; propodeum with distinct transverse carina (Qld) *S. ovata* sp. nov.
- Posterior corners of head strongly rounded off, curving shortly posterior of eye, EV/HE < 0.60 (Fig. 161A); frons narrow, WF/HE ~0.84; ocellar triangle strongly obtuse; head posterolaterally coriaceous between lateral and ventral bands of tessellate sculpture; propodeum without transverse carina (Tas) *S. pontilis* sp. nov.
199. Mandible narrow, more or less parallel-sided; malar space very small; lateral ocelli distinctly separate from vertex crest; head strongly convex or slightly angulate ventrally; profemur often moderately broad, FL/FW 1.80–1.95 (Tas) *S. remota* sp. nov., in part
- Mandible moderately narrow, distinctly concave ventrally; malar space distinct, about $\frac{1}{4}$ as long as base of mandible; profemur narrower, FL/FW > 1.95 200
200. Metafemur broad, HFL/HFW < 2.30; S6 evenly covered with short, erect setae, without median glabrous area; gena highly polished posterolaterally between eye, occiput, and ventral line of colliculate sculpture, broad area without reticulation (Fig. 142B); head slightly shorter posterior of eyes, EV/HE ~0.48 (Tas) *S. nitidigena* sp. nov.
- Metafemur narrow, HFL/HFW > 2.50; S6 broadly glabrous medially; gena distinctly reticulate posterolaterally (Fig. 94B); head longer posterior of eyes, EV/HE > 0.54 201
201. Frons slightly narrower than eye, WH/HE 0.92–0.94, microsculpture finely microreticulate, somewhat shining; cell 1M narrow, distal half nearly parallel-sided, posterodistal corner squared off (Tas, NSW) *S. intonsa* sp. nov., in part
- Frons slightly but distinctly broader than eye, WF/HE 1.03–1.12, microsculpture coriaceous, moderately dull; cell 1M broadening distally, anterior and posterior margins distinctly divergent, posterodistal corner broadly rounded (Tas) *S. pelion* sp. nov.

Species descriptions

Sierola abrupta sp. nov.

urn:lsid:zoobank.org:act:E620CAFC-41CC-4893-B6C6-8C04A8BDAECE

Figs 7, 14

Diagnosis

A distinctive species, recognizable by the unusual clypeus which is moderately short but broadened laterally anterior of the antennal sockets, the lateral margin rounded with a constriction between the anterior clypeal projection and posterior lateral lobe. This is shared only with its sibling species *S. curtirostris* sp. nov., which differs in having the clypeus elongate with the apex strongly acute in profile, head flatter (DH/LH 0.51 vs 0.57), and basal wing cells sparsely setose.

Etymology

From the Latin ‘*abrupta*’, ‘broken’ or ‘cut off’, referring to the truncate clypeus.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham; 41.016° S, 147.197° E; Jan. 2024; S.J. Grove leg.; Malaise trap; TMAG F153001.

Description**Female**

HEAD. Clypeal process short, broad, transverse, rounded laterally, apex truncate; dorsally weakly carinate (blunt apically); in profile steep and short, evenly curved. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte (coarser posteriorly). Vertex in dorsal view more or less straight, corners broadly rounded; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-

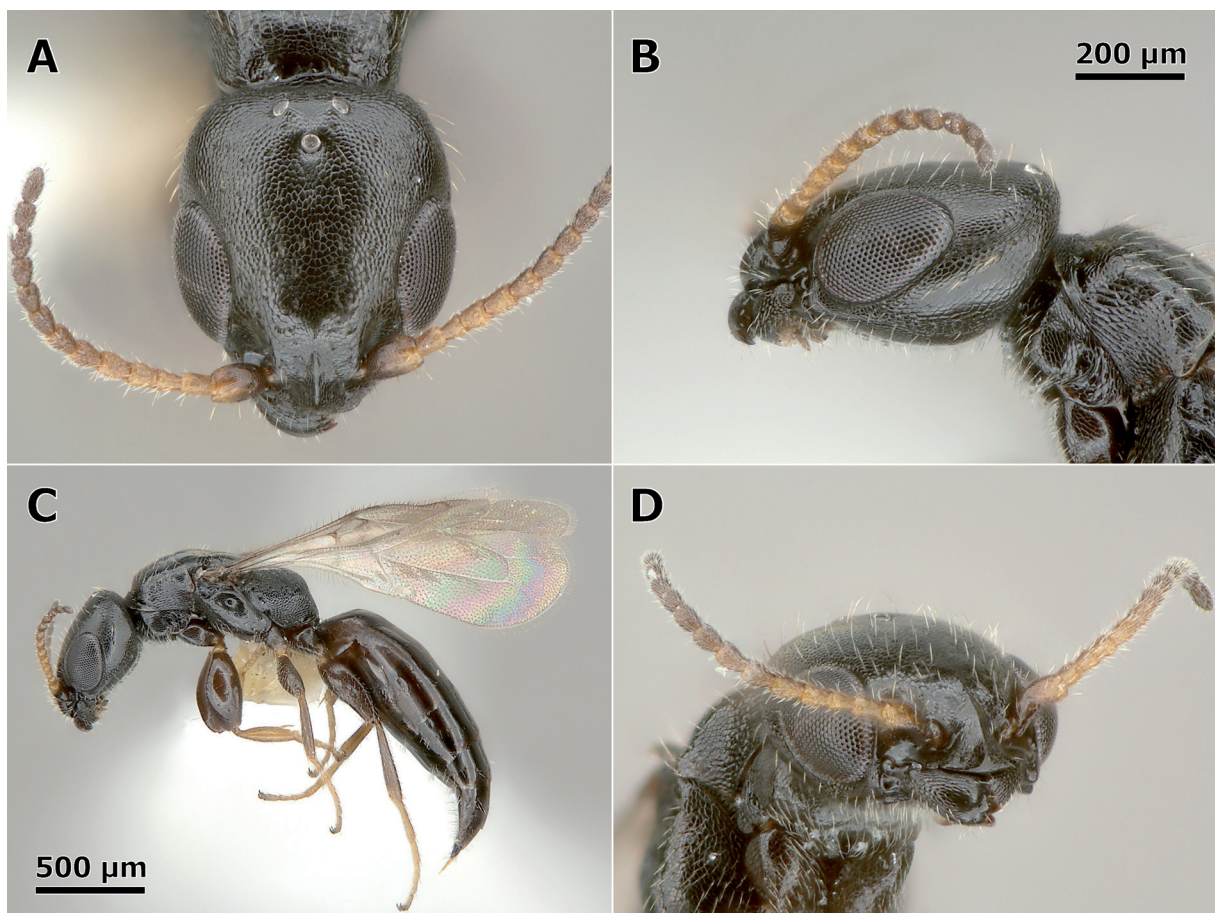


Fig. 7. *Sierola abrupta* sp. nov., holotype, ♀ (TMAG F153001). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing mostly glabrous, cell R densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.88 mm; LM 0.91 mm; WH/LH 0.86; DH/LH 0.57; EV/HE 0.72; EV/WF 0.68; WF/HE 1.06; WH/WF 1.79; OOL/WOT 1.46; DM/LM 0.41; FL/FW 2.21; HFL/HFW 2.20; A3 L/W 1.13; 2R1 L/W 2.58.

Distribution

Tasmania; known only from the holotype.

Sierola acrobeles sp. nov.

urn:lsid:zoobank.org:act:C0CF77C6-E014-47A0-8E69-F1CF1AF131EA

Figs 8, 10

Diagnosis

An unusual species, distinguished by the combination of glabrous basal wing cells, the head strongly flattened (DH/LH ~0.41) but slightly convex dorsally, and clypeus triangular, apically pointed and dorsally with a rounded carina. The clypeus is also elongate and strongly acute apically in profile, unlike in members of the *compressa* group which have it rounded and/or short and steep.

Etymology

From the Greek ‘*acrobeles*’, ‘sharp-pointed’, referring to the elongate, pointed, triangular clypeus and flattened head. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Pilliga Scrub, via Coonabarabran; 15 Dec. 1976; I. Naumann leg.; beating and sweeping; dry sclerophyll forest; QM T262150.

Description

Female

HEAD. Clypeal process triangular, apex pointed; dorsally with a sharp or rounded carina; in profile evenly sloping, nearly straight. Mandible narrow, broadened at base and apex, ventral margin distinctly

concave; slightly bent ventrad near base, apical half of mandible semicylindrical, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base

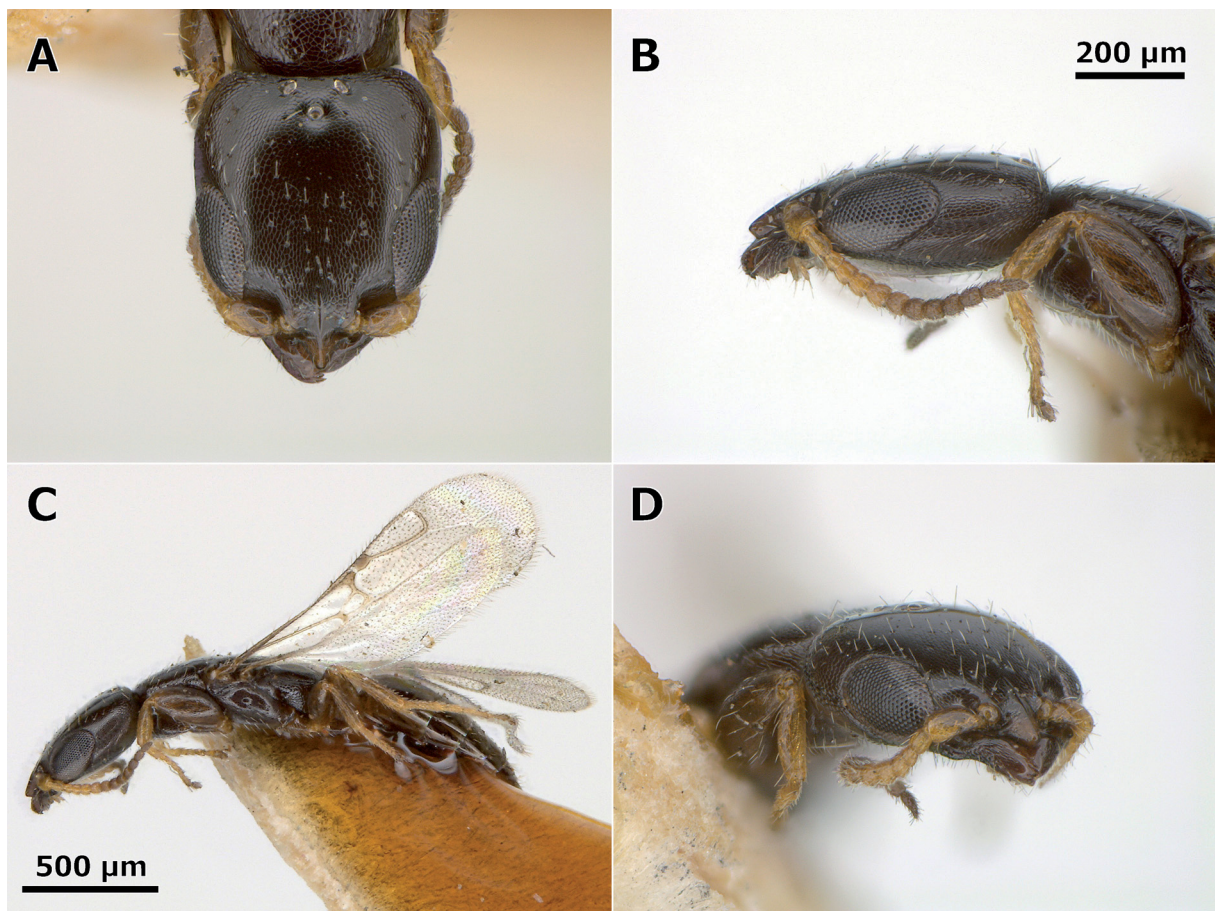


Fig. 8. *Sierola acrobeles* sp. nov., holotype, ♀ (QM T262150). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.38 mm; LM 0.80 mm; WH/LH 0.84; DH/LH 0.41; EV/HE 0.90; EV/WF 0.76; WF/HE 1.19; WH/WF 1.70; OOL/WOT 1.75; DM/LM 0.33; FL/FW 2.50; HFL/HFW 1.95; A3 L/W 1.00; 2R1 L/W 2.86.

Distribution

New South Wales; known only from the holotype, collected in semi-arid woodland.

Remarks

The combination of narrow profemur and broad metafemur is very unusual; in most species the profemur is broader or only slightly narrower.

Sierola acta sp. nov.

urn:lsid:zoobank.org:act:220BC757-7A74-4BEF-BD1D-56EBEBB92774

Figs 9–10

Diagnosis

Part of a cluster of species with the basal wing cells nearly glabrous, clypeus short and semi-elliptical, and head moderately deep and convex dorsally and ventrally. Separated from similar species by the distinct malar space, slightly twisted mandible, and dorsal propodeum with a broad polished strip extending the full length. The clypeus is also only very weakly curved in profile, apically strongly acute, with the dorsal ridge effaced apically.

Etymology

Named for the Australian Capital Territory, to which this species is so far limited. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Australian Capital Territory** • ♀; Blundells Creek; 35°22' S, 148°50' E; Feb. 1987; D.H. Colless leg.; Malaise trap/ethanol; ANIC 32-154806.

Paratype

AUSTRALIA – **Australian Capital Territory** • 1 ♂; Canberra; 17 Dec. 1980; D.F. Rentz leg.; in pool; ANIC.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a rounded carina, effaced towards apex; in profile evenly sloping, nearly straight. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{3}$ – $\frac{1}{2}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of smooth tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate

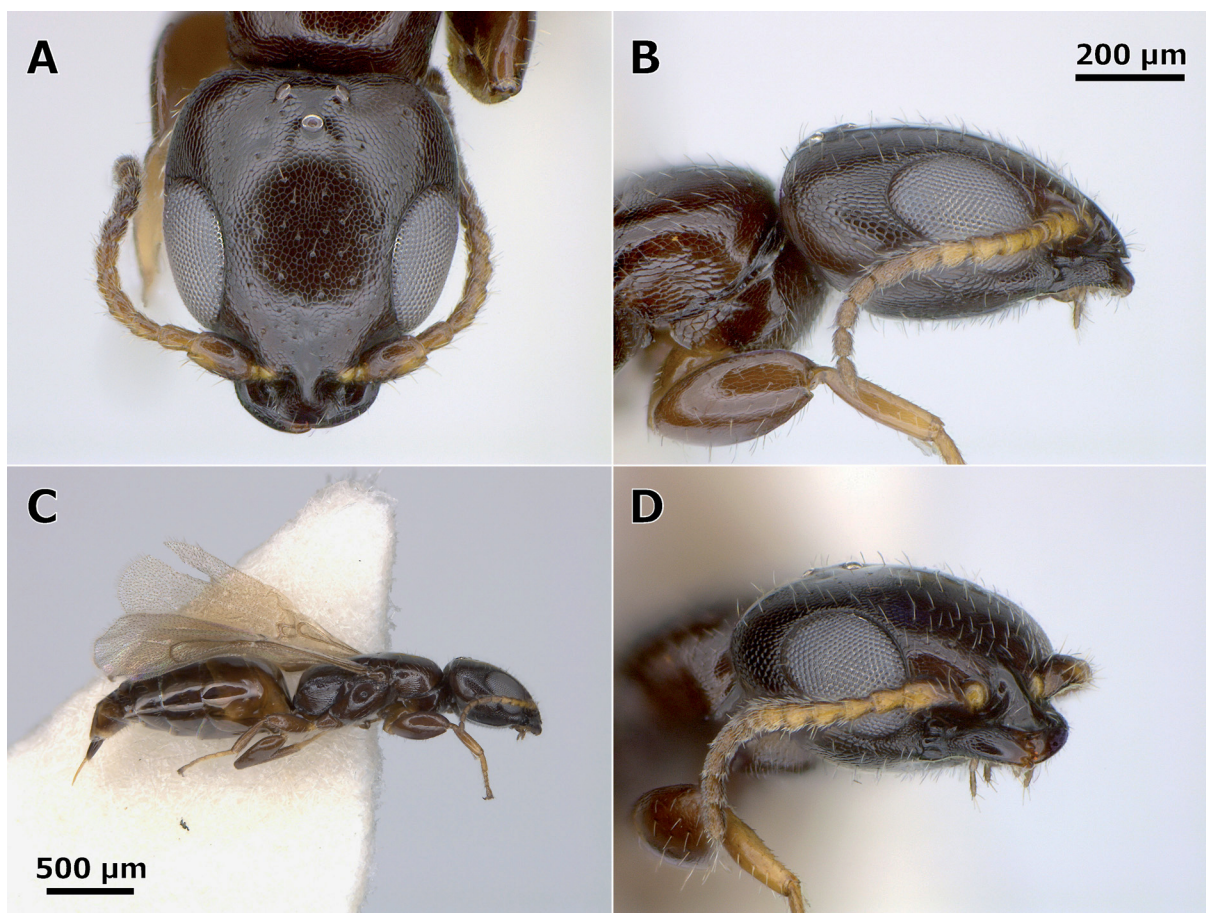


Fig. 9. *Sierola acta* sp. nov., holotype, ♀ (ANIC 32-154806). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum covered with a mix of long and short setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.71 mm; LM 0.90 mm; WH/LH 0.83; DH/LH 0.54; EV/HE 0.66; EV/WF 0.66; WF/HE 1.00; WH/WF 1.83; OOL/WOT 1.53; DM/LM 0.41; FL/FW 1.88; HFL/HFW 2.36; A3 L/W 1.23; 2R1 L/W 3.07.

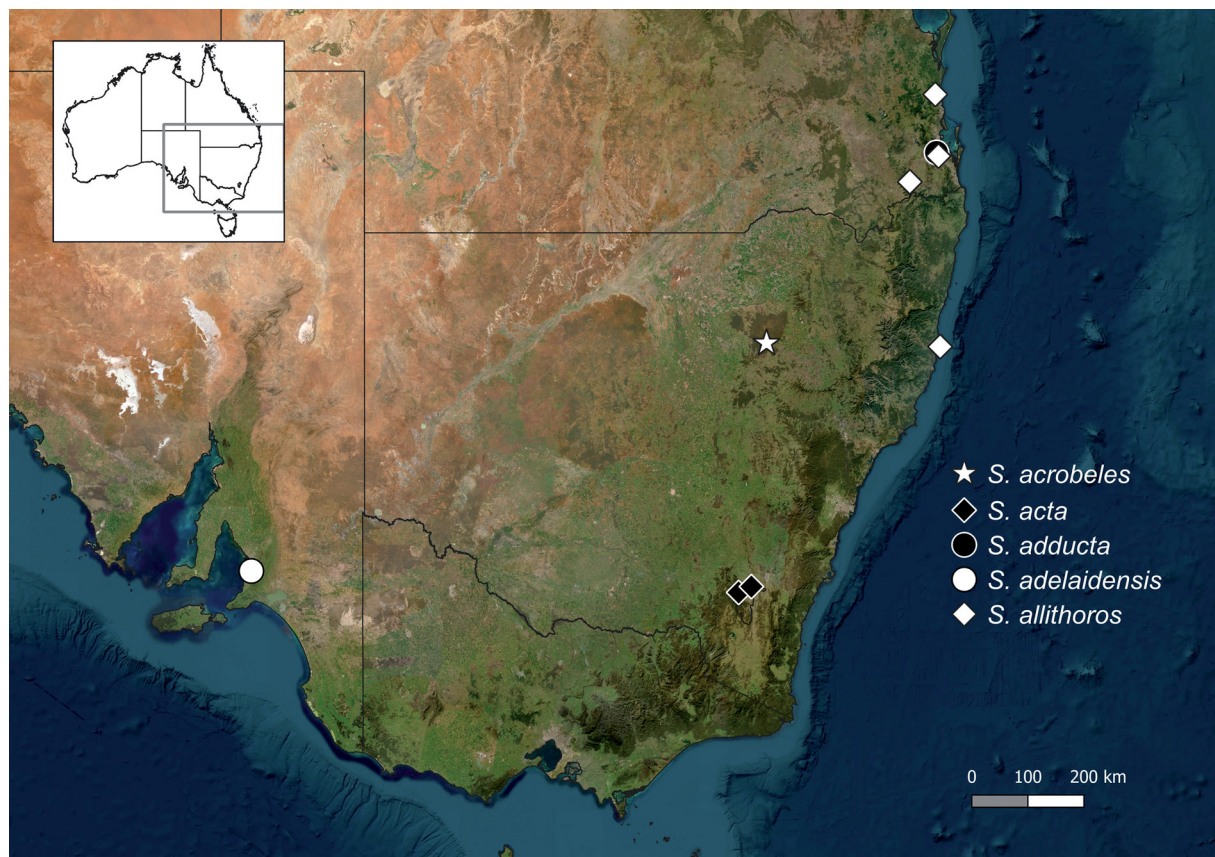


Fig. 10. Map of collection records of *Sierola acrobeles* sp. nov., *S. acta* sp. nov., *S. adducta* sp. nov., *S. adelaidensis* sp. nov., and *S. allithoros* sp. nov.

Distribution

Australian Capital Territory; known only from the holotype and a tentatively associated male.

Sierola adducta sp. nov.

urn:lsid:zoobank.org:act:8EAA3E02-216F-4A61-A5E0-6036DDBE1226

Figs 10–11

Diagnosis

A very distinctive species, recognizable by the combination of the head narrow, compressed, and dorsally flat on the posterior half; clypeus elongate in profile, apex strongly acute, dorsally with a low carina; and mandible parallel-sided. Vein Rs of the fore wing also ends well short of the anterior wing margin.

Etymology

From the Latin ‘*adductus*’, ‘stretched’, referring to the elongate head.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Chalamar [= Chelmer?]; 5 Sep. 1979; G. Gordh and C. Dahma leg.; UCRC 556765.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally with a low carina, prolonged posteriorly well beyond antennal sockets to about $\frac{1}{3}$ eye height; in profile elongate, evenly curved, apex acute. Mandible moderately narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with second ventral tooth largest. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow punctures, dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs short, weakly curved, remote from wing margin.

MEASUREMENTS. LFW 1.80 mm; LM 0.91 mm; WH/LH 0.76; DH/LH 0.43; EV/HE 0.78; EV/WF 0.78; WF/HE 1.00; WH/WF 1.78; OOL/WOT 1.76; DM/LM 0.35; FL/FW 1.94; HFL/HFW 2.13; A3 L/W 1.00; 2R1 L/W 2.92.

Distribution

Queensland; known only from the holotype, probably collected near Brisbane (see Remarks).



Fig. 11. *Sierola adducta* sp. nov., holotype, ♀ (UCRC 556765). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Remarks

The Rs vein is unusually short and the palpi cannot be fully seen, so it is possible that this species could be a member of *Goniozus*. However, the palpi appear to be 4/2 with an elongate terminal maxillary palpomere (characteristic of *Sierola*), and *Goniozus* with a closed cell 1M (“*Parasierola*”) are rare in Australia, so it is placed here. The type locality is uncertain as I can find no place called Chalamar in Queensland or Australia as a whole; it is likely a misspelling of the Brisbane suburb of Chelmer, as many of Gordh’s other collections come from Indooroopilly just across the river.

***Sierola adelaidensis* sp. nov.**

urn:lsid:zoobank.org:act:74475037-E746-457E-AAA6-B46197C19128

Figs 10, 12

Diagnosis

Part of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Nearly identical to *S. comparata* sp. nov. of Victoria, distinguished from others by having the vertex narrowly carinate between the lateral ocelli and mandible strongly convex outwardly. Separated by the more elongate and rounded clypeus which is not recurved ventrally, the more ventrally concave mandible, and head shorter posterior of the eye.

Etymology

Named for the collecting locality of the holotype.

Type material**Holotype**

AUSTRALIA – South Australia • ♀; Adelaide; SAMA 32-42923.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with second ventral tooth largest. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous to finely microreticulate. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex or nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally.

METASOMA. Shining, with faint microsculpture laterally. S3–5 each with a pair of moderately long erect setae.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae (see Remarks). Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.85 mm; LM 1.01 mm; WH/LH 0.75; DH/LH 0.49; EV/HE 0.91; EV/WF 0.90; WF/HE 1.01; WH/WF 1.74; OOL/WOT 1.73; DM/LM 0.34; FL/FW 2.06; HFL/HFW 2.14; A3 L/W 0.93; 2R1 L/W 2.67.

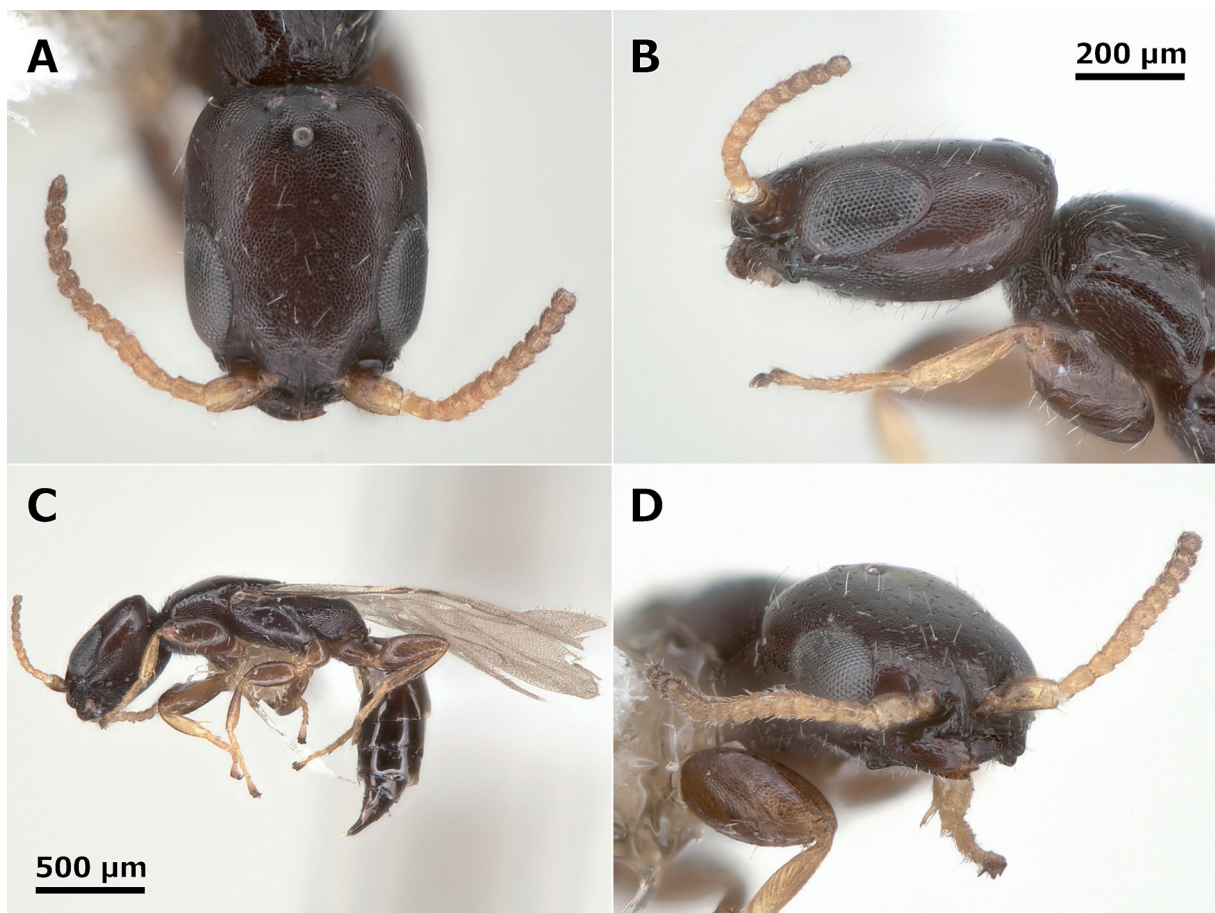


Fig. 12. *Sierola adelaidensis* sp. nov., holotype, ♀ (SAMA 32-42923). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Distribution

South Australia; known only from the holotype, collected in Adelaide.

Remarks

The holotype was originally mounted in dense glue and has been remounted. The basal wing cells lack setae but appear to have been abraded and the actual setation is unclear.

Sierola adversa sp. nov.

urn:lsid:zoobank.org:act:BFBBA99E-EAE2-4924-9202-18F654AA00E7

Figs 13–14

Diagnosis

A distinctive species, recognizable by the combination of very broad, parallel-sided, slightly twisted mandible, lateral ocelli separated from the vertex by about their length, sparsely setose basal wing cells, and somewhat short clypeus, weakly curved in profile with the apical angle acute. Nearly identical to *S. cremnophila* sp. nov., separated by the distinctly curved anterior clypeal margin, dull, somewhat papillate frons sculpture, and greater OOL/WOT.

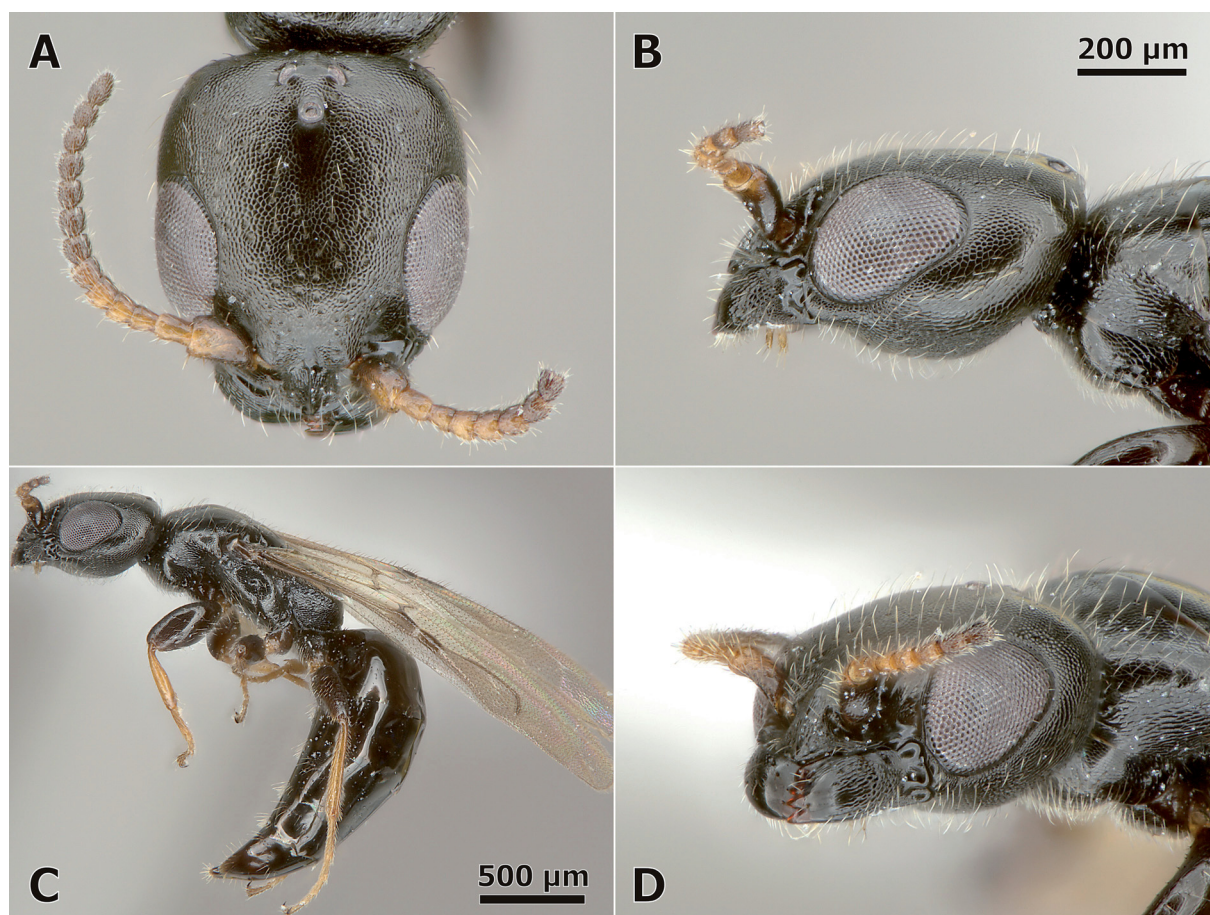


Fig. 13. *Sierola adversa* sp. nov., holotype, ♀ (TMAG F152998). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

From the Latin ‘*adversus*’, ‘against’ or ‘opposite’, referring to the collection of the holotype on the north end of King Island away from the others taken there, and facing mainland Australia.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; King Is., Martha Lavinia Road, heathland; 39.6567° S, 144.0678° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series 3; TMAG F152998.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible broad, ventral margin slightly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex

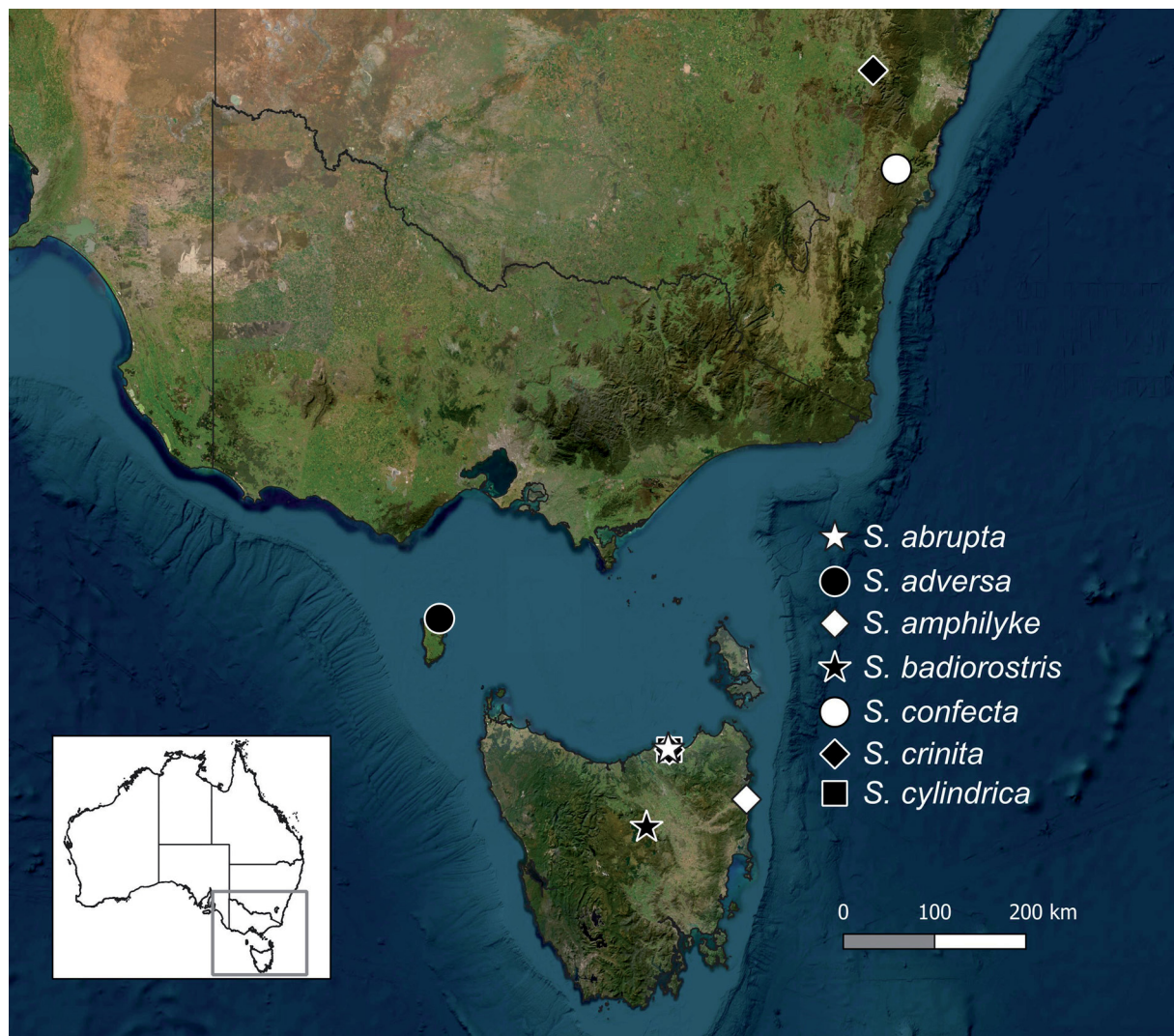


Fig. 14. Map of collection records of *Sierola abrupta* sp. nov., *S. adversa* sp. nov., *S. amphilyke* sp. nov., *S. badiorostris* sp. nov., *S. confecta* sp. nov., *S. crinita* sp. nov., and *S. cylindrica* sp. nov.

of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a somewhat dense apical row of short setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 2.25 mm; LM 1.01 mm; WH/LH 0.86; DH/LH 0.57; EV/HE 0.71; EV/WF 0.67; WF/HE 1.07; WH/WF 1.75; OOL/WOT 1.88; DM/LM 0.39; FL/FW 2.07; HFL/HFW 2.12; A3 L/W 1.00; 2R1 L/W 2.67.

Distribution

Tasmania; known only from the holotype, collected on King Island.

Remarks

This and its sister species *S. cremnophila* sp. nov. may be divergent members of the *cuneata* species group; they resemble many of those species in the broad mandible and angulate clypeal apex in lateral view, but lack the enlarged clypeus typical of the group. The existence of two such similar species so widely separated suggests that more in this complex remain to be discovered.

Sierola allithoros sp. nov.

urn:lsid:zoobank.org:act:E30FF356-4328-493B-9D9C-4BE72F898135

Figs 10, 15

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Forming a species pair with *S. campanula* sp. nov., united in having the frons

very narrow (WF/HE ~0.8), clypeus with a low but distinct medial carina and broadly rounded apically rather than straight truncate or emarginate, vein Rs ending short of the anterior wing margin, and S5 with a pair of elongate setae. Separated by having the mandible reddish brown and slightly twisted, propodeum with the median carina faint, and profemur mostly yellow.

Etymology

From the Greek ‘*allithoros*’, ‘cross-eyed’ or ‘squinting’, from the dorsally close eyes. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Upper Clayton Gully, near Cunningham’s Gap; elev. 400–600 m; 25 Apr. 1974; I. Naumann leg.; sweeping long grass; wet sclerophyll forest; QM T262151.

Paratypes

AUSTRALIA – **New South Wales** • 2 ♀♀, 1 ♂; Hat Head; 31.0626° S, 153.052° E; elev. 37 m; 4–18 Feb. 2018; P. Hebert leg.; Malaise trap, trap #3; BOLD: NSWHO3417-18, NSWHO3816-18, NSWHO3706-18, BIN ADV9054; ANIC. – **Queensland** • 1 ♀; Corroy [sic: Cooroy]; 15 Sep. 1979; G. Gordh leg.; UCRC 401812 • 1 ♀; Acacia Ridge near Brisbane; 13 Dec. 1979; G. Gordh leg.; UCRC 556776.

Description

Female

HEAD. Clypeal process semicircular, apex broadly rounded; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly sloping, nearly straight. Mandible moderately broad, more or less parallel-sided except at base; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view straight or nearly so. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to very weak and mostly smooth, shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of smooth tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina faintly present; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S5 with a pair of long erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Procoxa and femur yellow except dorsal margin of femur, meso- and metafemora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.15 mm; LM 0.62 mm (0.59–0.69); WH/LH 0.74 (0.70–0.74); DH/LH 0.52 (0.50–0.52); EV/HE 0.70 (0.64–0.76); EV/WF 0.88 (0.84–1.00); WF/HE 0.79 (0.76–0.84); WH/WF 2.18 (2.05–2.24); OOL/WOT 1.71 (1.67–1.88); DM/LM 0.40; FL/FW 1.96 (1.96–2.08); HFL/HFW 2.16 (2.00–2.33); A3 L/W 0.83 (0.83–1.00); 2R1 L/W 3.14. N = 5.

Male

Similar to female with the following exceptions. *Head.* Generally shorter and more compact. Clypeal process semi-elliptical, apex very broadly rounded or truncate; in profile distinctly curved. Frons

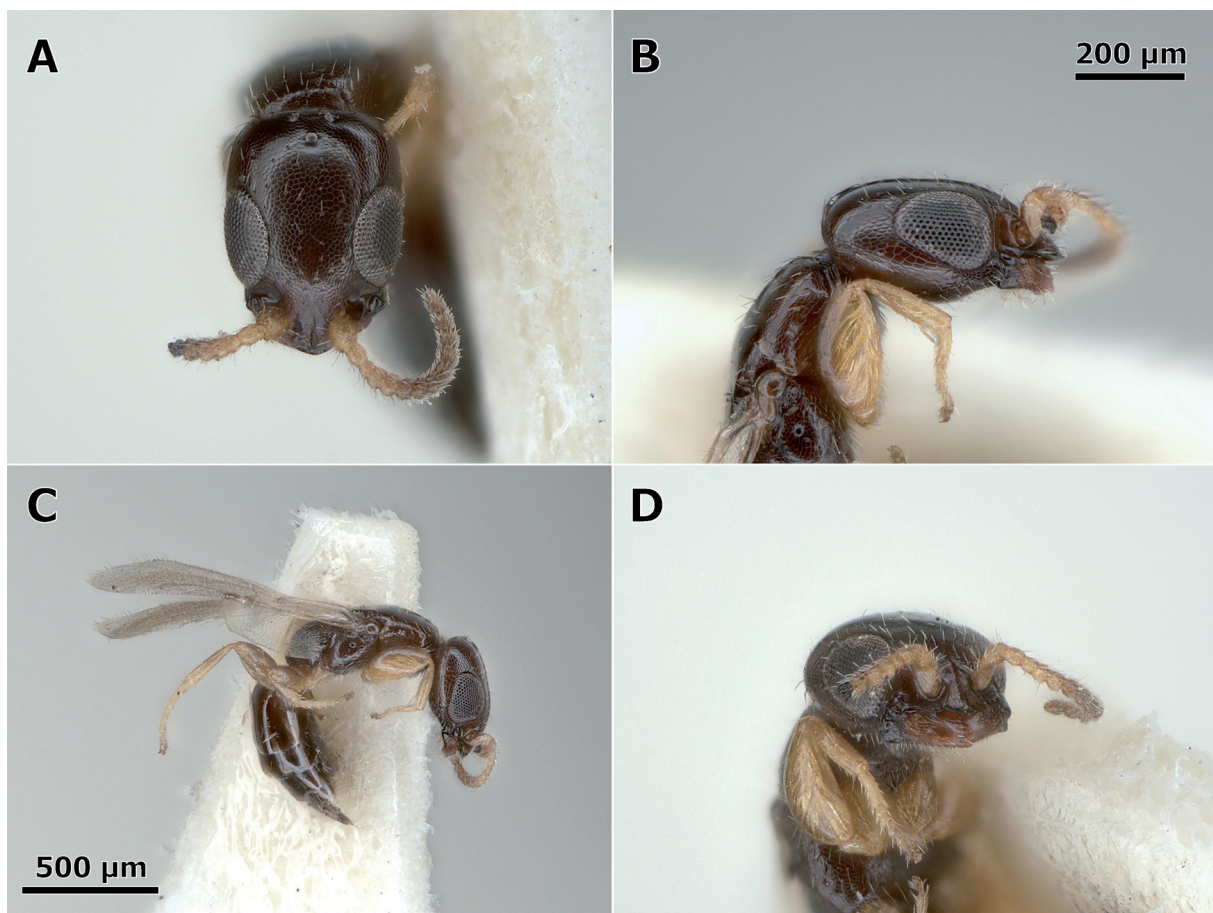


Fig. 15. *Sierola allithoros* sp. nov., holotype, ♀ (QM T262151). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

punctuation sparse. Ocellar triangle anterior angle weakly acute. Antenna longer, extending to posterior margin of pronotum. *Color*. All coxae and femora brown; tibiae tinged with brown medially.

MEASUREMENTS. LFW 1.07 mm; LM 0.57 mm; WH/LH 0.87; DH/LH 0.60; EV/HE 0.62; EV/WF 0.63; WF/HE 0.98; WH/WF 1.98; OOL/WOT 1.20; DM/LM 0.41; HFL/HFW 2.13; A3 L/W 1.00; 2R1 L/W 2.72.

Distribution

Queensland and New South Wales; known from several collections in the eastern forest zone.

Remarks

This species and *S. campanula* sp. nov. appear to form a closely related allopatric species pair, although relatively few collections are available for each. In both the clypeus is shorter than in other species of this complex, so they are keyed out twice.

Sierola alveolata sp. nov.

urn:lsid:zoobank.org:act:D05AF245-F951-4953-AD3A-F063578396B1

Figs 16, 20

Diagnosis

An unusual species, resembling some members of the *compressa* species group in the broad frons (WF/HE 1.23–1.35), short, broad clypeus, and broad metafemur, but with the head slightly convex dorsally and distinctly convex ventrally.

Etymology

From the Latin ‘*alveolus*’, ‘streambed’ or ‘furrow’, referring to the many small gullies around the type locality.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Samsonvale Cemetery, Dayboro 8.5 km SSE; 27°16' S, 152°52' E; elev. 50 m; 12 Aug. 1998; C.J. Burwell leg.; sweeping, 50119; QM T262152.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; North Pine River; 4 Nov. 1928; H. Hacker leg.; QM • 1 ♀; Drapers Crossing, South Pine River, 4 km NE of Samford; 27°21' S, 152°55' E; 13 Apr. 1996; C.J. Burwell and S. Evans leg.; QM.

Description

Female

HEAD. Clypeal process semi-elliptical to semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, or somewhat rounded and recurved at apex. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly

rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head (weakly differentiated). Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina faintly present; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

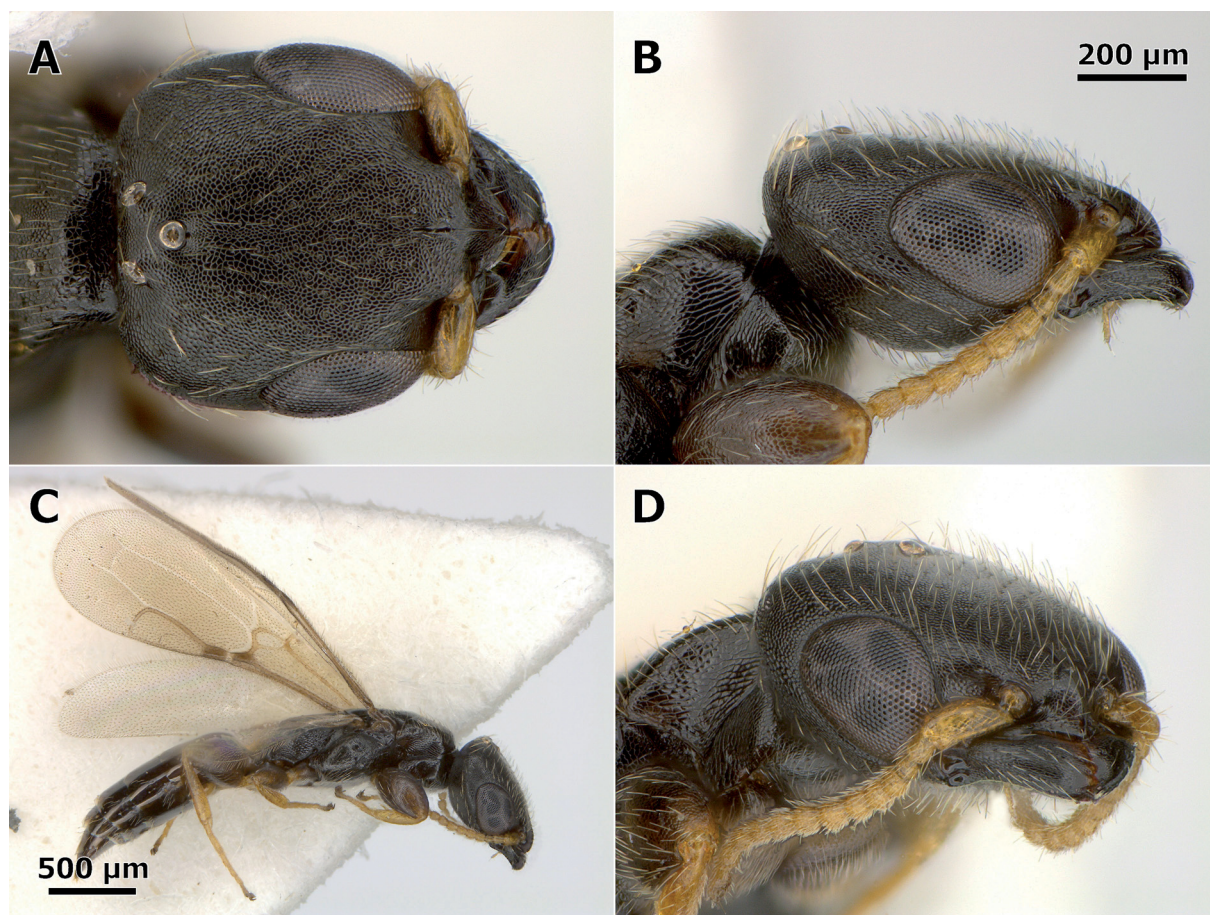


Fig. 16. *Sierola alveolata* sp. nov., holotype, ♀ (QM T262152). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.20 mm; LM 1.16 mm (1.01–1.16); WH/LH 0.93 (0.93–0.97); DH/LH 0.54 (0.52–0.54); EV/HE 0.73 (0.64–0.73); EV/WF 0.54 (0.52–0.56); WF/HE 1.35 (1.23–1.35); WH/WF 1.60 (1.60–1.67); OOL/WOT 1.52 (1.44–1.52); DM/LM 0.35; FL/FW 1.90 (1.80–1.93); HFL/HFW 2.00 (1.96–2.00); A3 L/W 1.00 (0.91–1.11); 2R1 L/W 2.42. N = 3.

Distribution

Queensland; known from three collections near Brisbane.

Sierola ambitiosa sp. nov.

urn:lsid:zoobank.org:act:1B04FDBD-B440-4A34-9579-6C3F50B5AC23

Figs 17, 41

Diagnosis

Differing from most other species by the combination of basal wing cells sparsely setose, mandible moderately broad and distinctly concave ventrally, and clypeus semicircular. Forming a species pair with *S. isolata* sp. nov., united in having the head moderately compressed (DH/LH ~0.50), vertex slightly bulging and carinate between the lateral ocelli, and the mandible broadest at about $\frac{2}{3}$ its length and slightly narrowed at the apex. Separated by having the legs predominantly yellow and OOL/WOT greater, 1.60–1.70 vs ~1.43.

Etymology

From the Latin ‘*ambitiosus*’, ‘desiring excessively’, referring to the type locality.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Luster Creek, 8 km W by N of Mt Molloy; 21–22 May 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC 32-154807.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; 10 km NW of Ellis Beach; 16°40' S, 145°34' E; 20 Apr. 1997; C.J. Burwell leg.; QM.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed just beyond base and broadened distally, apex slightly narrowed, broadest at apical $\frac{2}{3}$; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex

and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view slightly sinuate around ocellar triangle; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

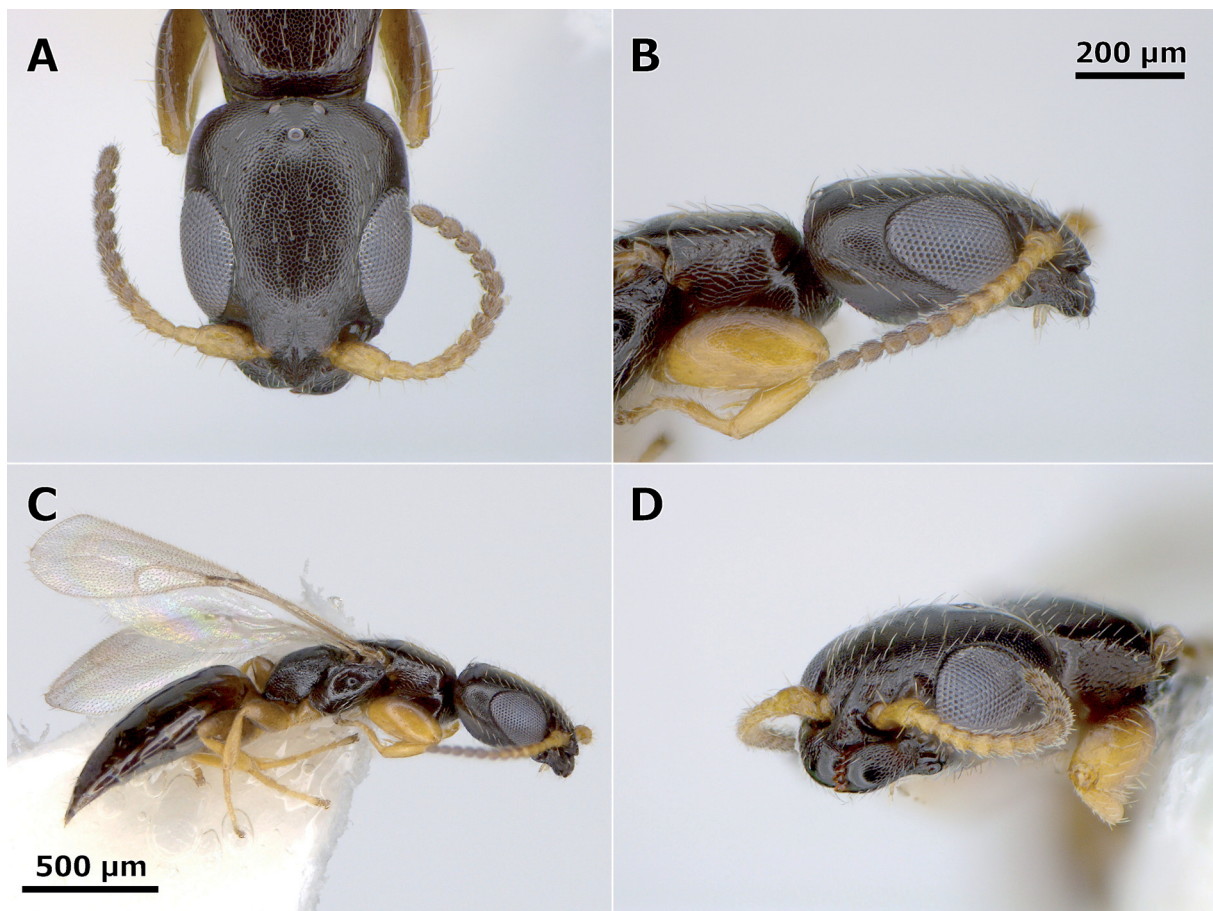


Fig. 17. *Sierola ambitiosa* sp. nov., holotype, ♀ (ANIC 32-154807). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Highly polished, without a trace of microsculpture. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Procoxa and femur yellow except dorsal margin of femur, meso- and metafemora brown, tibiae, tarsi, and trochanters yellow, or legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.36 mm; LM 0.75 mm; WH/LH 0.79; DH/LH 0.51; EV/HE 0.54; EV/WF 0.63; WF/HE 0.86; WH/WF 1.95; OOL/WOT 1.60; DM/LM 0.33; FL/FW 1.91; HFL/HFW 1.90; A3 L/W 1.00; 2R1 L/W 2.92.

Distribution

Queensland; known from two specimens collected on the north coast.

Remarks

This species is very similar to *S. isolata* sp. nov. and they may represent a single widespread species. However, only three specimens combined are available, from opposite sides of the continent. Given the differences in color and head shape, I have decided to keep them as separate species. The form of the mandible is unusual; the only species with a somewhat similar form is the unrelated *S. gudang* sp. nov., which has the ventral margin weakly concave and is otherwise very different.

Sierola amphilyke sp. nov.

urn:lsid:zoobank.org:act:97DA401A-F111-446B-A131-70302A2F482E

Figs 14, 18

Diagnosis

Among species with the head convex and setose basal wing cells, distinguished by the combination of a short, almost transverse clypeus which is evenly sloping in profile, and ocellar triangle right with lateral ocelli nearly touching the vertex crest. Closest to *S. exleyae* sp. nov. and *S. nauo* sp. nov., both of which have the clypeus distinctly curved in profile.

Etymology

From the Greek ‘*amphilyke*’, ‘gray of dawn’, referring to the collection of the holotype on the easternmost coast of Tasmania. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 13 km S of Falmouth; 41°32′ S, 148°16′ E; 6 Feb. 1992; C.J. Burwell leg.; ex ethanol; QM T262153.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly

visible only when viewed directly down towards mandibles; in profile almost evenly sloping, nearly straight (very slightly curved). Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.



Fig. 18. *Sierola amphilyke* sp. nov., holotype, ♀ (QM T262153). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, with median anterior and posterior triangular polished areas narrowly connected; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.49 mm; LM 0.72 mm; WH/LH 0.86; DH/LH 0.58; EV/HE 0.73; EV/WF 0.71; WF/HE 1.03; WH/WF 1.79; OOL/WOT 1.37; DM/LM 0.45; FL/FW 2.10; HFL/HFW 2.22; A3 L/W 0.93; 2R1 L/W 2.25.

Distribution

Tasmania; known only from the holotype, collected on the northeast coast.

Sierola amputator sp. nov.

urn:lsid:zoobank.org:act:9B7C51E3-7673-486D-880B-9D937031D1E4

Figs 19–20

Diagnosis

Belonging to the *compressa* species group, having the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely setose. Distinguished from most related species by the obtuse ocellar triangle, reddish brown mandible, and broad metafemur. Closest to *S. megamera* sp. nov., separated by the more densely punctate frons and narrower head (WH/LH ~0.79) which is more quadrate in dorsal view, the posterior corners distinct.

Etymology

From the Latin ‘*amputatus*’, ‘cut off’, referring to the severed tibia and tarsus of another insect grasped in the mandibles of the holotype. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; 24 km W by N of Lock; 33°32' S, 135°30' E; 30 Nov. 1992; I.D. Naumann and J.C. Cardale leg.; flowers *Eucalyptus*; ANIC 32-154808.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute or rounded and recurved at apex. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth

arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart (largely impunctate around median ocellus). Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture evenly coriaceous. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved, pronotal disc slightly concave. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present

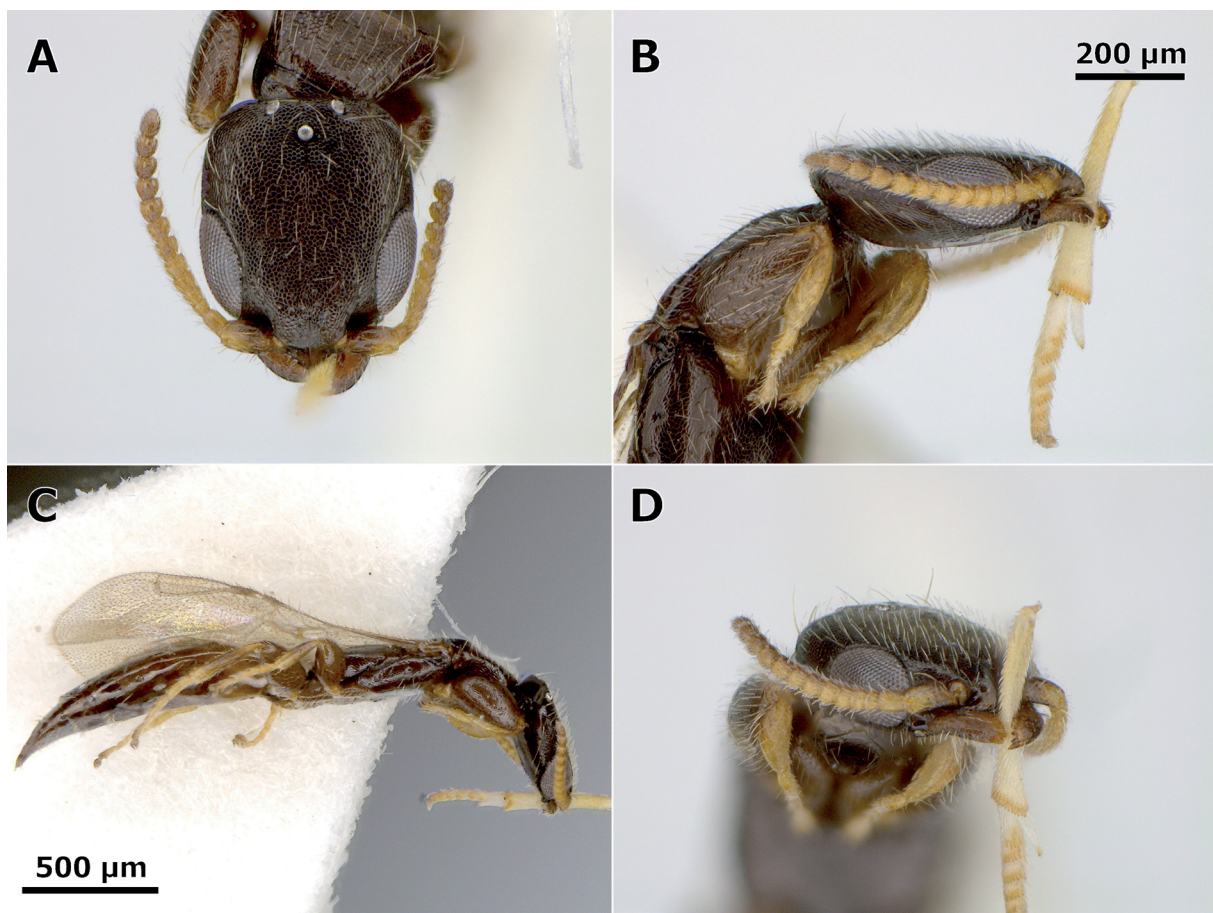


Fig. 19. *Sierola amputator* sp. nov., holotype, ♀ (ANIC 32-154808). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible reddish brown. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.45 mm; LM 0.79 mm; WH/LH 0.79; DH/LH 0.37; EV/HE 0.90; EV/WF 0.79; WF/HE 1.14; WH/WF 1.67; OOL/WOT 1.29; DM/LM 0.22; FL/FW 2.01; HFL/HFW 1.77; A3 L/W 0.60; 2R1 L/W 2.64.

Distribution

South Australia; known only from the holotype, collected on the Eyre Peninsula.

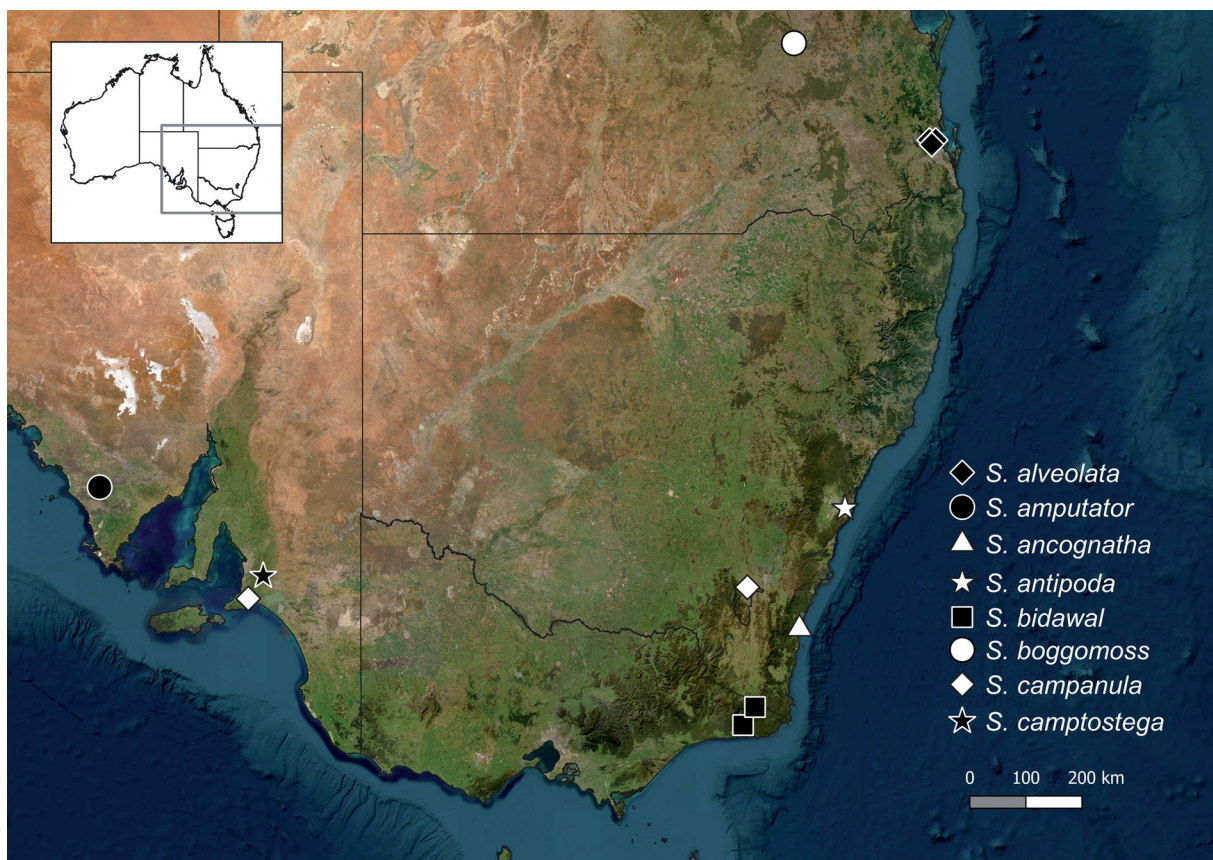


Fig. 20. Map of collection records of *Sierola alveolata* sp. nov., *S. amputator* sp. nov., *S. ancognatha* sp. nov., *S. antipoda* Ashmead, 1901, *S. bidawal* sp. nov., *S. boggomoss* sp. nov., *S. campanula* sp. nov., and *S. camptostega* sp. nov.

Sierola ancognatha sp. nov.

urn:lsid:zoobank.org:act:CF8B2CDA-EE55-4061-8FE9-EEADCB2BD649

Figs 20–21

Diagnosis

Forming a distinctive species pair with *S. strigula* sp. nov., sharing the strongly convex dorsum of the head, strongly elbowed mandible with a large ventral tooth, strongly acute clypeus in profile, and nearly glabrous basal wing cells. Separated by the twisted mandible which is narrowed apically in frontal view, head evenly convex ventrally rather than slightly angulate, and typical frons microsculpture, more or less even with the punctation distinct.

Etymology

From the Greek ‘*ankos*’, ‘bend’, + ‘*gnathos*’, ‘jaw’, referring to the bent mandible. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Congo, 8 km SE by E of Moruya; 35°58' S, 150°09' E; 26 Mar.–3 Apr. 1982; M.S. Upton leg.; window trap; ANIC 32-154809.

Description

Female

HEAD. Clypeal process triangular, apex weakly pointed; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile elongate, evenly curved, apex acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; distinctly bent ventrad near base, crossing diagonally when closed, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible strongly oblique, falcate, lacking subapical teeth. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right to weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye flat, with a broad area of distinct tessellate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.51 mm; LM 0.82 mm; WH/LH 0.76; DH/LH 0.52; EV/HE 0.50; EV/WF 0.63; WF/HE 0.79; WH/WF 1.94; OOL/WOT 1.15; DM/LM 0.40; FL/FW 1.92; HFL/HFW 2.35; A3 L/W 1.32; 2R1 L/W 2.57.

Distribution

New South Wales; known only from the holotype, collected near the coast.

Remarks

This species is remarkably similar to *S. strigula* sp. nov. and they likely co-occur, but the differences in the mandible and frons sculpture are very distinct.

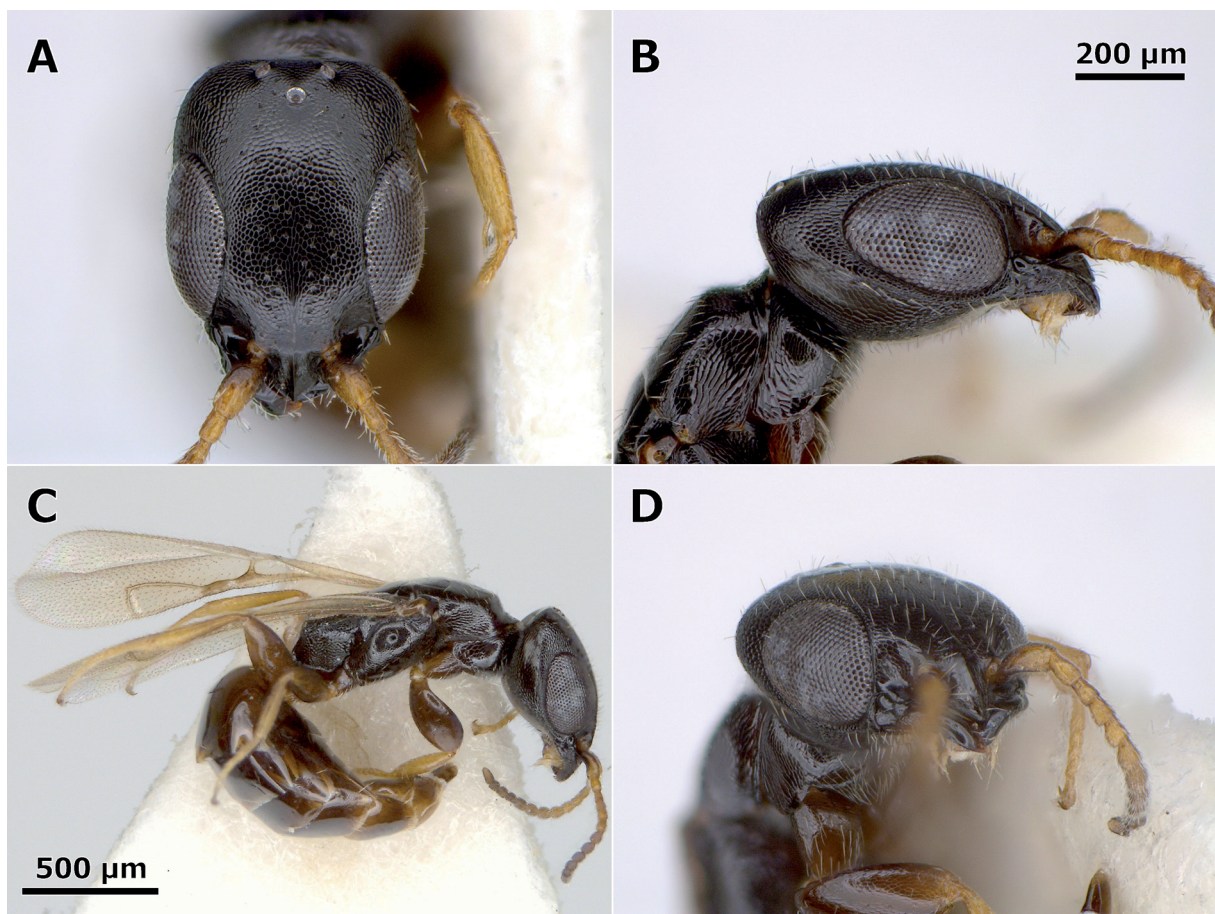


Fig. 21. *Sierola ancognatha* sp. nov., holotype, ♀ (ANIC 32-154809). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

***Sierola antipoda* Ashmead, 1901**
Figs 20, 22

Sierola antipoda Ashmead, 1901a: 328.

Sierola antipoda – Magnacca 2019:14, fig. 1 (redescription).

Diagnosis

Among species with a strongly compressed body and flat head, separated from the *compressa* group by the relatively long, narrow, quadrate head. Closest to *S. scutula* sp. nov., distinguished by the densely setose basal wing cells, moderately broad mandible which is distinctly concave ventrally, coriaceous frons microsculpture, and head shorter posterior of the eyes.

Type material

Lectotype (here designated)

AUSTRALIA – New South Wales • ♀; Sydney; W.W. Froggatt leg.; USNM.

Paralectotypes

AUSTRALIA – New South Wales • 2 ♀♀; same data as for lectotype; USNM.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. With moderately dense pubescence. Head nearly flat ventrally, genal angle absent. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Procoxa and femur black, legs otherwise brown, paler towards tarsi.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose.

MEASUREMENTS. LFW 1.44 mm; LM 0.78 mm; WH/LH 0.72; DH/LH 0.40; EV/HE 0.94; EV/WF 1.03; WF/HE 0.91; WH/WF 1.87; OOL/WOT 1.40; DM/LM 0.27; FL/FW 2.30.

Distribution

New South Wales; known only from the type series, collected near Sydney.

Ecology

The original description says “Host—Dipt.: *Cecidomyia* [= *Dasineura*] *frauenfeldi*, a species forming soft red galls on *Melaleuca* (W. W. Froggatt)”, but this seems extremely unlikely. No bethylid is known to attack Diptera larvae, and the adult fly is only about as large as an adult wasp. The galls formed by this species are large cone-like bud galls (Kolesik & Gagné 2016), and could be inhabited by inquiline caterpillars as commonly occurs in the galls of North American *Dasineura* Rondani, 1840 (Dorchin *et al.* 2007). The general morphology of *S. antipoda* is similar to that of species reared from leaf miners, but this form could also be adapted to squeezing between the leaves of bud galls. Santhosh (2017) has also reared *Sierola* from galls in India. In that case the galls were induced by thrips and the true host being attacked by the wasps is unknown as well. Ashmead’s later reference to this species being present in New Zealand (Ashmead 1901b: 287) is undoubtedly an error, as it repeats both the host and collector name from the description; *D. frauenfeldi* Schiner, 1868 is endemic to Australia. The species recorded in New Zealand under this name by Ward (2013) is *S. houdiniae* Magnacca, 2019 (Magnacca 2019).

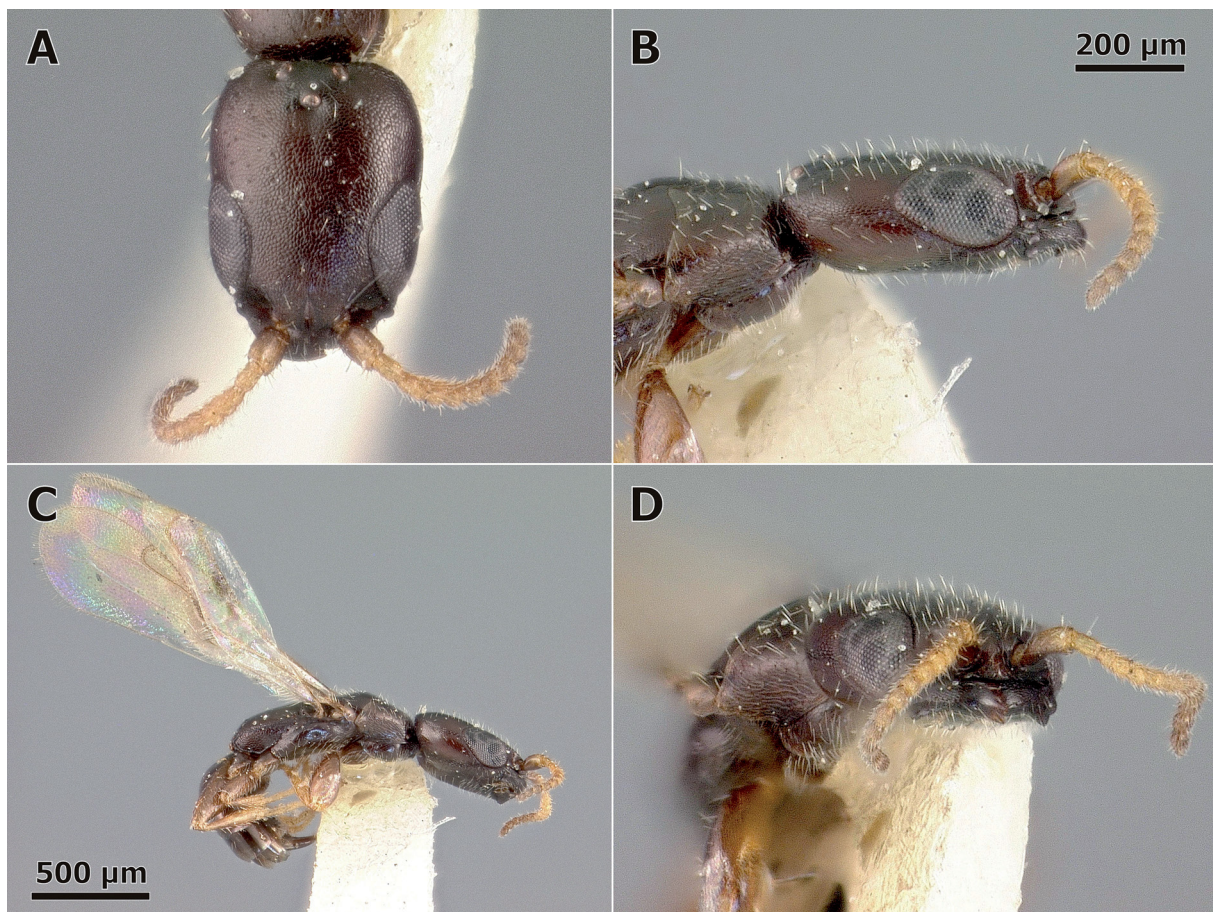


Fig. 22. *Sierola antipoda* Ashmead, 1901, lectotype, ♀ (USNM). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Remarks

Ashmead (1901a) states that this was described from four specimens, but only three could be found at USNM. The specimen in the type collection is heavily damaged – the mesosoma is glued to a point, a gelatin vial contains the metasoma, and another vial in the tray presumably had the head but is empty. Two syntypes are in the regular collection (with type labels). One has the mouthparts obscured by glue, while the other has all characters clearly visible. The latter was used for description and measurements (the redescription and remarks are repeated here from Magnacca 2019), and is here designated as the lectotype.

Sierola aphelops sp. nov.

urn:lsid:zoobank.org:act:0280896B-3FFA-431A-B030-2F1C26A3052E

Figs 23, 28

Diagnosis

Recognizable by the combination of nearly glabrous basal wing cells, strongly acute ocellar triangle, and head convex dorsally and long posterior of the eye ($EV/HE \geq 0.85$, $OOL/WOT \geq 2.00$). Closest to *S. miltos* sp. nov., differing in having the head less elongate posterior of the eye, cell 1M more triangular, propodeum with a narrow median polished line, and head and body not so flattened.

Etymology

From the Greek ‘*aphelos*’, ‘smooth’ or ‘polished’, + ‘*ops*’, ‘face’ or ‘appearance’, referring to the smooth head of this species. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **South Australia** • ♀; near Renmark, Calperum Station, Primary Site; 34.0542° S, 140.6194° E; elev. 50 m; 12–19 Feb. 2015; P. Cale leg.; Malaise trap, fire Jan. 2014, 850 m unburnt mallee in all directions; BOLD: sample ID BIOUG36596-D11, process ID GMASC980-17, BIN ADL9358; ANIC 32-154810.

Paratype

AUSTRALIA – **Western Australia** • 1 ♀; Esperance; 33°35' S, 121°46' E; 28 Dec. 1994; R.B. and L.S. Kimsey leg.; ex *Eucalyptus*; UCDC.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more to moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining to nearly absent, polished. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly to very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye.

Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture mostly smooth and polished, small area of fine microreticulation extending posteriorly from anteroventral eye margin. Postgenal depression shallow, rounded. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent but with a very narrow, slightly raised, polished median line; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible dark basally, apical half reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters brownish orange.

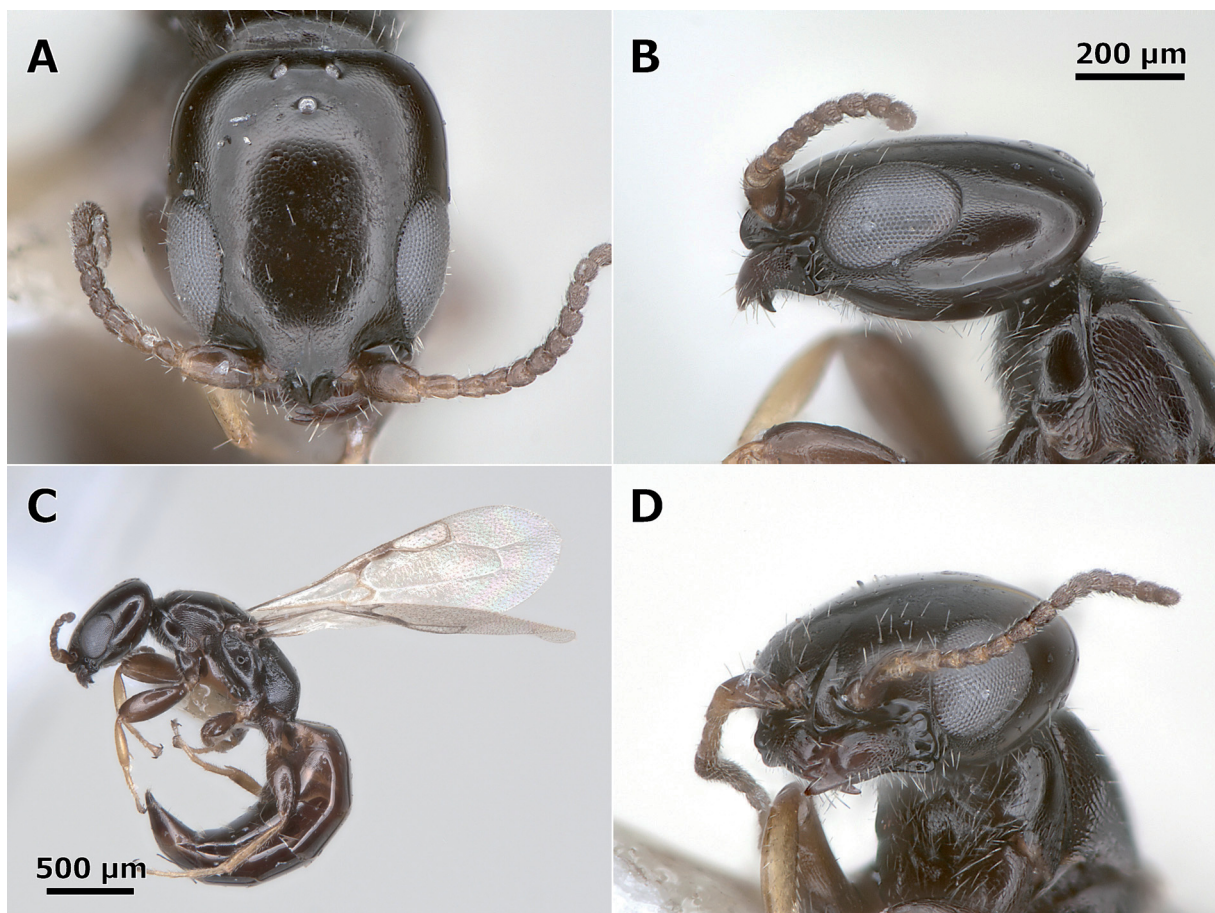


Fig. 23. *Sierola aphelops* sp. nov., holotype, ♀ (ANIC 32-154810). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M triangular, Rs connecting in the middle of the cell. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.09 mm; LM 1.07 mm; WH/LH 0.77; DH/LH 0.51; EV/HE 0.96; EV/WF 0.83; WF/HE 1.15; WH/WF 1.67; OOL/WOT 2.07; DM/LM 0.38; FL/FW 2.29; HFL/HFW 2.38; A3 L/W 1.08; 2R1 L/W 2.86.

Distribution

South Australia and Western Australia; known from two widely separated specimens.

Remarks

The paratype from Western Australia has the femora somewhat broader, but is otherwise identical.

Sierola apimelos sp. nov.

urn:lsid:zoobank.org:act:4FDC4C8B-0438-4501-9B67-C8FDD045B9EE

Figs 24, 26

Diagnosis

Body distinctly flattened and head more or less flat dorsally and ventrally, differing from species of the compressa group in having frons much narrower and head more blocky in lateral view. Probably most closely related to *S. scutula* sp. nov., but that species has a distinctly different appearance, with the head elongate posterior of the eyes and quadrate in dorsal view. The reddish brown mandible and nearly glabrous basal wing cells also serve to distinguish it. The vertex crest is narrowly carinate between the lateral ocelli, another uncommon character not found in other flattened species.

Etymology

From the Greek ‘*apimelos*’, ‘lean’, referring to the small size and thin body. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Northern Territory • ♀; 2 km S of Nourangie [sic: Nourlangie] Camp; 18 Nov. 1992; P.C. Dangerfield and J. Lloyd leg.; SAMA.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex rounded; dorsally weakly carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more, or appearing impunctate (setae arising from shallow pits that are only visible at low angles). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex

in lateral view, nearly glabrous. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum evenly covered with short, anteriorly-directed setae.

COLOR. Body entirely dark brown to black. Antenna with scape brown basally, otherwise nearly all yellow. Mandible reddish brown. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

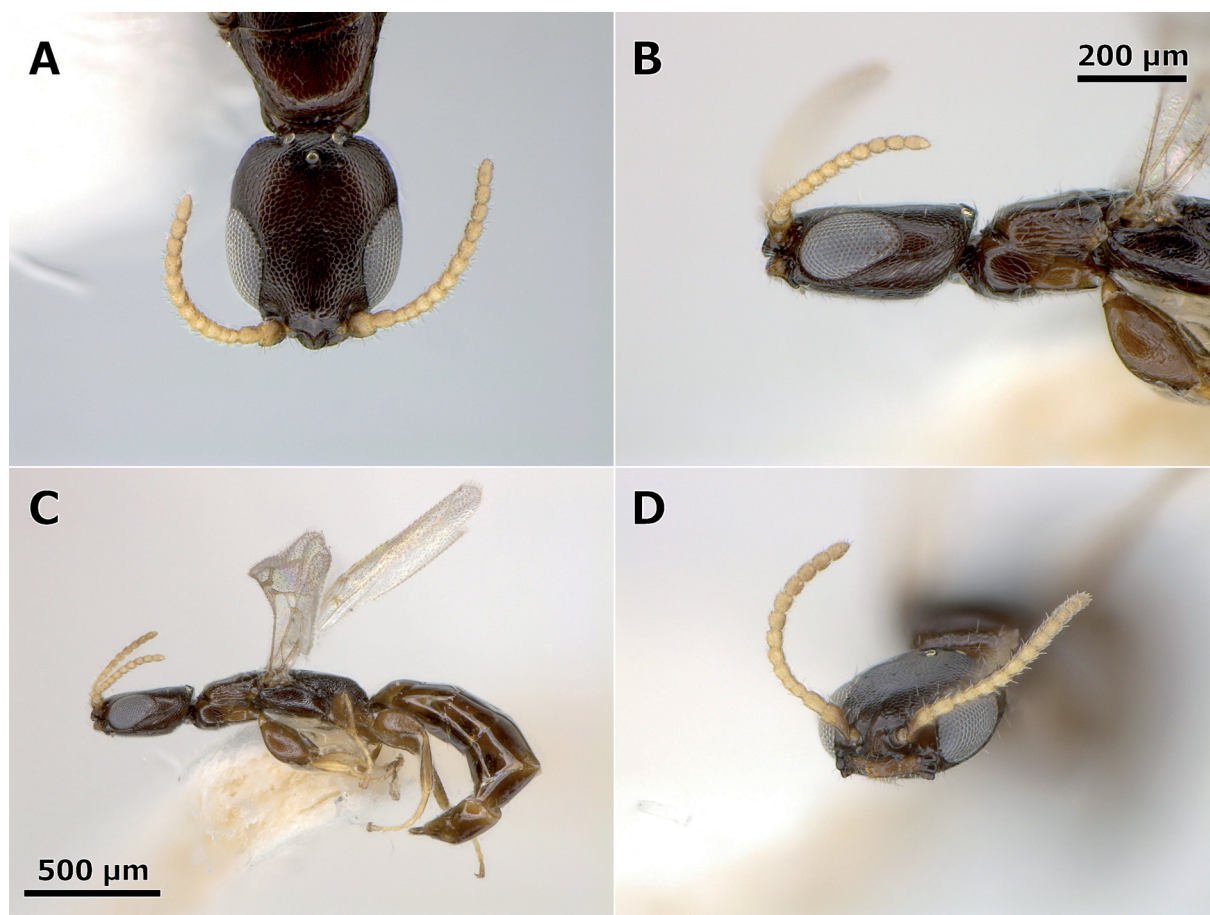


Fig. 24. *Sierola apimelos* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.11 mm; LM 0.63 mm; WH/LH 0.81; DH/LH 0.44; EV/HE 0.68; EV/WF 0.79; WF/HE 0.86; WH/WF 1.88; OOL/WOT 1.19; DM/LM 0.28; FL/FW 2.07; HFL/HFW 1.87; A3 L/W 1.00; 2R1 L/W 2.78.

Distribution

Northern Territory; known only from the holotype, collected in Kakadu National Park.

Sierola augustus sp. nov.

urn:lsid:zoobank.org:act:AC210B10-F045-4210-8EDF-6E58BA1CF85F

Figs 25–26

Diagnosis

Among species with a strongly compressed body and flat head, separated from the *compressa* group by the relatively long, quadrate head. Distinguished from other similar species by having the ocellar triangle strongly acute, basal wing cells nearly glabrous, and lateral ocelli separated from the vertex crest by less than their length.

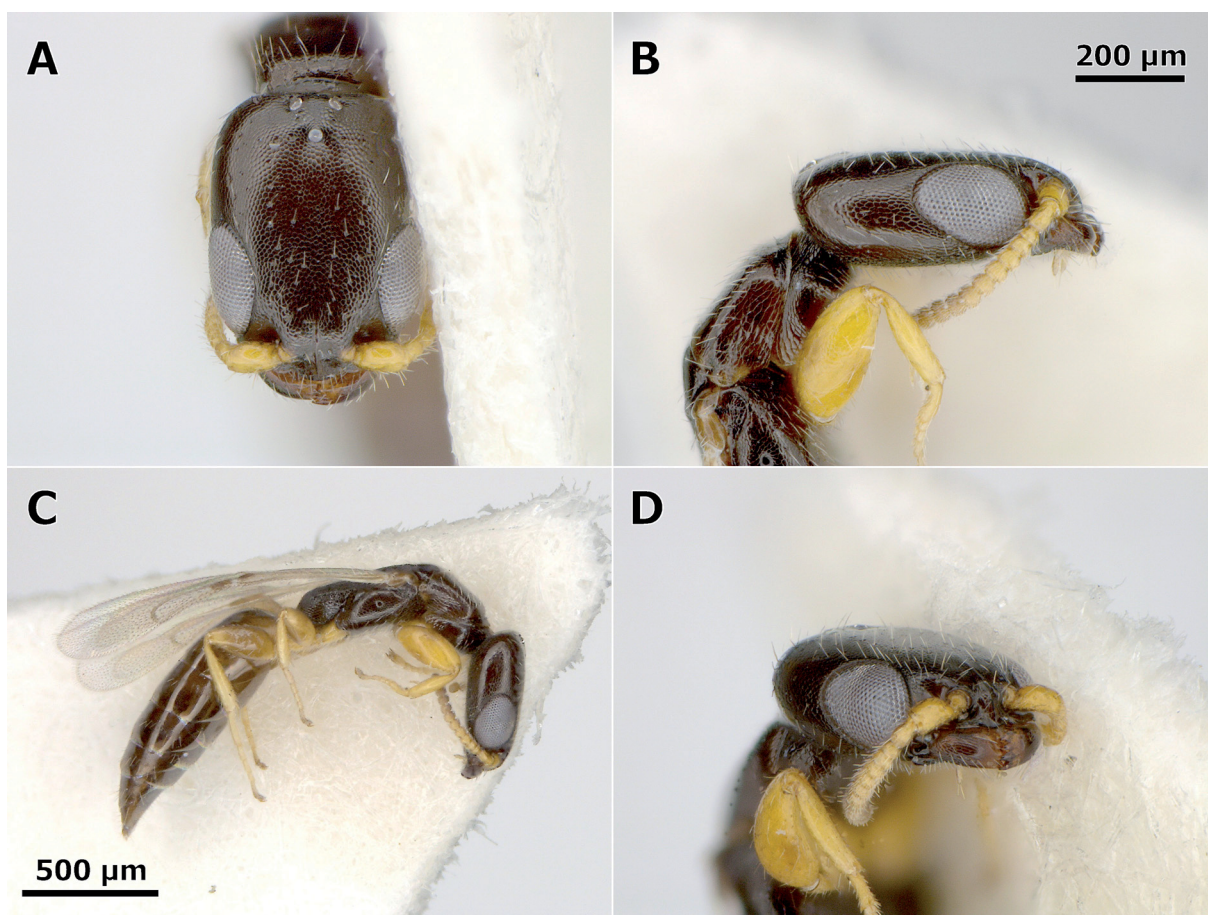


Fig. 25. *Sierola augustus* sp. nov., holotype, ♀ (ANIC 32-154811). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

Named for the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Augustus Island CALM Site 26/1; 15°25' S, 124°38' E; 11–16 Jun. 1988; I.D. Naumann leg.; open forest; ANIC 32-154811.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; Hwy 1, Townsville–Bowen; 30 Aug. 1986; E.A. Sugden leg.; [car net?]; UCDC.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar

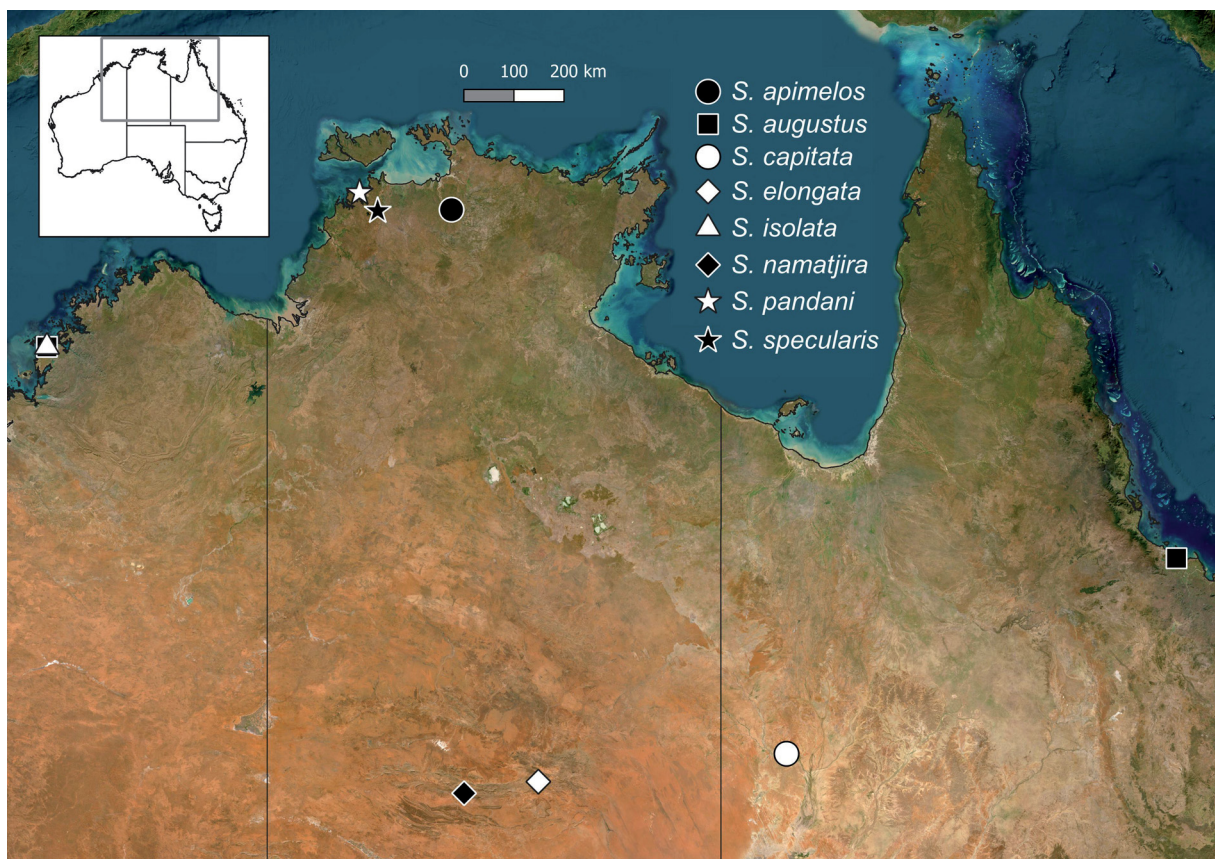


Fig. 26. Map of collection records of *Sierola apimelos* sp. nov., *S. augustus* sp. nov., *S. capitata* sp. nov., *S. elongata* sp. nov., *S. isolata* sp. nov., *S. namatjira* sp. nov., *S. pandani* sp. nov., and *S. specularis* sp. nov.

space almost absent. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae short, inconspicuous. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, tinged with brown dorsally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.35 mm; LM 0.75 mm; WH/LH 0.77; DH/LH 0.41; EV/HE 1.03; EV/WF 1.03; WF/HE 1.00; WH/WF 1.87; OOL/WOT 2.33; DM/LM 0.30; FL/FW 2.17; HFL/HFW 2.04; A3 L/W 0.80; 2R1 L/W 2.67.

Distribution

Western Australia and Queensland; known from one specimen each.

Remarks

The paratype from the Queensland coast has the head slightly broader and OOL/WOT less, but is otherwise identical.

Sierola aulacifrons sp. nov.

urn:lsid:zoobank.org:act:9C7BC5B1-5CF5-44D9-AD05-83445623FC7B

Figs 27–28

Diagnosis

Forming a species complex with *S. bicarinata* sp. nov. and *S. bifida* sp. nov. based on the unique forked clypeal carina. Differing from those two closely-related species in many respects, most obviously the clypeal carinae widely separate, diverging abruptly at the base and more or less parallel; mandible convex on the apical half but not twisted; vein Rs not reaching wing margin, cell 2R1 open; and basal wing cells setose.

Etymology

From the Latin ‘*aulacis*’, ‘furrow’, + ‘*frons*’, ‘front’, referring to the grooved clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Hat Head National Park, Hat Head; 31.063° S, 153.052° E; elev. 37 m; 20–27 Dec. 2012; P. Hebert leg.; Malaise trap; BOLD: sample ID BIOUG15786-G01, process ID AUSMA313-14, BIN ACP9760; ANIC 32-154812.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a pair of subparallel low carinae, bounding a broad, shallow groove; in profile evenly sloping, nearly straight. Mandible moderately broad, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly

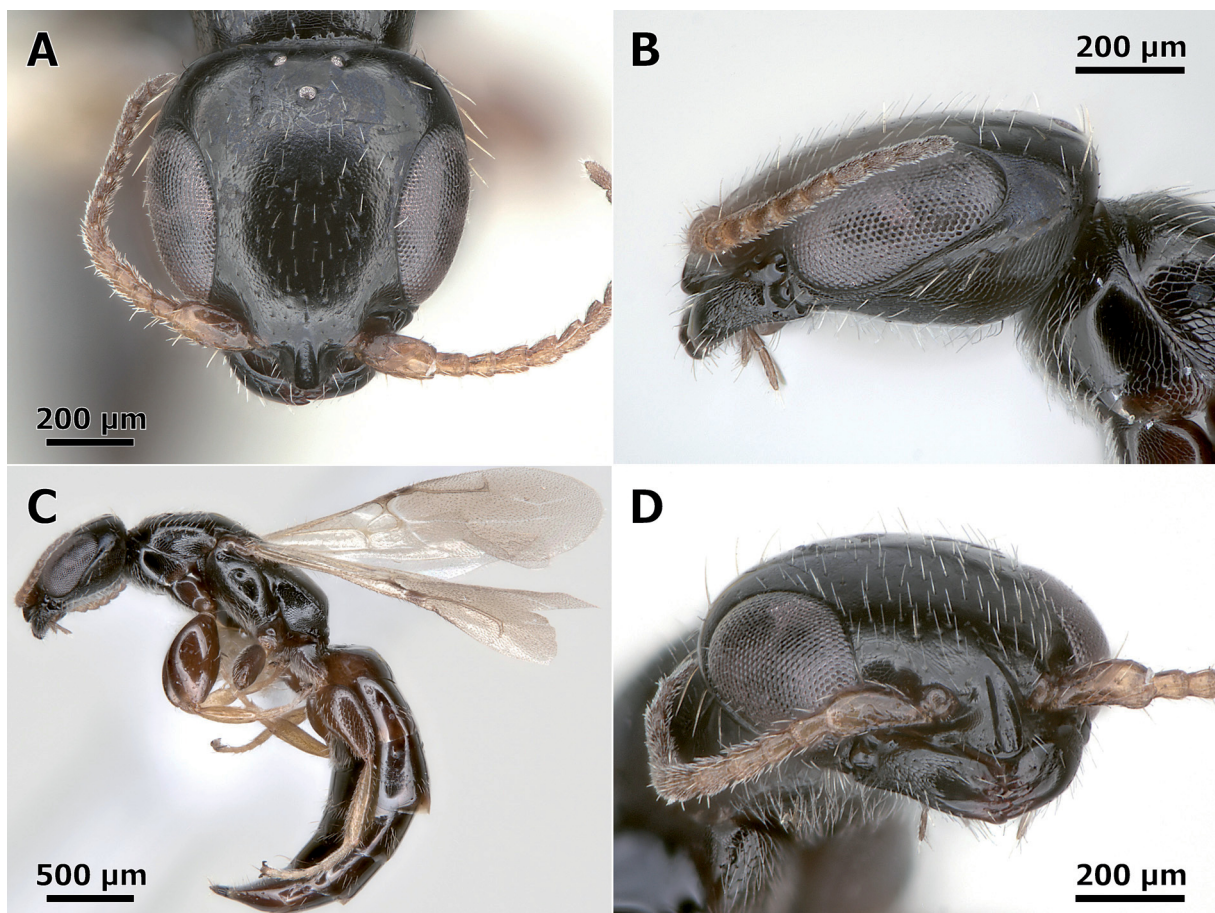


Fig. 27. *Sierola aulacifrons* sp. nov., holotype, ♀ (ANIC 32-154812). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression broad, shallow, V-shaped. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

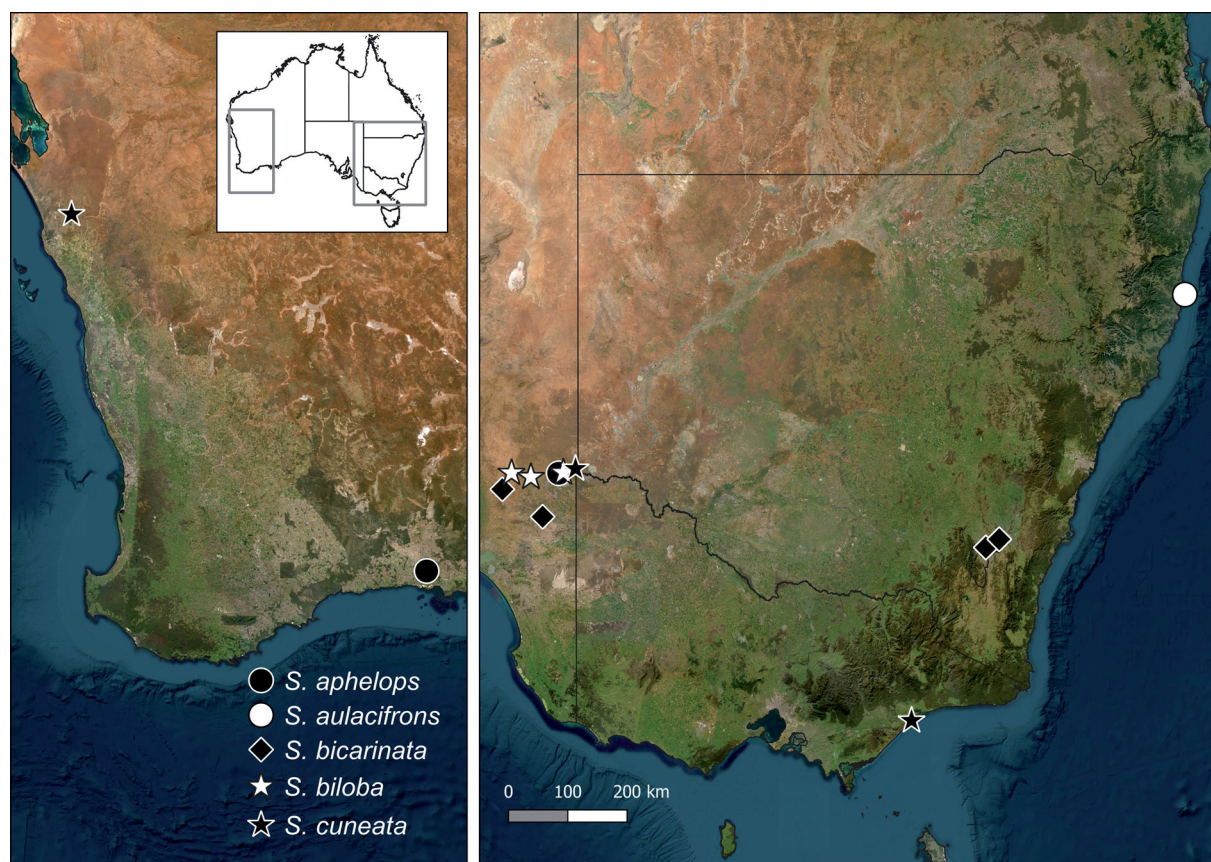


Fig. 28. Map of collection records of *Sierola aphelops* sp. nov., *S. aulacifrons* sp. nov., *S. bicarinata* sp. nov., *S. biloba* sp. nov., and *S. cuneata* sp. nov.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell, or with intermediate setation. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 2.38 mm; LM 1.30 mm; WH/LH 0.92; DH/LH 0.49; EV/HE 0.37; EV/WF 0.40; WF/HE 0.94; WH/WF 1.83; OOL/WOT 1.41; DM/LM 0.36; FL/FW 1.69; HFL/HFW 1.74; A3 L/W 1.00; 2R1 L/W 3.07.

Distribution

New South Wales; known only from the holotype, collected near the coast.

Sierola badiorostris sp. nov.

urn:lsid:zoobank.org:act:6E02A408-B40B-462B-9A7F-EC2555D38719

Figs 14, 29

Diagnosis

Forming a species pair with *S. kimseyana* sp. nov. in having the basal wing cells nearly glabrous, head somewhat compressed (DH/LH ~0.50), transverse propodeal carina present, and occipital margin narrowly carinate between the lateral ocelli. Differing in having the clypeus dorsally angulate or rounded rather than with a low sharp carina, greater OOL/WOT (1.44 vs 1.14), and narrower profemur.

Etymology

From the Latin ‘*badius*’, ‘reddish brown’, + ‘*rostrum*’, ‘nose’, referring to the brown clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Poatina, Headrace Adit; 41°49' S, 146°54' E; 20 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154813.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate, or with a rounded carina; in profile evenly curved from base to apex, apical angle slightly acute or rounded and recurved at apex. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex,

head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

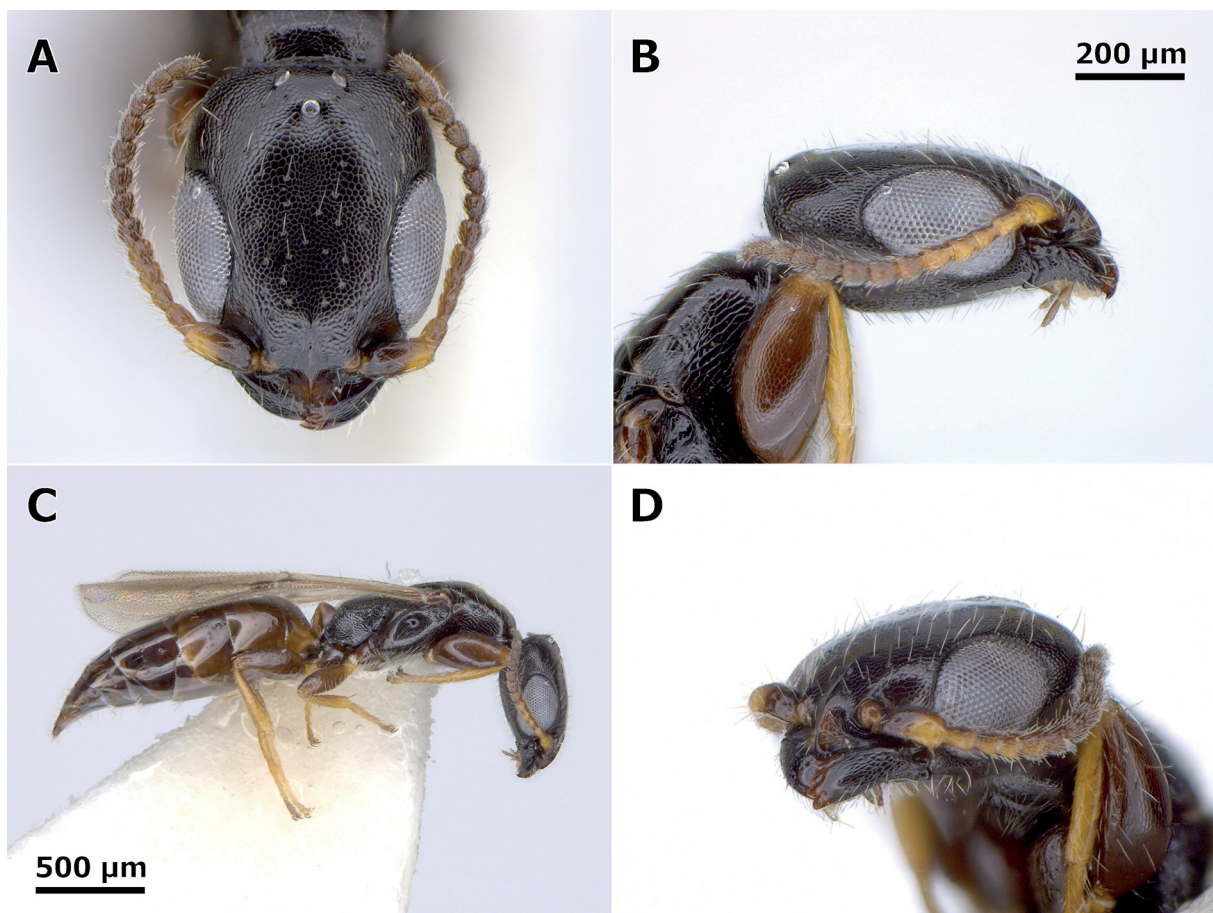


Fig. 29. *Sierola badiorostris* sp. nov., holotype, ♀ (ANIC 32-154813). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.71 mm; LM 0.92 mm; WH/LH 0.81; DH/LH 0.50; EV/HE 0.62; EV/WF 0.68; WF/HE 0.90; WH/WF 1.84; OOL/WOT 1.44; DM/LM 0.36; FL/FW 2.21; HFL/HFW 2.36; A3 L/W 1.30; 2R1 L/W 2.76.

Distribution

Tasmania; known only from the holotype.

Sierola bicarinata sp. nov.

urn:lsid:zoobank.org:act:5DD7265A-0C42-4596-8AF5-002F90DD3457

Figs 28, 30

Diagnosis

Forming a species complex with *S. aulacifrons* sp. nov. and *S. bifida* sp. nov. based on the unique forked clypeal carina. Differing from the former in many respects, including the clypeal carinae closely approximated, mandible strongly twisted on apical half, vein 2R1 reaching anterior wing margin, and basal wing cells nearly glabrous. Nearly identical to the latter, separated only by the smooth microsculpture of the head and clypeus more elongate in profile.

Etymology

Referring to the bifurcate clypeal carina.

Type material

Holotype

AUSTRALIA – **New South Wales** • ♀; Lake George Range, 18 km N by W of Bungendore; 15 Feb. 1982; J.F. Lawrence and A. Calder leg.; on *Xanthorrhoea australis*; ANIC 32-154814.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra; 5 Feb. 1930; M. Fuller leg.; ANIC • 1 ♀; Black Mountain; 6 Mar. 1930; F. Graham leg.; ANIC • 1 ♀; Black Mountain; 10 Mar. 1930; L.F. Graham leg.; ANIC. – **New South Wales** • 1 ♀; same data as for holotype; ANIC. – **South Australia** • 1 ♀; Wanbi; Dec. 1977; R. Laughlin leg.; WARI aphid migration project; ANIC • 1 ♀; Brookfield Conservation Park; 34°19' S, 139°30' E; 4–20 Feb. 1992; J. Stelman and S. Williams leg.; Site 1 Malaise trap; ANIC.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded to truncate; dorsally with a narrow ridge, bifurcating into a pair of low carinae beyond the antennae; in profile evenly sloping, nearly straight or slightly curved, elongate, apex acute. Mandible broad, ventral margin slightly concave; strongly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about twice as long as flagellar width or more. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave, corners

somewhat squared; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli separated from vertex crest by greater than their length. Ocellar triangle anterior angle strongly to weakly acute. Head narrowed posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Moderately shining with distinct microreticulation over all terga, T4–6 punctate and conspicuously setose. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.



Fig. 30. *Sierola bicarinata* sp. nov., holotype, ♀ (ANIC 32-154814). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.65 mm; LM 0.98 mm (0.94–1.16); WH/LH 0.87 (0.83–0.87); DH/LH 0.55 (0.52–0.56); EV/HE 0.69 (0.68–0.74); EV/WF 0.56 (0.56–0.63); WF/HE 1.23 (1.08–1.24); WH/WF 1.63 (1.58–1.67); OOL/WOT 1.24 (1.24–1.38); DM/LM 0.34; FL/FW 2.15 (2.07–2.15); HFL/HFW 2.09 (2.08–2.17); A3 L/W 1.00 (1.00–1.10); 2R1 L/W 2.33. N = 7.

Distribution

New South Wales, Australian Capital Territory, and South Australia; probably also in Victoria, found widely across the southeast.

Sierola bidawal sp. nov.

urn:lsid:zoobank.org:act:138D001C-F62E-4E87-A337-AF9769501A29

Figs 20, 31

Diagnosis

This odd species is difficult to key out with the usual characters, but is easily recognized by the combination of the clypeus evenly sloping in profile and occipital margin narrowly carinate posterior of the lateral ocelli. The lateral ocelli are also slightly separate from the vertex crest, ocellar triangle strongly acute, head narrowed posterior of the eyes with the posterior corners strongly rounded off, and basal wing cells densely setose.

Etymology

Named for the Bidawal, the Aboriginal people whose traditional land includes the area where the type was collected. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Growler Creek, Lind National Park; 26 Feb. 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC 32-154815.

Paratype

AUSTRALIA – **Victoria** • 1 ♀; Cann Valley H'way, 7 km SW of NSW border; 25 Feb. 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical or very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally weakly carinate, or flat with a trace of a low carina; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally.

Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex or nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

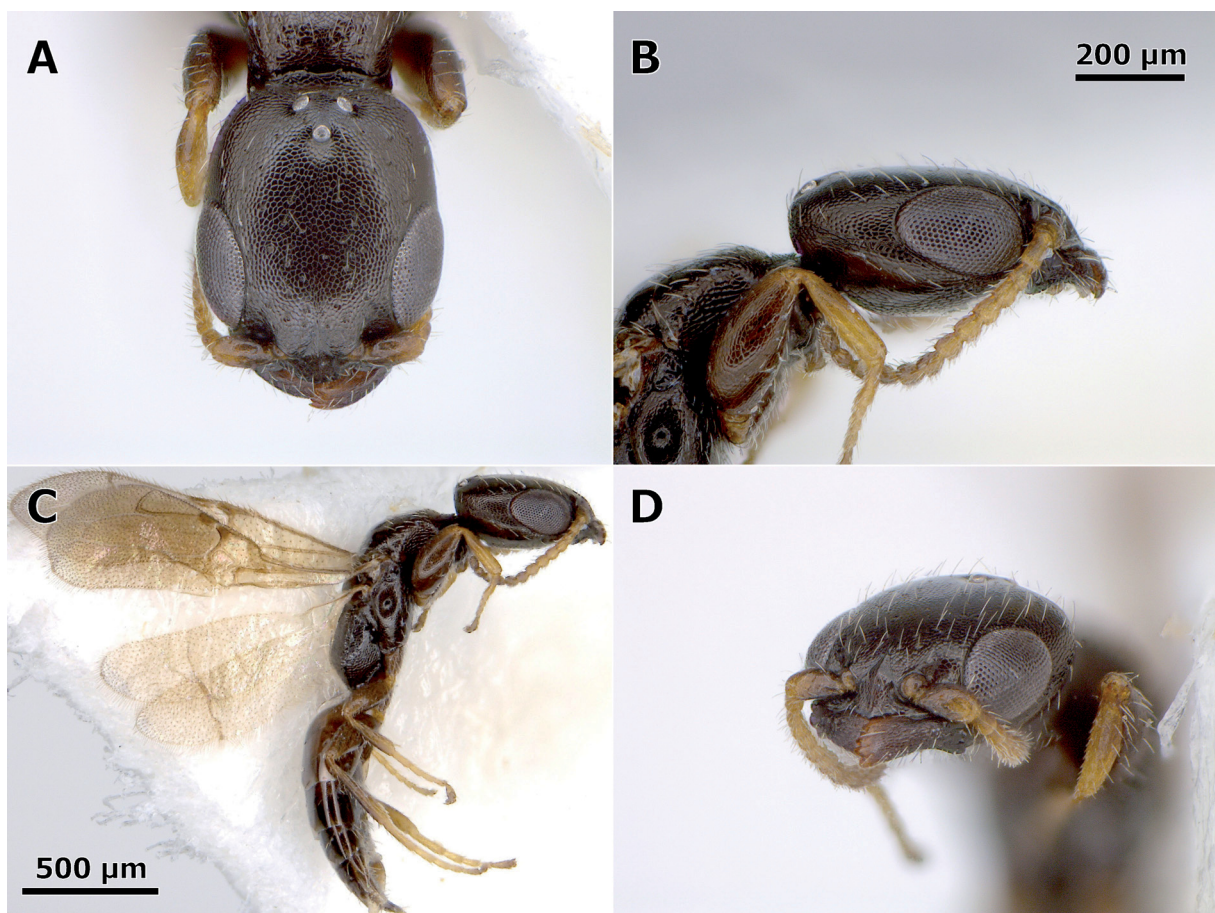


Fig. 31. *Sierola bidawal* sp. nov., holotype, ♀ (ANIC 32-154815). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and apex brown, middle flagellomeres brown dorsally and orange ventrally. Mandible black. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.48 mm; LM 0.76 mm; WH/LH 0.83; DH/LH 0.51; EV/HE 0.85; EV/WF 0.78; WF/HE 1.09; WH/WF 1.72; OOL/WOT 1.86; DM/LM 0.38; FL/FW 2.21; HFL/HFW 2.50; A3 L/W 1.08; 2R1 L/W 2.80.

Distribution

Victoria; known only from two individuals collected close together in east Gippsland.

Sierola bifida sp. nov.

urn:lsid:zoobank.org:act:960AE25C-755C-473C-BBF3-CC45556F98FA

Figs 32, 57

Diagnosis

Forming a species complex with *S. aulacifrons* sp. nov. and *S. bicarinata* sp. nov. based on the unique forked clypeal carina. Differing from the former in many respects, including the clypeal carinae closely approximated, mandible strongly twisted on apical half, vein 2R1 reaching anterior wing margin, and basal wing cells nearly glabrous. Nearly identical to the latter, separated only by the coriaceous microsculpture of the head and clypeus shorter in profile, evenly curved.

Etymology

From the Latin ‘*bifidus*’, ‘split in two’, referring to the forked clypeus.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; 10 km W of Doodlakine; 31°38' S, 117°48' E; 30 Dec. 1994; L.S. and R.B. Kimsey leg.; ex *Eucalyptus*; UCDC 123003.

Paratype

AUSTRALIA – **Western Australia** • 1 ♂; 20 km W of Esperance; 33°43' S, 121°25' E; 27 Dec. 1994; R.B. and L.S. Kimsey leg.; ex *Eucalyptus*; UCDC 122706.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded; dorsally with a narrow ridge, bifurcating into a pair of low carinae beyond the antennae; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; strongly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae conspicuous, nearly

twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view broadly, shallowly concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli separated from vertex crest by about their own length or slightly greater. Ocellar triangle anterior angle strongly acute. Head narrowed posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture evenly coriaceous. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Moderately shining with distinct microreticulation over all terga, T4–6 punctate and conspicuously setose. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum glabrous medially, with a mix of long and short setae laterally.



Fig. 32. *Sierola bifida* sp. nov., holotype, ♀ (UCDC 123003). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.84 mm; LM 1.11 mm; WH/LH 0.84; DH/LH 0.55; EV/HE 0.67; EV/WF 0.58; WF/HE 1.16; WH/WF 1.62; OOL/WOT 1.43; DM/LM 0.36; FL/FW 2.16; HFL/HFW 2.23; A3 L/W 1.00; 2R1 L/W 2.67.

Male

Similar to female with the following exceptions. *Head.* Clypeal process trapezoidal, apex truncate; carinae very narrowly separated. Frons punctation sparse on posterior half. *Metasoma.* Erect setae of S6 only slightly longer than those of previous segments.

MEASUREMENTS. LFW 1.61 mm; LM 0.89 mm; WH/LH 0.91; DH/LH 0.56; EV/HE 0.58; EV/WF 0.50; WF/HE 1.16; WH/WF ; OOL/WOT 1.12; DM/LM 0.38; FL/FW 2.25; HFL/HFW 2.23; A3 L/W 1.00; 2R1 L/W 2.19.

Distribution

Western Australia; known from two specimens taken in the southwest.

Sierola biloba sp. nov.

urn:lsid:zoobank.org:act:FCAC887D-BCCB-4F7E-80C4-EC945BF8E8AB

Figs 28, 33

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided or broadened beyond the antennae. Together with *S. cuneata* sp. nov., differing from all other *Sierola* in having the clypeus apically emarginate, divided into two rounded lobes. Easily distinguished from that species by having the clypeus rounded laterally rather than straight, and lacking lateral carinae. In addition, the lateral ocelli are separated from vertex crest by about their length; propodeal transverse carina is distinct; metasoma with faint but distinct microsculpture over all terga; and vein Rs reaches the anterior wing margin, closing cell 2R1.

Etymology

Referring to the unique form of the clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; 9 km ESE of Taylorville; 34°07' S, 140°04' E; 12 Nov. 1987; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154816.

Paratypes

AUSTRALIA – **South Australia** • 2 ♀♀; same data as for holotype; ANIC • 1 ♀; Morgan; 7 Nov. 1978; R. Laughlin leg.; WARI aphid migration project; ANIC • 1 ♂; Calpernum [sic: Calperum] Station Overflow Road km 2; 34.042° S, 140.7122° E; 10 Dec. 2011; P. Hebert leg.; BOLD: process ID AUSCL533-12, BIN ABX8962; ANIC.

Description**Female**

HEAD. Clypeal process broad, elongate, rounded laterally, apex narrowly emarginate, forming two rounded lobes; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly sloping, nearly straight. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly polished, smooth, shining; in ventral view abruptly bent near base, distally straight. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture variable, evident but smooth and shining to finely microreticulate (rarely coriaceous with irregular longitudinal raised striae between eyes). Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture entirely smooth and polished. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

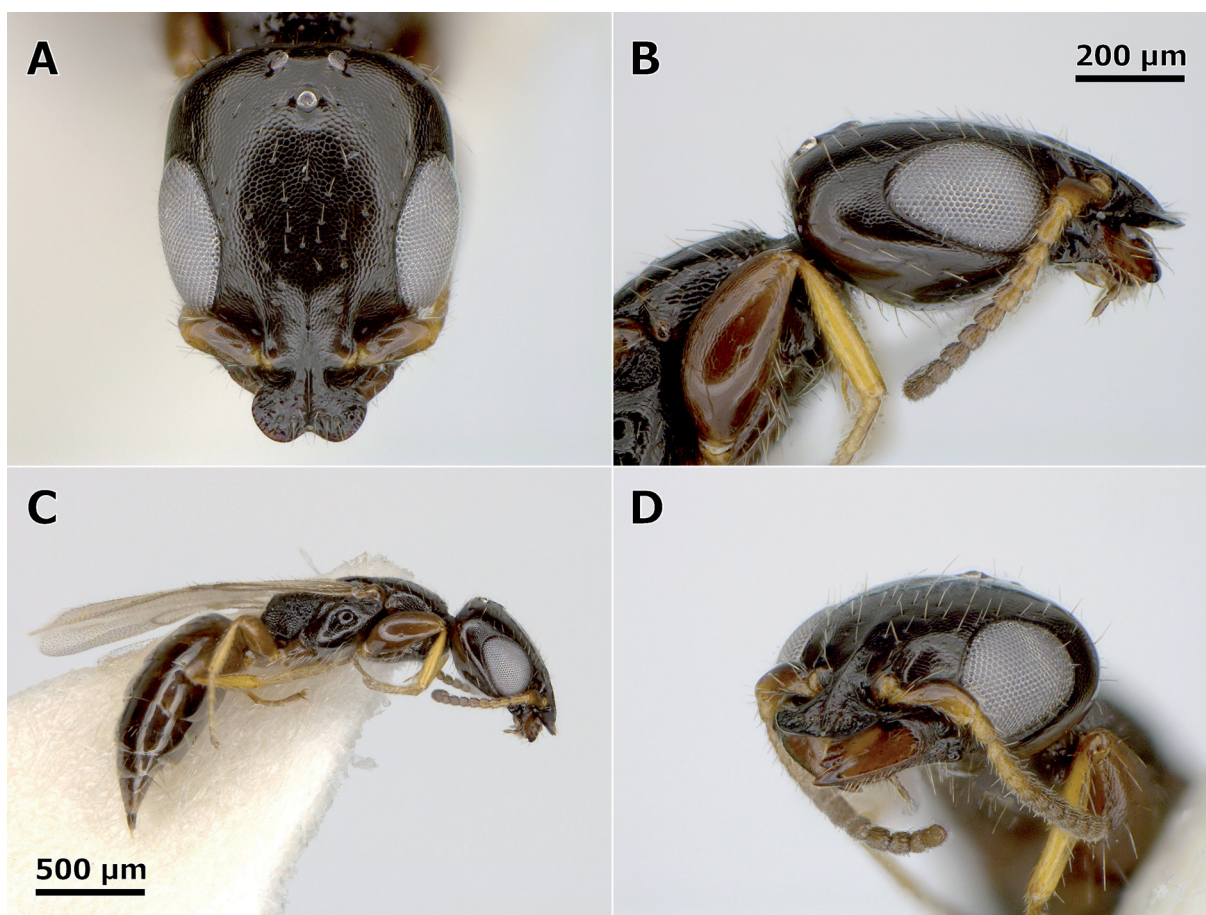


Fig. 33. *Sierola biloba* sp. nov., holotype, ♀ (ANIC 32-154816). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.62 mm; LM 0.92 mm (0.88–0.95); WH/LH 0.75 (0.73–0.76); DH/LH 0.48 (0.45–0.48); EV/HE 0.59 (0.53–0.76); EV/WF 0.60 (0.56–0.66); WF/HE 0.98 (0.95–1.14); WH/WF 1.79 (1.67–1.80); OOL/WOT 1.50 (1.45–1.65); DM/LM 0.37; FL/FW 2.26 (2.17–2.36); HFL/HFW 2.38 (2.32–2.38); A3 L/W 1.00 (1.00–1.20); 2R1 L/W 2.64. N = 4.

Male

Similar to female with the following exceptions. *Head.* Clypeus less deeply emarginate apically, not so prolonged in profile. Mandible parallel-sided. Malar space distinct, about $\frac{1}{4}$ as long as mandible base. Frons mostly sparsely punctate, especially posteriorly. Head rounded shortly posterior of eyes. *Metasoma.* Erect setae of S6 only slightly longer than those of previous segments. *Color.* Tibiae predominantly brown.

MEASUREMENTS. LFW 1.39 mm; LM 0.75 mm; WH/LH 0.86; DH/LH 0.52; EV/HE 0.45; EV/WF 0.47; WF/HE 0.96; WH/WF 1.83; OOL/WOT 1.22; DM/LM 0.41; FL/FW 2.41; HFL/HFW 2.63; A3 L/W 1.25; 2R1 L/W 2.67.

Distribution

South Australia; known from several collections, all in a small area of the Murray River valley northeast of Adelaide.

Remarks

The frons microsculpture is unusually variable. One specimen has peculiar raised longitudinal striae in addition to the normal microsculpture. It bears a striking resemblance to *S. rufignatha* Fullaway, 1920 from Oahu, and in several respects is more similar to the Hawaii species than others from Australia.

Sierola boggomoss sp. nov.

urn:lsid:zoobank.org:act:E6A5BC10-B58A-46EC-AD67-AD2EED08DC33

Figs 20, 34

Diagnosis

Among species with the head convex dorsally and basal wing cells setose, distinguished from most others by the elongate, conspicuous vertex and gena setae. Closest to *S. gingera* sp. nov., separated by the deeper head, ocellar triangle right, with the lateral ocelli separated from the vertex crest, and basal wing cells sparsely setose at least basally.

Etymology

Named for the boggomoss environment in which this species was collected, a form of mound spring unique to the Taroom area. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – Queensland • ♀; Boggomoss 8 via Taroom; 25°27' S, 150°02' E; 12 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; baited flight intercept 035; QM T33419.

Description**Female**

HEAD. Clypeal process rounded triangular or semicircular, apex rounded; dorsally weakly carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow, more or less parallel-sided or slightly narrowed medially from base, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae conspicuous,

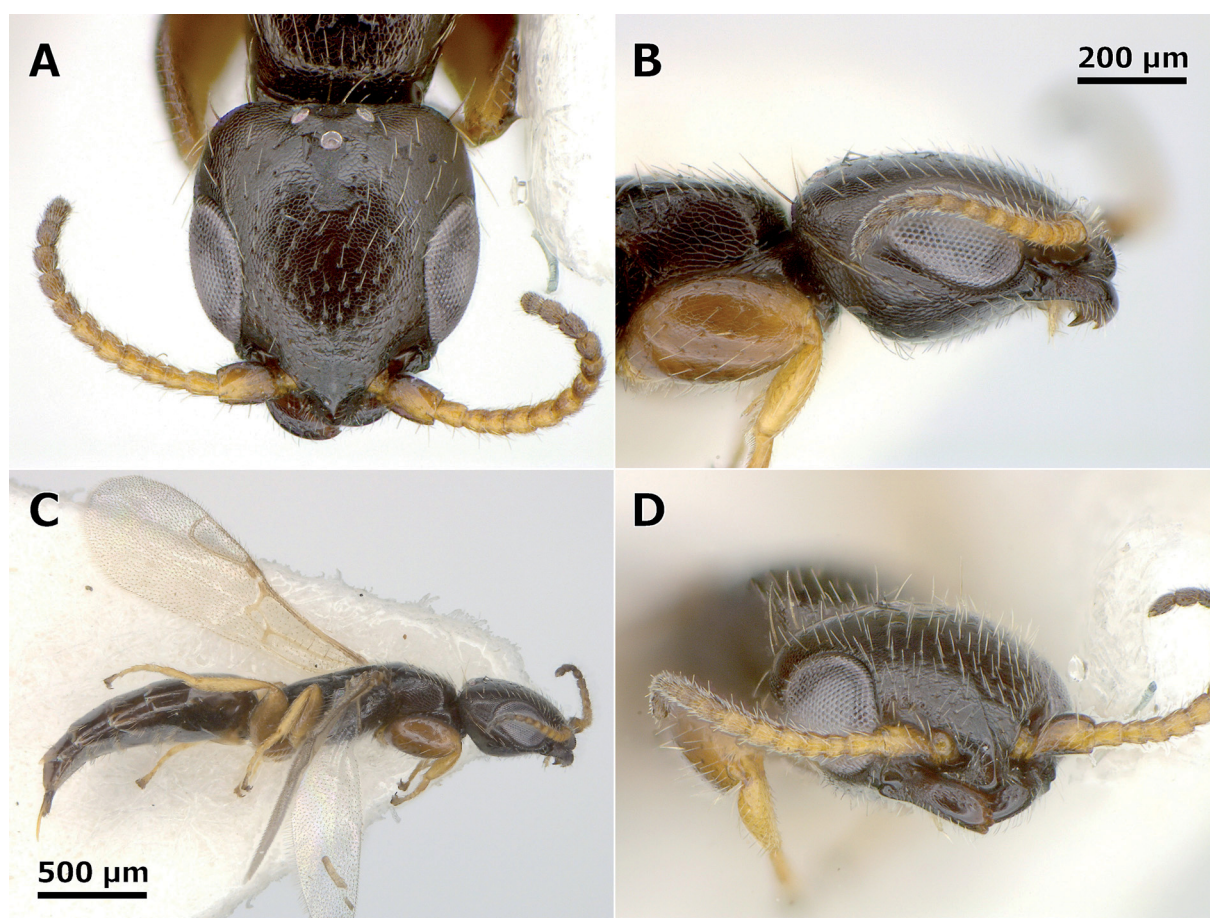


Fig. 34. *Sierola boggomoss* sp. nov., holotype, ♀ (QM T33419). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture finely microreticulate to coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.62 mm; LM 0.91 mm; WH/LH 0.88; DH/LH 0.57; EV/HE 0.56; EV/WF 0.50; WF/HE 1.13; WH/WF 1.68; OOL/WOT 1.19; DM/LM 0.35; FL/FW 2.17; HFL/HFW 1.77; A3 L/W 0.90; 2R1 L/W 2.33.

Distribution

Queensland; known only from the holotype.

Sierola campanula sp. nov.

urn:lsid:zoobank.org:act:C9AF6417-412B-4CFF-B348-65039109481B

Figs 20, 35

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Forming a species pair with *S. allithoros* sp. nov., united in having the frons very narrow (WF/HE ~0.8), clypeus with a low but distinct medial carina and broadly rounded apically rather than straight truncate or emarginate, vein Rs ending short of the anterior wing margin, and S5 with a pair of elongate setae. Separated by having the mandible black and not twisted, propodeum with the median carina distinct, and femora all dark.

Etymology

From the Latin '*campanula*', 'bell', referring to the shape of the clypeus. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **South Australia** • ♀; Mt Billy Cons. Pk; 35°27' S, 138°37' E; 3 Nov.–19 Dec. 2016; E. Fagan-Jeffries leg.; Malaise trap; SAMA.

Paratype

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra, Cook, 8 Moss Street; 35.261° S, 149.0591° E; elev. 632 m; 19 Apr. 2011; P. Hebert, R. Labbee, V. Levesque-Beaudin, J. McCormick, J. Sones and J. Webb leg.; BOLD: process ID AACTA5400-20, BIN AED8633; ANIC.

Description**Female**

HEAD. Clypeal process semicircular, apex broadly rounded; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly sloping, nearly straight. Mandible broad, not narrowed from base, ventral margin nearly straight; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view straight or nearly so. Apex of mandible

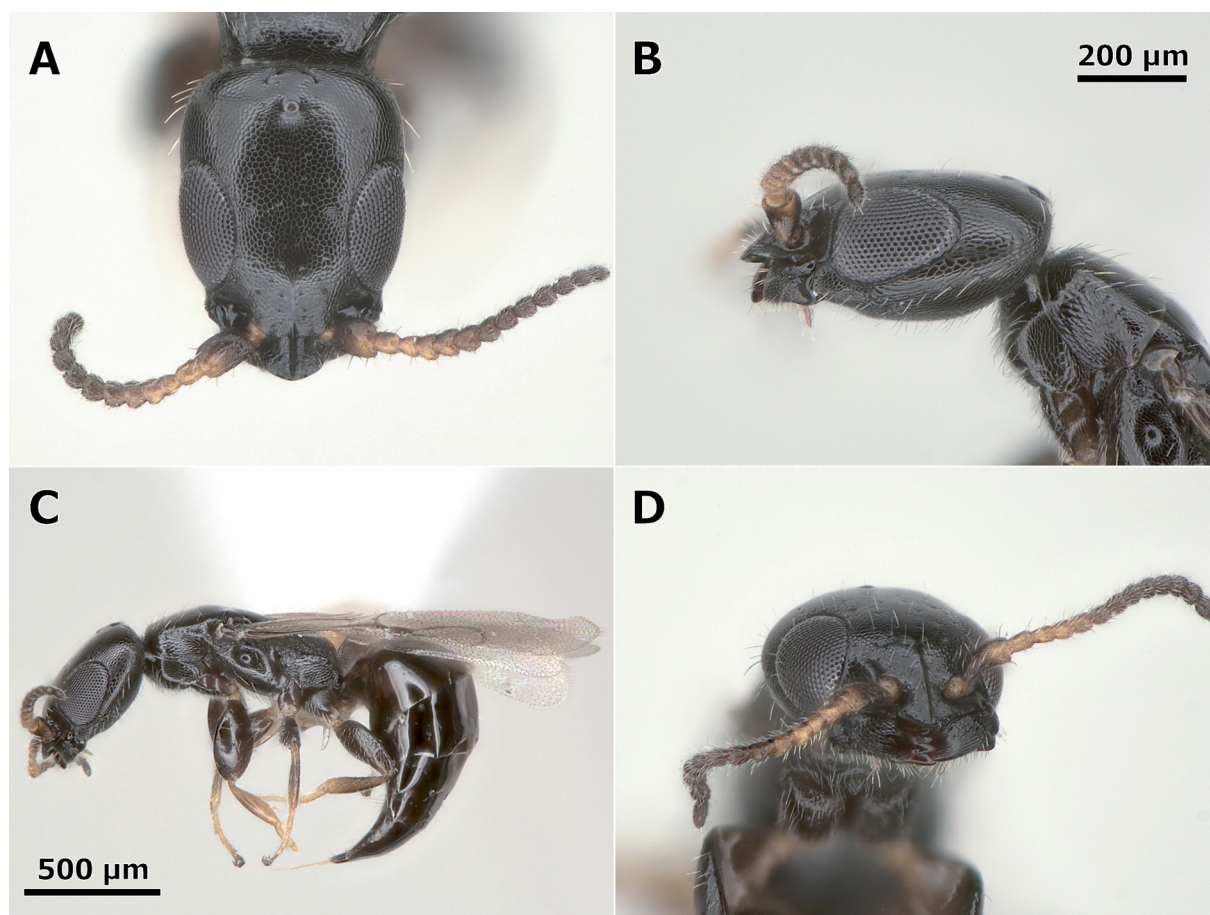


Fig. 35. *Sierola campanula* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

vertical, with equally strong teeth. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separated from vertex crest by about their own length or slightly less. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of smooth tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina distinct; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S5 with a pair of long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.47 mm; LM 0.80 mm; WH/LH 0.72; DH/LH 0.47; EV/HE 0.67; EV/WF 0.81; WF/HE 0.82; WH/WF 2.06; OOL/WOT 1.94; DM/LM 0.38; FL/FW 1.87; HFL/HFW 2.08; A3 L/W 1.00; 2R1 L/W 2.89.

Distribution

South Australia and Australian Capital Territory; known from two widely separated individuals.

Sierola camptostega sp. nov.

urn:lsid:zoobank.org:act:34421DD1-A60E-47ED-ABDF-B460A6C90210

Figs 20, 36

Diagnosis

Among species with the basal wing cells setose and head convex dorsally, forming a species pair with *S. cecidophila* sp. nov. based on the black mandible, head long posterior of the eye (EV/HE ~1.00), and clypeus in profile high, blunt and recurved apically. Distinguished by having the head ventrally flat or very weakly convex, parallel-sided posterior of the eye, and narrower and more compressed (WH/LH ~0.71, DH/LH ~0.49).

Etymology

From the Greek ‘*kamptos*’, ‘twisted’, + ‘*stegos*’, ‘roof’, referring to the sinuate ridgeline of Mount Baker where the type was collected. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – South Australia • ♀; Mt Barker near summit; Dec. 1985; A.D. Austin leg.; *Acacia* scrub, Malaise trap; SAMA.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile weakly sloping dorsally but strongly rounded and recurved at apex, or steep and short, evenly curved. Mandible moderately broad, weakly to distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart.

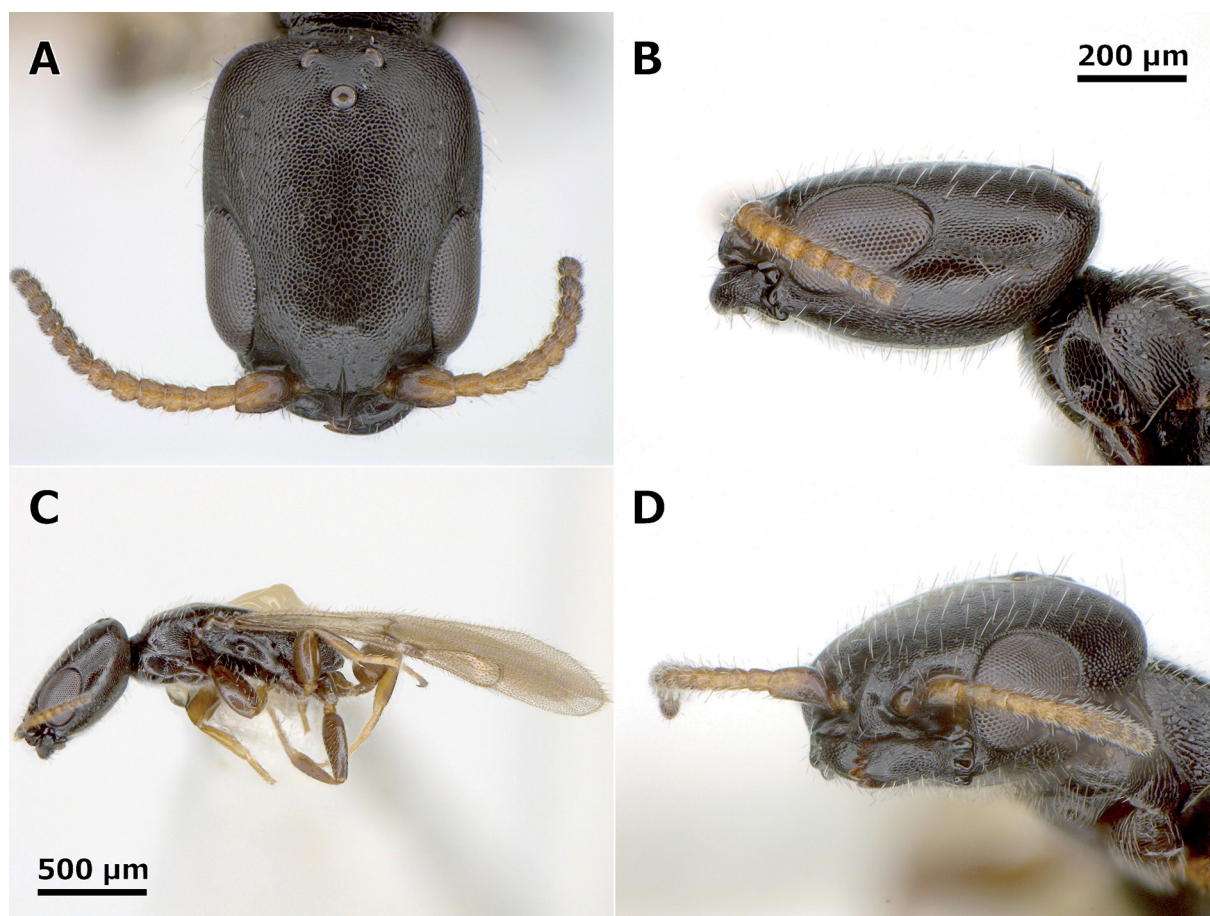


Fig. 36. *Sierola camptostega* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly to strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex to nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.90 mm; LM 0.95 mm; WH/LH 0.71; DH/LH 0.49; EV/HE 1.03; EV/WF 0.95; WF/HE 1.07; WH/WF 1.67; OOL/WOT 1.82; DM/LM 0.33; FL/FW 1.99; HFL/HFW 2.22; A3 L/W 0.90; 2R1 L/W 2.78.

Distribution

South Australia; known only from the holotype, collected near Adelaide.

Remarks

The unique type is missing the metasoma, but based on the appearance of the head and mandibles it is almost certainly a female.

Sierola capitata sp. nov.

urn:lsid:zoobank.org:act:854CB438-3CA4-4744-BABD-A553EE444B9B

Figs 26, 37

Diagnosis

A member of the *megacephala* group, with the head large and flat dorsally and ventrally, frons very broad, clypeus short with a low carina, and ocelli well removed from the vertex crest. Closely related to *S. leeuwinensis* and *S. stipulata* sp. nov. with the femora dark, head posterior of the eyes convex, and ocelli separated from the vertex by 2–3 ocellus lengths. Distinguished by the unusual mandible, abruptly constricted just beyond the articulation and then gradually broadened; it is also reddish brown, compared to black in the other two species. A similar form is found in *S. kuranda* sp. nov. and *S. truncata* sp. nov., but they appear to be unrelated.

Etymology

From the Latin '*capitata*', 'large-headed'.

Type material**Holotype**

AUSTRALIA – **Queensland** • ♀; 62 km W by S of Boulia; 23°02' S, 139°18' E; 16 Oct. 1978; J.C. Cardale leg.; ex alcohol collection; ANIC 32-154817.

Description**Female**

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile strongly arched, vertical or slightly recurved at apex, carina extending posterior of antennal sockets. Mandible moderately broad, constricted just past articulation, gradually broadened towards apex; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular.

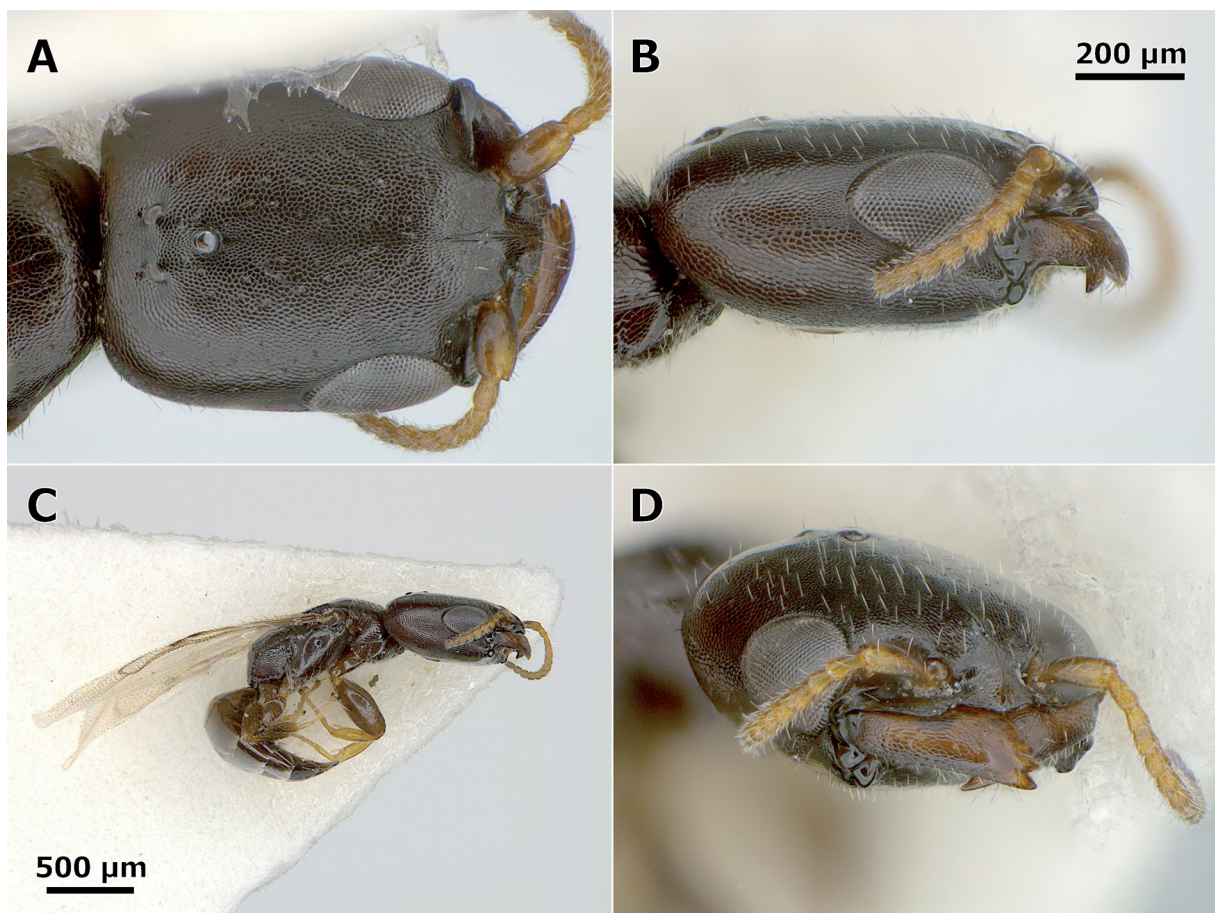


Fig. 37. *Sierola capitata* sp. nov., holotype, ♀ (ANIC 32-154817). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora dark brown to black, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.89 mm; LM 0.92 mm; WH/LH 0.81; DH/LH 0.48; EV/HE 1.28; EV/WF 0.85; WF/HE 1.51; WH/WF 1.54; OOL/WOT 2.40; DM/LM 0.40; FL/FW 2.24; HFL/HFW 2.18; A3 L/W 1.00; 2R1 L/W 2.10.

Distribution

Queensland; known only from the holotype, collected in the arid interior.

Sierola carinifrons sp. nov.

urn:lsid:zoobank.org:act:08B2C567-702D-457B-8272-79C7F638F775

Figs 38–39

Diagnosis

Among species with the basal wing cells glabrous and head convex dorsally, closest to *S. kimseyana* sp. nov. and *S. lissonota* sp. nov. in having the frons shining and weakly sculpted, malar space short, and clypeus evenly curved in profile. Separated from the former by the broad, polished median strip on the propodeum and lack of a carina between the lateral ocelli, and from the latter by the acute ocellar triangle (lateral ocelli separated from the vertex crest), narrower head ($WH/LH \leq 0.86$), and narrower metafemur ($HFL/HFW \geq 2.20$).

Etymology

A specimen bearing this unpublished manuscript name from Cameron is housed at NHMUK. To minimize confusion I have retained this name even though the species has a weak clypeal carina compared to most species of *Sierola*.

Type material**Holotype**

AUSTRALIA – **South Australia** • ♀; 31 km NW of Renmark; 33°59' S, 140°30' E; 5 Sep.–12 Oct. 1995; K.R. Pullen leg.; flight intercept/pitfall trap; ANIC 32-154818.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra; 20 Apr. 1948; E.F. Riek leg.; ANIC. – **South Australia** • 1 ♀; Brookfield Conservation Park; 34°21' S, 139°31' E; 12 Sep.–20 Oct. 1991; J. Stelman and S. Williams leg.; F.T.T ANIC 1206 mallee #2; ANIC. – **Victoria** • 1 ♀; Victoria; P. Cameron leg.; 1914–110 [left specimen on card]; NHMUK 13379653.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded to truncate; dorsally with a rounded carina; in profile evenly curved from base to apex, apical angle slightly acute or rounded and recurved at apex. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths

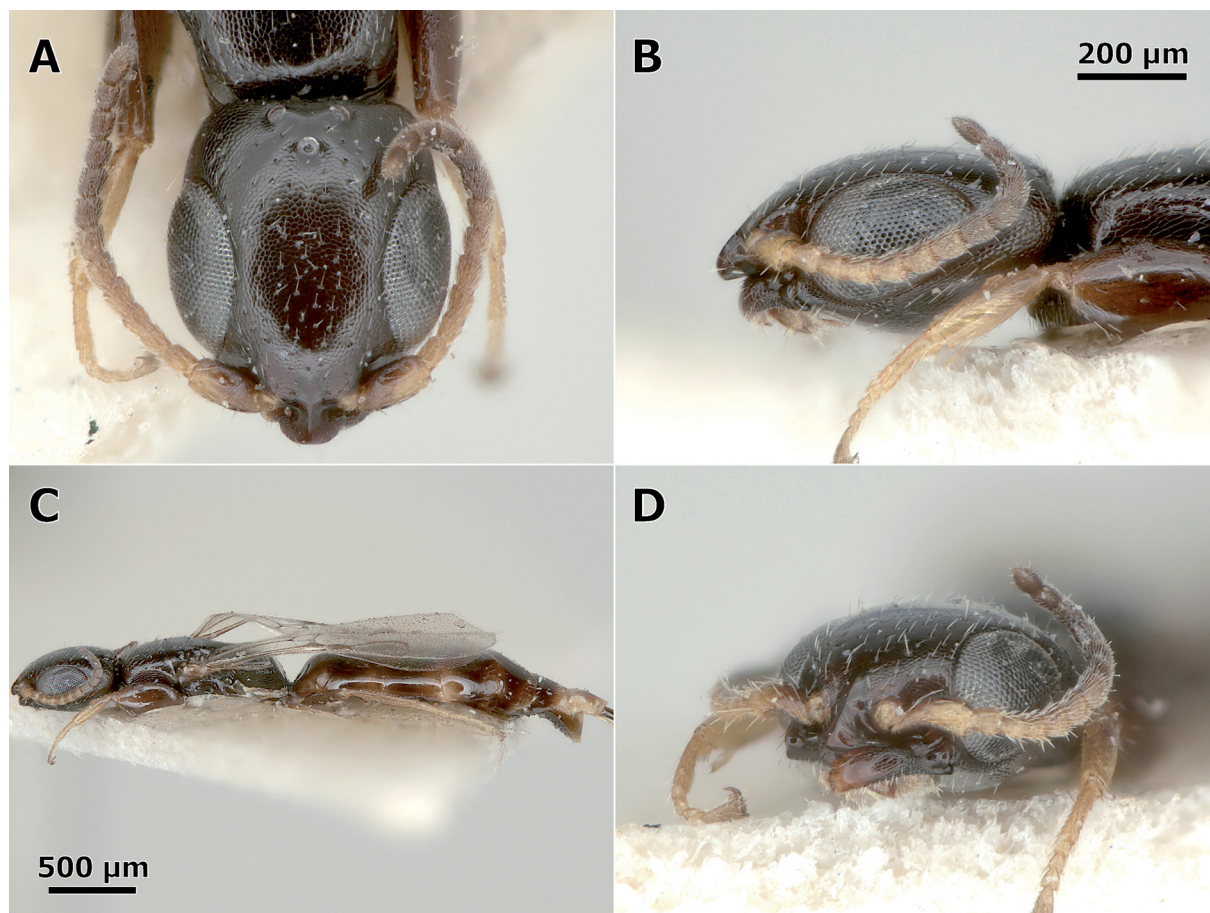


Fig. 38. *Sierola carinifrons* sp. nov., holotype, ♀ (ANIC 32-154818). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

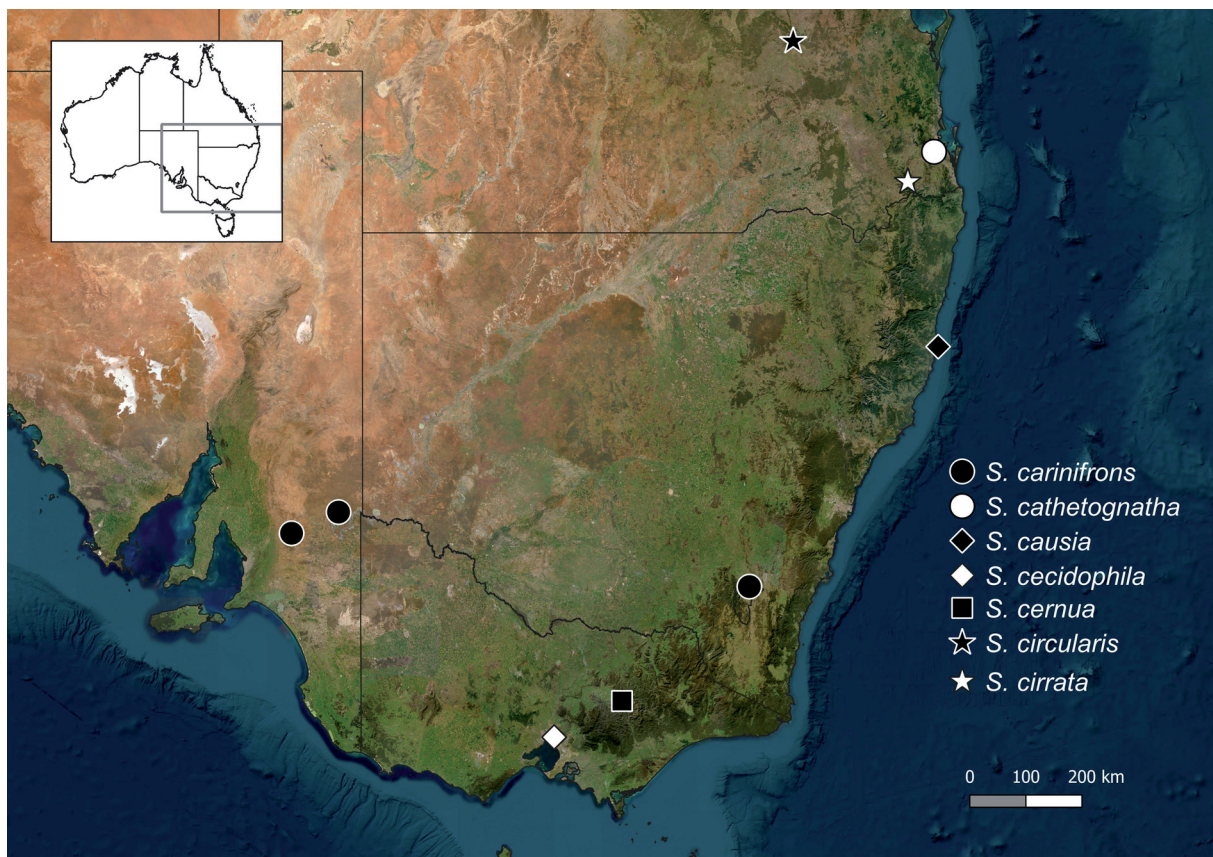


Fig. 39. Map of collection records of *Sierola carinifrons* sp. nov., *S. cathetognatha* sp. nov., *S. causia* sp. nov., *S. cecidophila* sp. nov., *S. cernua* sp. nov., *S. circularis* sp. nov., and *S. cirrata* sp. nov.

COLOR. Body dark brown to black, with a pale spot on propodeum. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black to reddish brown. Legs all yellow except dorsal margins of femora tinged with brown, or coxae and femora dark brown to black, tibiae dark brown, trochanters, tarsi, and bands at bases and apices of tibiae orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.86 mm; LM 1.00 mm (0.92–1.05); WH/LH 0.81 (0.77–0.82); DH/LH 0.52 (0.50–0.55); EV/HE 0.40 (0.40–0.45); EV/WF 0.54 (0.54–0.61); WF/HE 0.74 (0.70–0.74); WH/WF 2.11 (2.11–2.17); OOL/WOT 1.00 (0.96–1.13); DM/LM 0.38; FL/FW 1.81 (1.81–2.00); HFL/HFW 2.39 (2.35–2.39); A3 L/W 1.48 (1.33–1.48); 2R1 L/W 2.88. N = 4.

Distribution

Victoria, Australian Capital Territory, and South Australia; probably also occurring in New South Wales. Rare but widely distributed in the southeast.

Remarks

The four specimens on hand represent two distinct color morphs – a darker eastern one with the mandible, coxae, and femora dark brown to black, and propodeum concolorous (Victoria, ACT, and presumably New South Wales), and a paler western one with the mandible orange, legs almost entirely yellow, and propodeum with a basal pale spot (South Australia). However, I am not able to find any structural differences between them other than a slight difference in the narrowing of the mandible and width of the profemur (stronger and broader respectively in the SA population). Therefore, I am tentatively considering them a single species. The NHMUK specimen originally labelled with the name *Sierola carinifrons* (the left of two specimens mounted on one card; the other is a different species) is designated as a paratype rather than the holotype, but is of the same form as the holotype.

Sierola carruca sp. nov.

urn:lsid:zoobank.org:act:BC1BE096-E2C3-485E-A092-4691F4AE469F

Figs 40–41

Diagnosis

Part of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Closest to *S. ficicola* sp. nov., joined in having the lateral ocelli somewhat close to the vertex crest which is not carinate posterior of the ocelli; separated by the black mandible and more compressed head (DH/LH ~0.48), sparsely setose ventrally.

Etymology

From the Latin ‘*carruca*’, ‘a four-wheeled carriage’, referring to the collection of this species using a car net. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Hwy 1 Townsville–Bowen; 30 Aug. 1986; E.A. Sugden leg.; car net; UCDC.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately broad, more or less parallel-sided or slightly narrowed medially and broadened at apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin

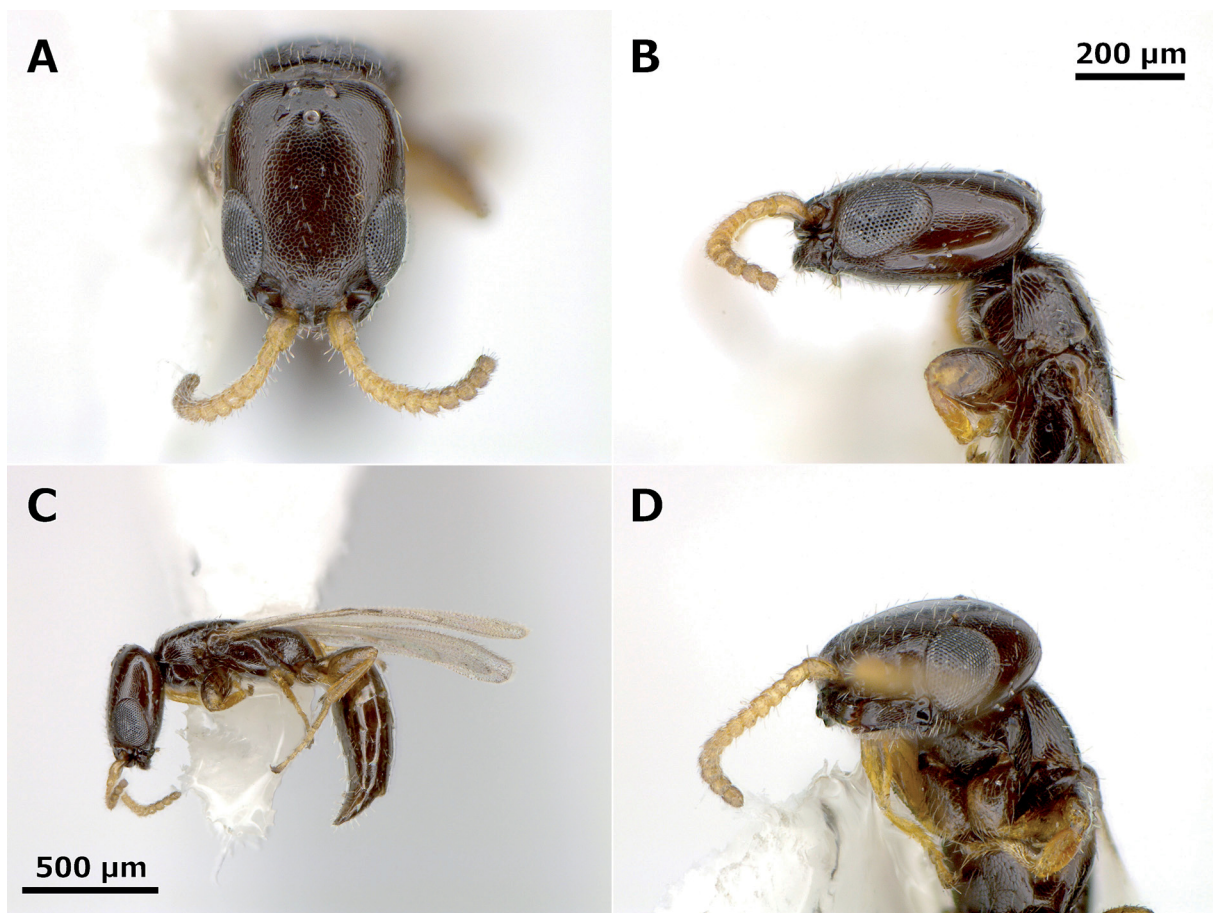


Fig. 40. *Sierola carruca* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

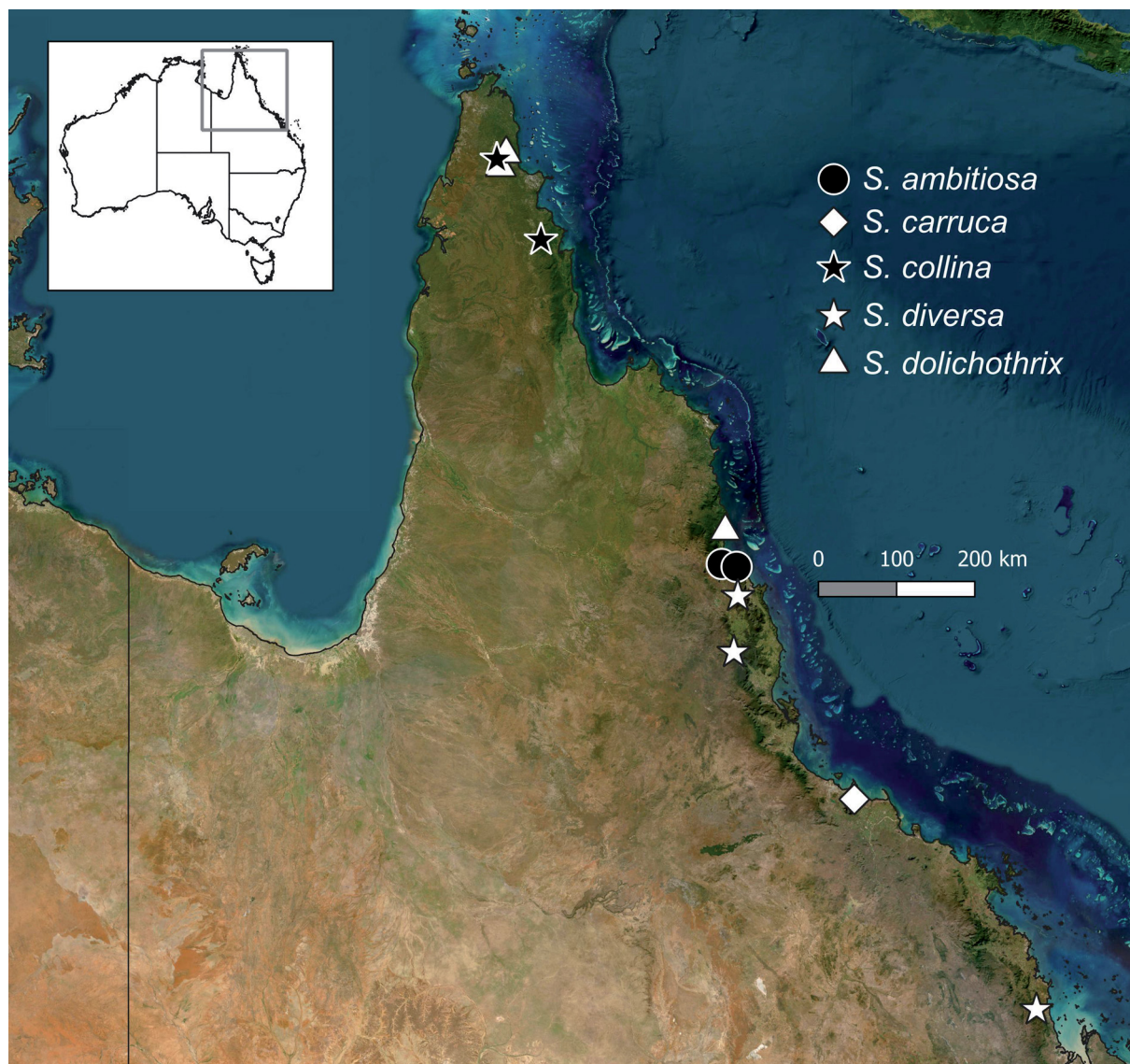


Fig. 41. Map of collection records of *Sierola ambitiosa* sp. nov., *S. carruca* sp. nov., *S. collina* sp. nov., *S. diversa* sp. nov., and *S. dolichothrix* sp. nov.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.17 mm; LM 0.60 mm; WH/LH 0.75; DH/LH 0.48; EV/HE 1.08; EV/WF 1.10; WF/HE 0.98; WH/WF 1.85; OOL/WOT 1.86; DM/LM 0.38; FL/FW 2.00; HFL/HFW 2.07; A3 L/W 0.85; 2R1 L/W 2.23.

Distribution

Queensland; known only from the holotype, collected along the northern coast.

Sierola cathetognatha sp. nov.

urn:lsid:zoobank.org:act:012C42E4-5CA4-4041-B842-B96DB5C3EA7A

Figs 39, 42

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Easily separated from related species by the unusual mandible, broadest near the middle and narrowing apically (ventral margin sinuate in frontal view) and strongly elbowed in ventral view. The ocellar triangle is also strongly obtuse.

Etymology

From the Greek ‘*kathetos*’, ‘perpendicular’, + ‘*gnathos*’, ‘jaw’, referring to the bent mandible. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Indooroopilly; 22 Nov. 1979; G. Gordh leg.; UCRC 556772.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, slightly narrowed just beyond base and broadened medially, apex slightly narrowed; not twisted, at most weakly convex outwardly; in ventral view strongly elbowed. Apex of mandible vertical, with small, indistinct teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of

eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S2–5 each with a single sparse apical row of setae.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible orange. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

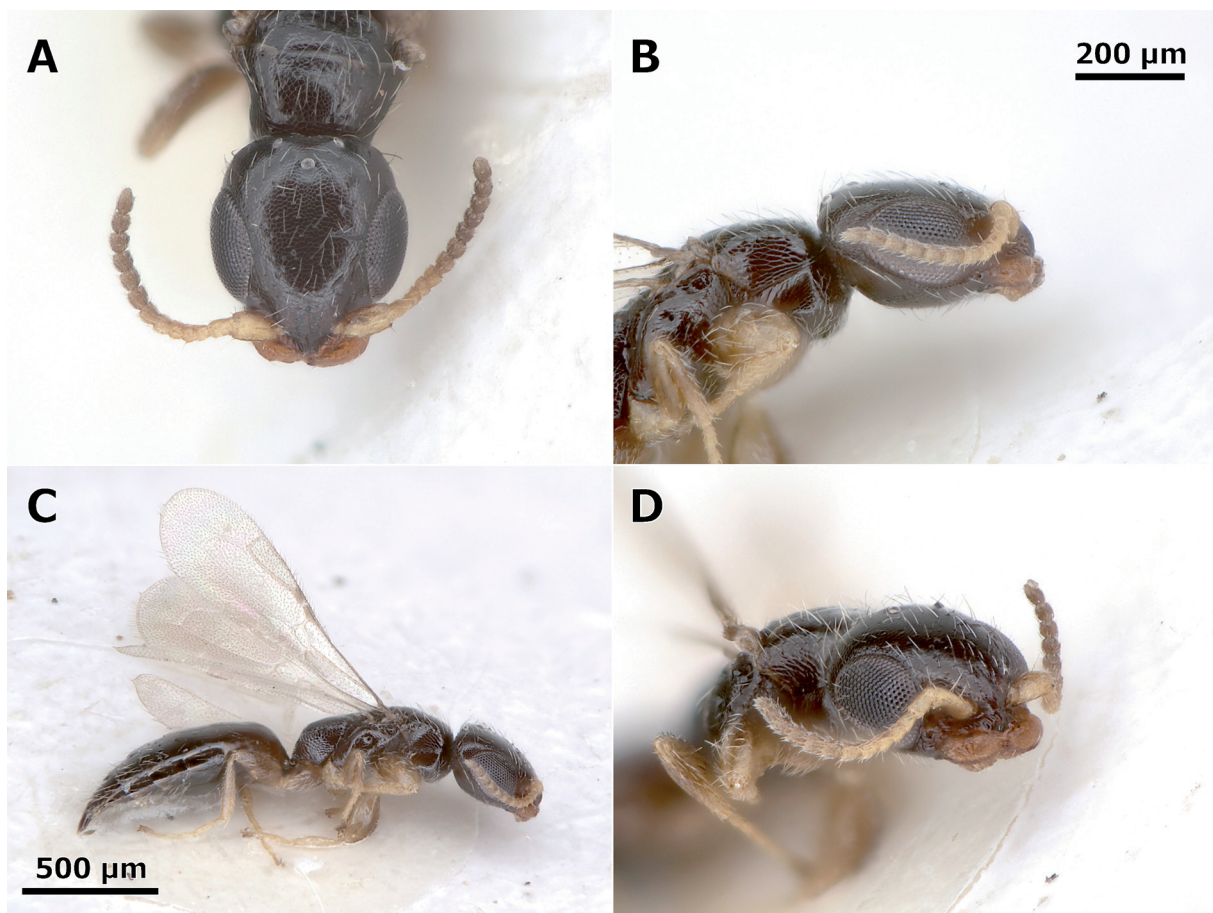


Fig. 42. *Sierola cathetognatha* sp. nov., holotype, ♀ (UCRC 556772). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.20 mm; LM 0.65 mm; WH/LH 0.90; DH/LH 0.58; EV/HE 0.40; EV/WF 0.44; WF/HE 0.93; WH/WF 1.79; OOL/WOT 0.79; DM/LM 0.39; FL/FW 2.05; HFL/HFW 2.28; A3 L/W 1.20; 2R1 L/W 2.93.

Distribution

Queensland; known only from the holotype, collected near Brisbane.

Sierola causia sp. nov.

urn:lsid:zoobank.org:act:52B12474-5A01-43FC-BD6A-87E0E691A49B

Figs 39, 43

Diagnosis

Part of the *kalarku* species group, with the mandible strongly twisted and shiny, head more or less triangular in dorsal view, vertex slightly concave, frons microsculpture smooth, clypeus without any trace of a carina, and basal wing cells nearly glabrous. Distinguished from related species by the combination of the clypeus flat, malar space very small, propodeum lacking a polished area, metafemur very broad ($HFL/HFW \leq 2.00$), and vein Rs not reaching the anterior wing margin.

Etymology

From the Latin ‘*causia*’, ‘hat’, referring to the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Hat Head; 31.0626° S, 153.052° E; elev. 37 m; 4–18 Feb. 2018; P. Hebert leg.; Malaise trap, trap #4; BOLD: sample ID BIOUG37616-F05, process ID NSWHO4886-18, BIN ADV5989; ANIC 32-154819.

Description

Female

HEAD. Clypeal process semicircular, apex broadly rounded to truncate; dorsally flat, not carinate, slightly convex only laterally; in profile evenly sloping, nearly straight. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave, slightly narrowed again at apex; strongly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of smooth tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture smooth and polished posterolaterally, finely microreticulate ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow-brown. Mandible black, reddish at apex before teeth. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.45 mm; LM 0.77 mm; WH/LH 0.89; DH/LH 0.54; EV/HE 0.39; EV/WF 0.43; WF/HE 0.90; WH/WF 1.86; OOL/WOT 1.19; DM/LM 0.36; FL/FW 1.80; HFL/HFW 1.74; A3 L/W 0.91; 2R1 L/W 3.24.

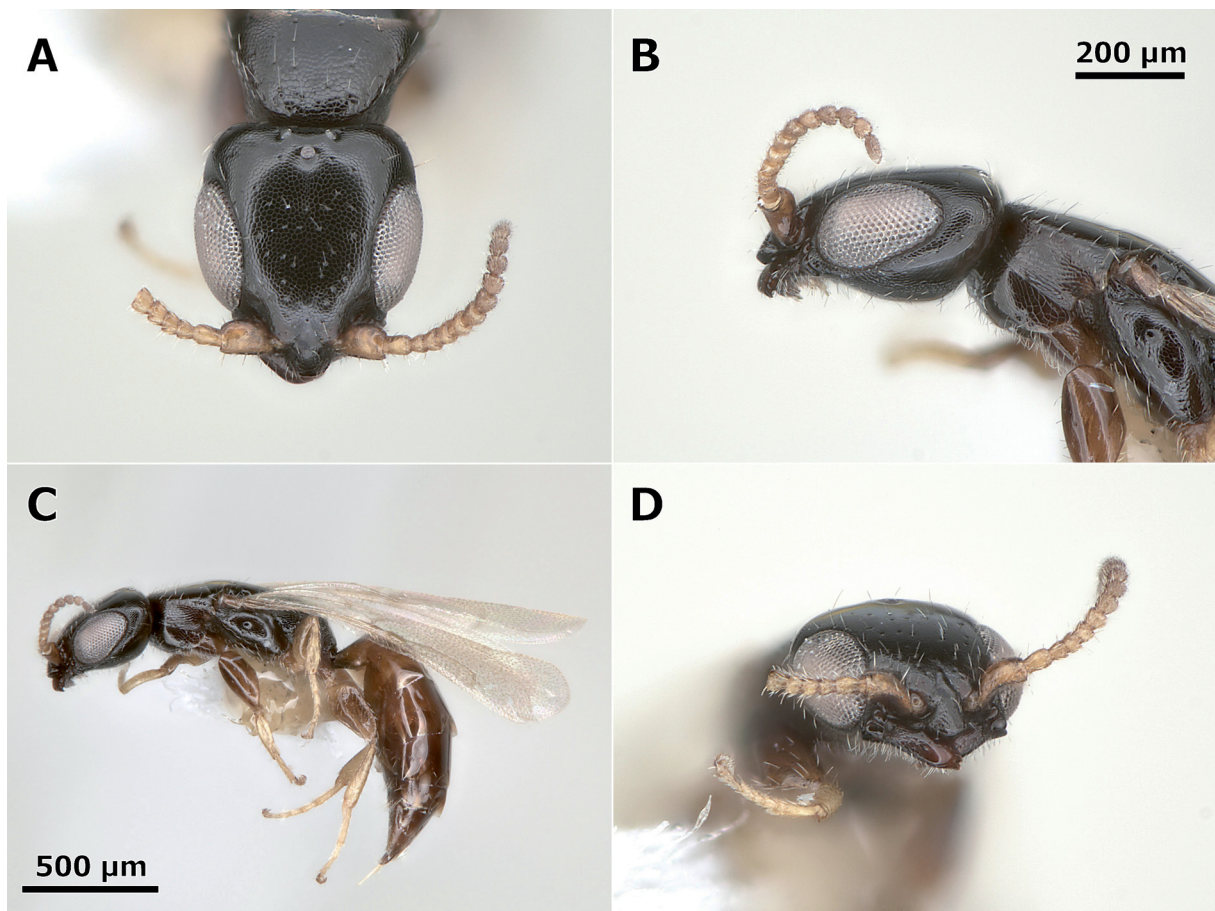


Fig. 43. *Sierola causia* sp. nov., holotype, ♀ (ANIC 32-154819). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Distribution

New South Wales; known only from the holotype, collected near the coast.

Sierola cecidophila sp. nov.

urn:lsid:zoobank.org:act:1857896B-E06E-479C-ACB4-28838E6FE9E3

Figs 39, 44

Diagnosis

Among species with the basal wing cells setose and head convex dorsally, forming a species pair with *S. camptostega* sp. nov. based on the black mandible, head long posterior of the eye (EV/HE ~1.00), and clypeus in profile high, blunt and recurved apically. Distinguished by having the head distinctly convex ventrally, slightly broadened posterior of the eye, and broader and deeper (WH/LH ~0.79, DH/LH ~0.54).

Etymology

From the Greek ‘*kekidos*’, ‘gall’, + ‘*phila*’, ‘loving’, referring to the rearing of the holotype from a gall.

Type material

Holotype

AUSTRALIA – Victoria • ♀; Kew; 10 Aug. 1958; ex galls *Acacia mollissima*, emerged 20 Aug. 1958; MVMA HYM-86588.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep, recurved at apex. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous to dull, granular. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head broadening posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose, or sparsely setose basally with cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.89 mm; LM 1.00 mm; WH/LH 0.79; DH/LH 0.54; EV/HE 1.00; EV/WF 0.91; WF/HE 1.10; WH/WF 1.73; OOL/WOT 1.86; DM/LM 0.37; FL/FW 1.93; HFL/HFW 2.22; A3 L/W 0.91; 2R1 L/W 2.45.

Distribution

Victoria; known only from the holotype, collected in Melbourne.

Remarks

This species and *S. camptostega* sp. nov. are clearly closely related and may be conspecific. They are primarily separated by the dimensions and subtle shape characters of the head, which are typically

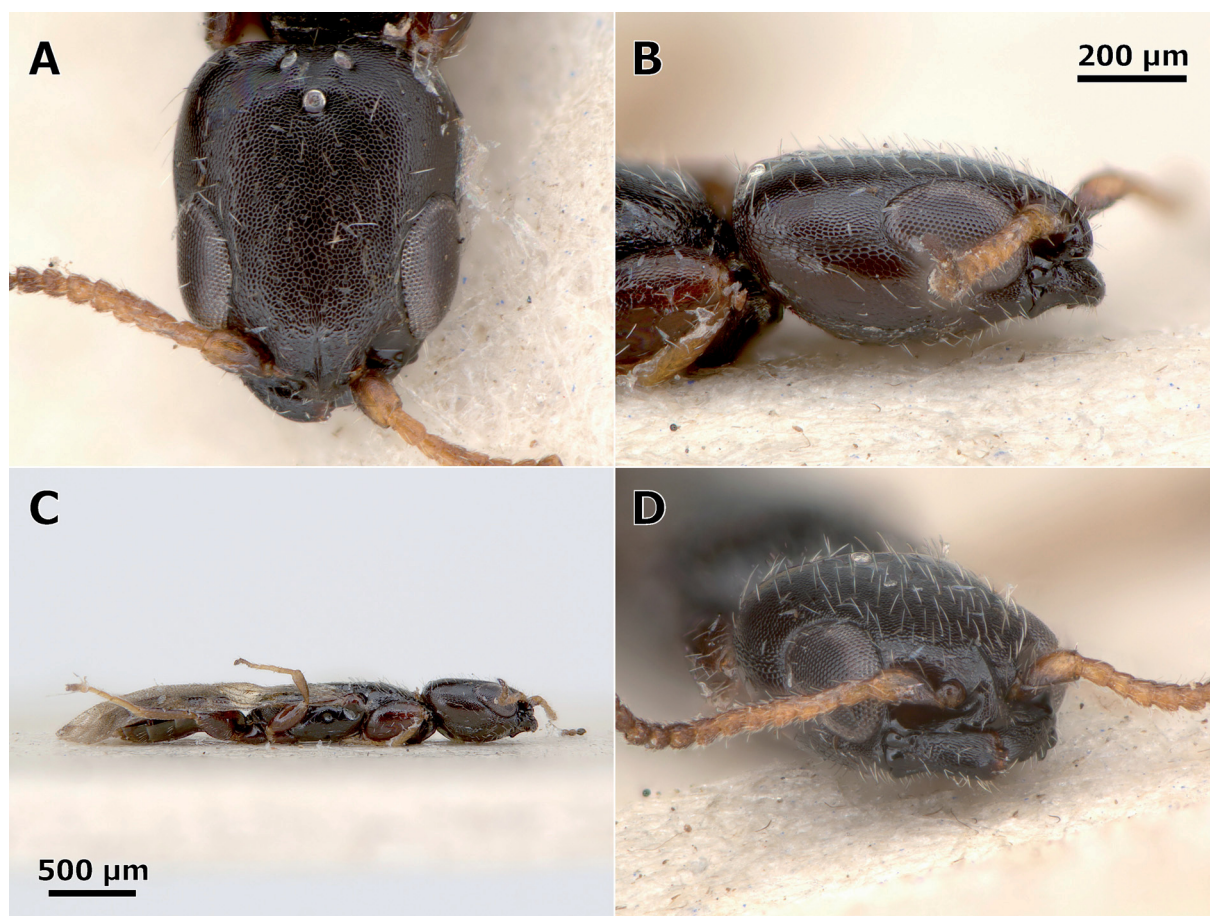


Fig. 44. *Sierola cecidophila* sp. nov., holotype, ♀ (MVMA HYM-86588). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

outside that normally seen in a single species, but could be representatives of two extremes of a variable taxon. For the time being I prefer to keep them separate.

Sierola cernua sp. nov.

urn:lsid:zoobank.org:act:F1427C81-55AB-46D5-B8A3-A1E6582FE0C5

Figs 39, 45

Diagnosis

A very unusual and distinctive species, with the head compressed and convex dorsally and concave ventrally, thus appearing to be curved but of more or less even thickness along its length in lateral view. The clypeus is somewhat high and steeply curved, and the basal wing cells moderately setose.

Etymology

From the Latin ‘*cernuus*’, ‘nodding’ or ‘drooping’, referring to the head being bent ventrad anteriorly.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; 12 km SE of Merrijig, Howqua River; 30 Nov. 1971; Neboiss leg.; MVMA HYM-86586.

Paratype

AUSTRALIA – **Victoria** • 1 ♀; same data as for holotype; MVMA HYM-86587.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more, or moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through just posterior of eye. Venter of head posterior to mandible concave in lateral view (mandibles directed somewhat ventrad giving appearance of being more strongly curved anteriorly), nearly glabrous. Genal angle present posteriorly, not prominent, head relatively flat. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice

as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora dark brown to black, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose or with intermediate setation. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.57 mm; LM 0.89 mm; WH/LH 0.79; DH/LH 0.39; EV/HE 0.94; EV/WF 0.79; WF/HE 1.18; WH/WF 1.62; OOL/WOT 1.67; DM/LM 0.34; FL/FW 2.00; HFL/HFW 2.42; A3 L/W 1.20; 2R1 L/W 2.79.

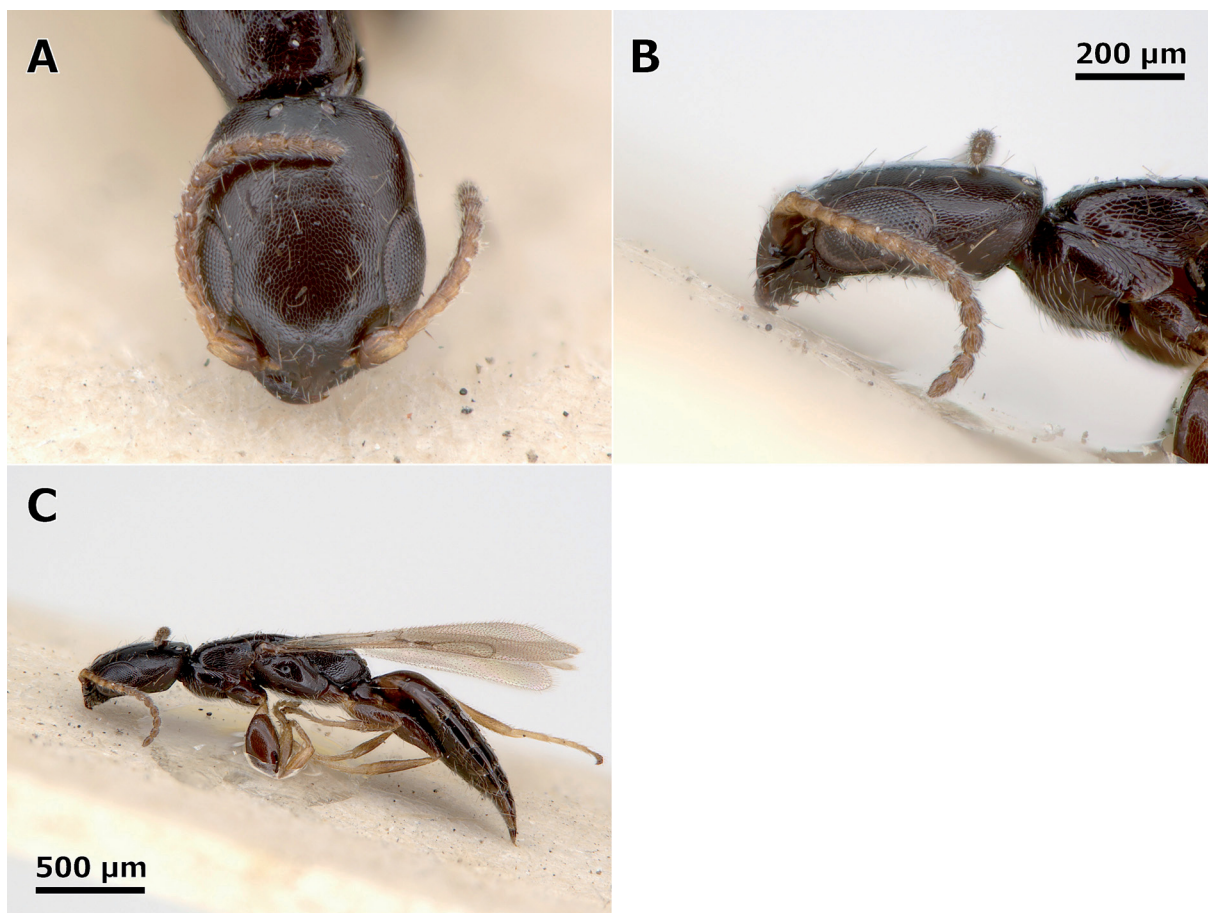


Fig. 45. *Sierola cernua* sp. nov., holotype, ♀ (MVMA HYM-86586). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus.

Distribution

Victoria; known only from the type collection, from the eastern mountains.

Remarks

This remarkable species does not have any similar relatives among known taxa in the genus.

Sierola circularis sp. nov.

urn:lsid:zoobank.org:act:48AD0B2A-3CDF-4675-BE55-520B97B93B7C

Figs 39, 46

Diagnosis

An aberrant member of the *kalarku* species group, with the mandible strongly twisted and shiny, frons microsculpture smooth, clypeus flat without any trace of a carina, and basal wing cells nearly glabrous. Immediately distinguished by the convex vertex crest in dorsal view, with the posterior corners of the head almost evenly curved between the posterior corners of each eye. In addition, the propodeum has a polished basal triangle extending only $\frac{1}{3}$ distance to the declivity, and vein Rs does not reach the anterior wing margin.

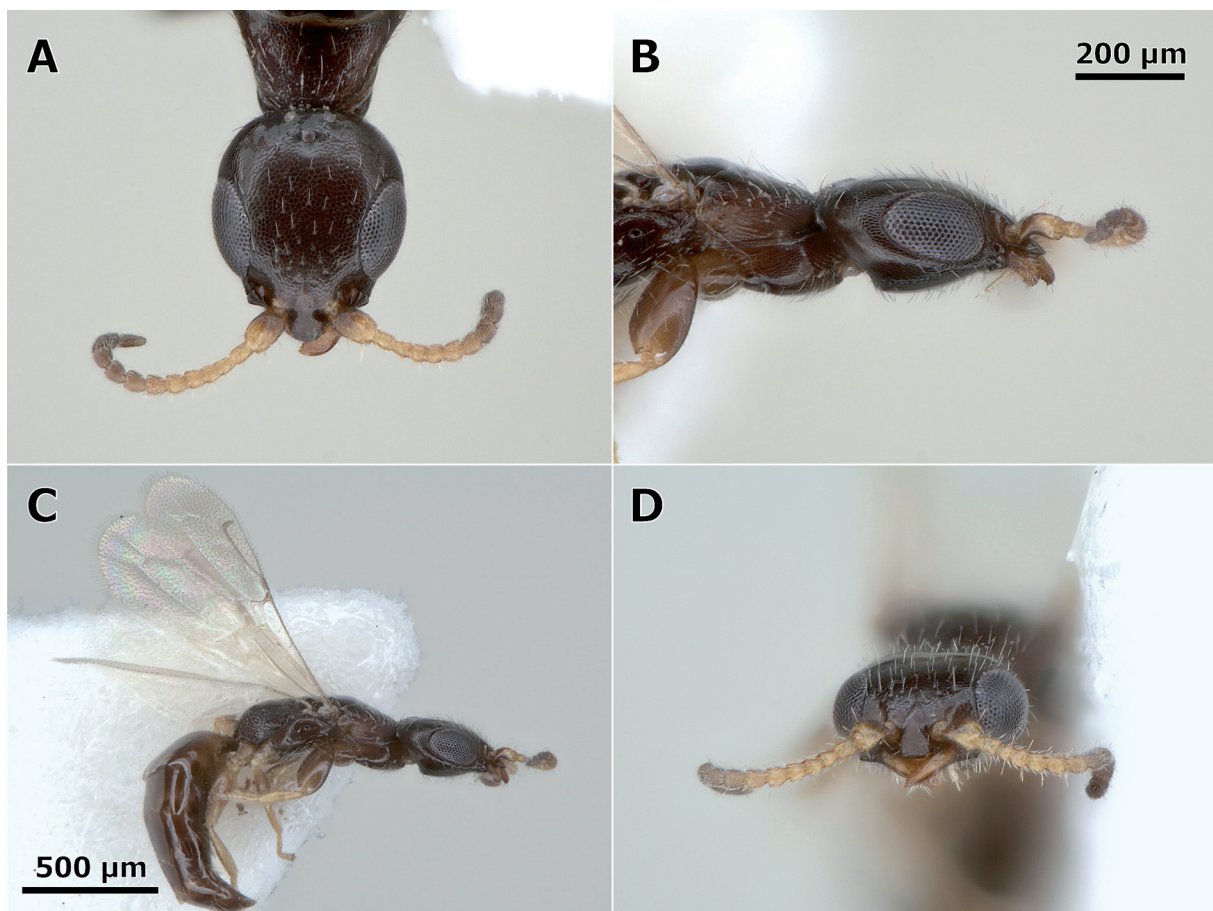


Fig. 46. *Sierola circularis* sp. nov., holotype, ♀ (QM T33426). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

From the Latin '*circularis*', 'round', referring to the shape of the head.

Type material**Holotype**

AUSTRALIA – **Queensland** • ♀; Boggomoss No. 3; 25°26' S, 150°01' E; 11 Nov. 1996–Jan. 1997; P. Lawless leg.; pitfall trap 093; QM T33426.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; Boggomoss 3 via Taroom; 25°26' S, 150°01' E; 12 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; pitfall trap 042; QM T33425.

Description**Female**

HEAD. Clypeal process semicircular to trapezoidal, apex truncate; dorsally flat, not carinate, slightly convex only laterally; in profile evenly sloping, nearly straight. Mandible very narrow, including at base; strongly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view slightly convex, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–5 each with a pair of moderately long erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible dark basally, apical half orange. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.19 mm; LM 0.64 mm; WH/LH 0.85; DH/LH 0.51; EV/HE 0.61; EV/WF 0.61; WF/HE 1.00; WH/WF 1.84; OOL/WOT 1.39; DM/LM 0.34; FL/FW 2.08; HFL/HFW 2.09; A3 L/W 1.11; 2R1 L/W 3.57.

Distribution

Queensland; known only from two specimens collected at the same boggomoss in the southeast.

Remarks

The collection of both specimens of this species in pitfall traps, in an unusual habitat, suggests it attacks a ground-dwelling caterpillar.

Sierola cirrata sp. nov.

urn:lsid:zoobank.org:act:C126BAE7-3DD5-462B-8328-5E85AAD82AE2

Figs 39, 47

Diagnosis

Related to the *cuneata* species group with the frons narrow, basal wing cells glabrous to sparsely setose, and clypeus somewhat elongate, with a low carina dorsally and evenly sloping in profile. Immediately separated from all other species by the fine carinulae radiating from the base of the clypeus.

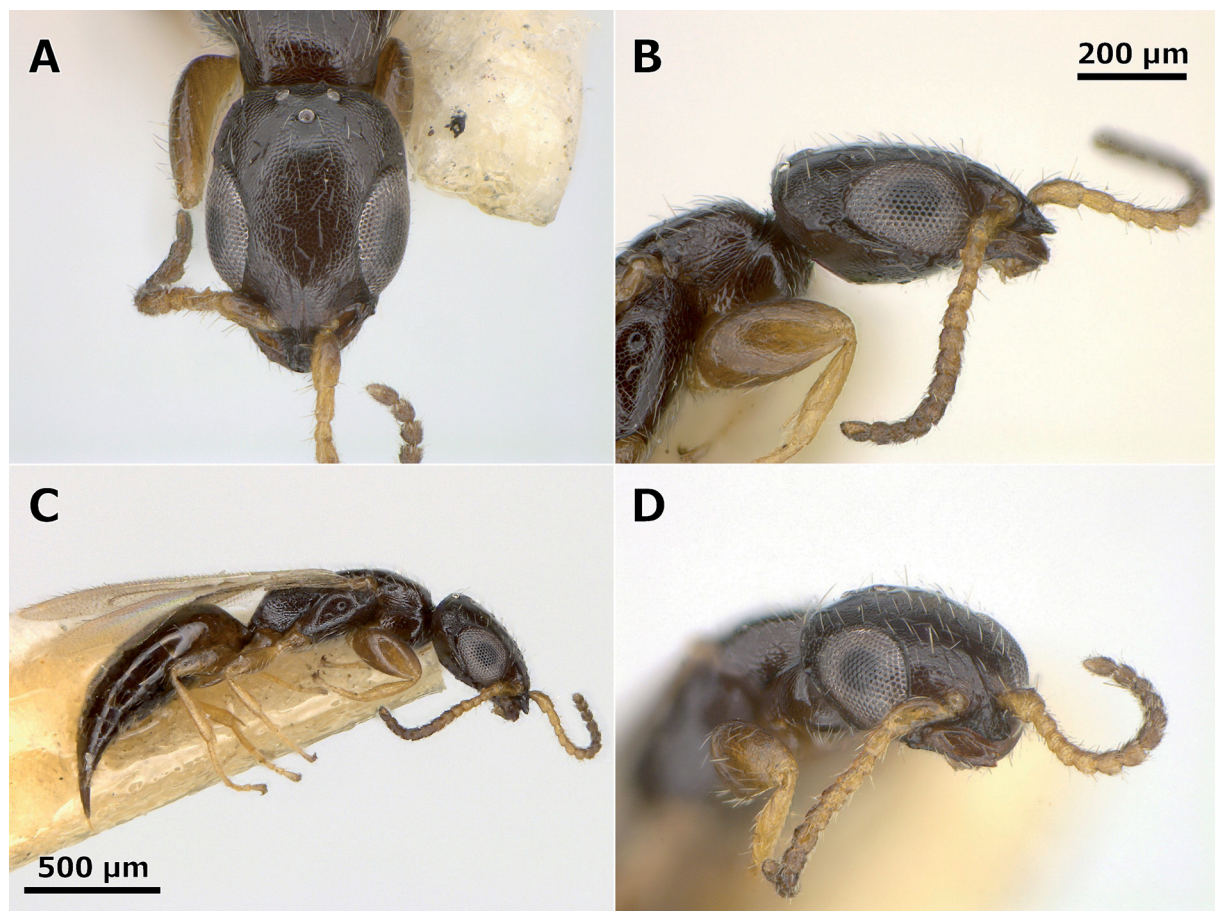


Fig. 47. *Sierola cirrata* sp. nov., holotype, ♀ (QM T262154). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

From the Latin '*cirratus*', 'fringed', referring to the array of small carinae around the clypeus.

Type material**Holotype**

AUSTRALIA – **Queensland** • ♀; Upper Clayton Gully, near Cunningham's Gap; elev. 400–600 m; 25 Apr. 1974; I. Naumann leg.; sweeping long grass; wet sclerophyll forest; QM T262154.

Description**Female**

HEAD. Clypeal process rounded triangular to trapezoidal, apex rounded; dorsally with a low, elongate medial carina, laterally microreticulate with irregular carinae; in profile evenly sloping, nearly straight. Mandible narrow to moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right to weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black to reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.32 mm; LM 0.70 mm; WH/LH 0.70; DH/LH 0.49; EV/HE 0.59; EV/WF 0.74; WF/HE 0.79; WH/WF 1.93; OOL/WOT 1.18; DM/LM 0.34; FL/FW 2.05; HFL/HFW 2.17; A3 L/W 1.00; 2R1 L/W 3.31.

Distribution

Queensland; known only from the holotype, collected in the southeast near the border with New South Wales.

Remarks

The basal wing cells each appear to have a single row of setae, but it is close to the anterior margin of the cells so they may appear mostly glabrous.

Sierola claniae sp. nov.

urn:lsid:zoobank.org:act:433FE20D-3EF0-433D-BAEF-FD8098E9B552

Figs 48–49

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Distinguished from most others by having the clypeus basally raised in a narrow, convex ridge, neither carinate nor entirely flat to the base. Separated from the similar, sympatric *S. clavicula* sp. nov. by having the clypeal basomedian ridge short, apical portion of clypeus flat and polished; head narrower and more quadrate in dorsal view, parallel-sided immediately posterior of the eyes; vein Rs reaching wing margin, cell 2R1 closed; and the propodeum with a broad polished median strip from base to declivity.

Etymology

Named for the apparent host, *Clania lewinii* (Westwood, 1855) (Lepidoptera: Psychidae; recorded as *C. tenuis* Rosenstock, 1885).

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Ballarat; 9 Apr. 1954; E.F. Riek leg.; ANIC 32-154820.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Black Mountain; 2 Jun. 1931; L.F. Graham leg.; ANIC • 1 ♀; Canberra; 18 Jan. 1980; D.F. Rentz leg.; ex swimming pool; ANIC. – **New South Wales** • 3 ♀♀; Royalla; 21 Mar. 1961; D.H. Colless leg.; ANIC • 1 ♀; Lake George Range, 18 km N by W of Bungendore; 15 Feb. 1982; J.F. Lawrence and A. Calder leg.; on *Xanthorrhoea australis*; ANIC. – **South Australia** • 1 ♀; Mt Lofty Rgs; N.B. Tindale leg.; SAMA 32-42903. – **Victoria** • 1 ♀; 18 km NW by N of Omeo; 28 Feb. 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC • 2 ♀♀; on moth *Clania tenuis*; P. Cameron leg. 1914–110; NHMUK 13379657.

Description

Female

HEAD. Clypeal process quadrate, apex broadly rounded or truncate; dorsally with a rounded carina dorsally, effaced towards apex (broadened apical portion flat); in profile evenly sloping, nearly straight. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong

teeth. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, or nearly absent, polished. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

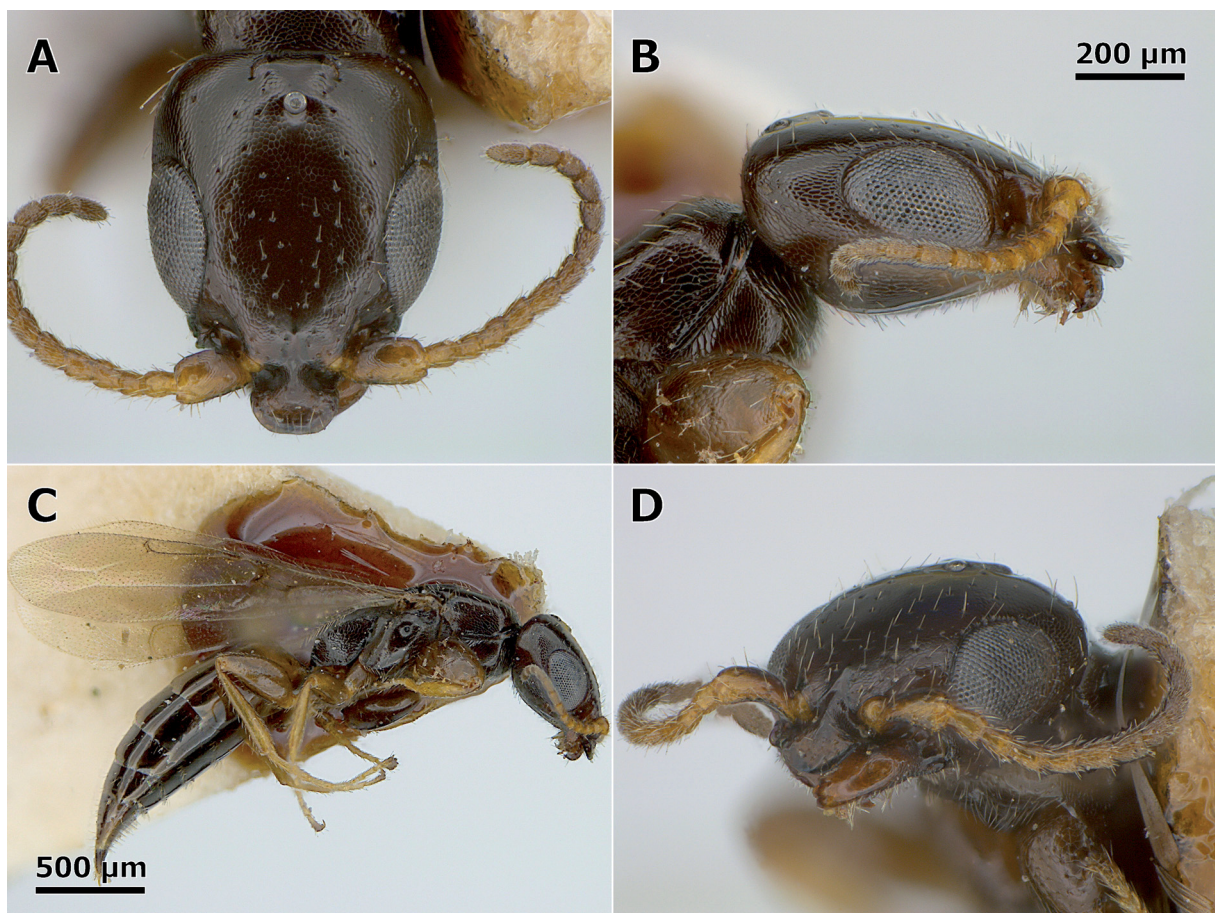


Fig. 48. *Sierola claniae* sp. nov., holotype, ♀ (ANIC 32-154820). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum narrowly glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown to orange. Coxae and femora brown, tibiae dark brown, trochanters, tarsi, and bands at bases and apices of tibiae orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.96 mm; LM 1.00 mm (0.76–1.03); WH/LH 0.78 (0.76–0.80); DH/LH 0.52 (0.52–0.54); EV/HE 0.65 (0.56–0.67); EV/WF 0.60 (0.57–0.64); WF/HE 1.08 (0.98–1.13); WH/WF 1.74 (1.70–1.81); OOL/WOT 1.28 (1.28–1.44); DM/LM 0.40; FL/FW 1.90 (1.83–2.04); HFL/HFW 2.38 (2.21–2.38); A3 L/W 1.43 (1.25–1.43); 2R1 L/W 2.67. N = 9.

Distribution

New South Wales, Victoria, Australian Capital Territory, and South Australia. Widely distributed in the southeast and relatively common.

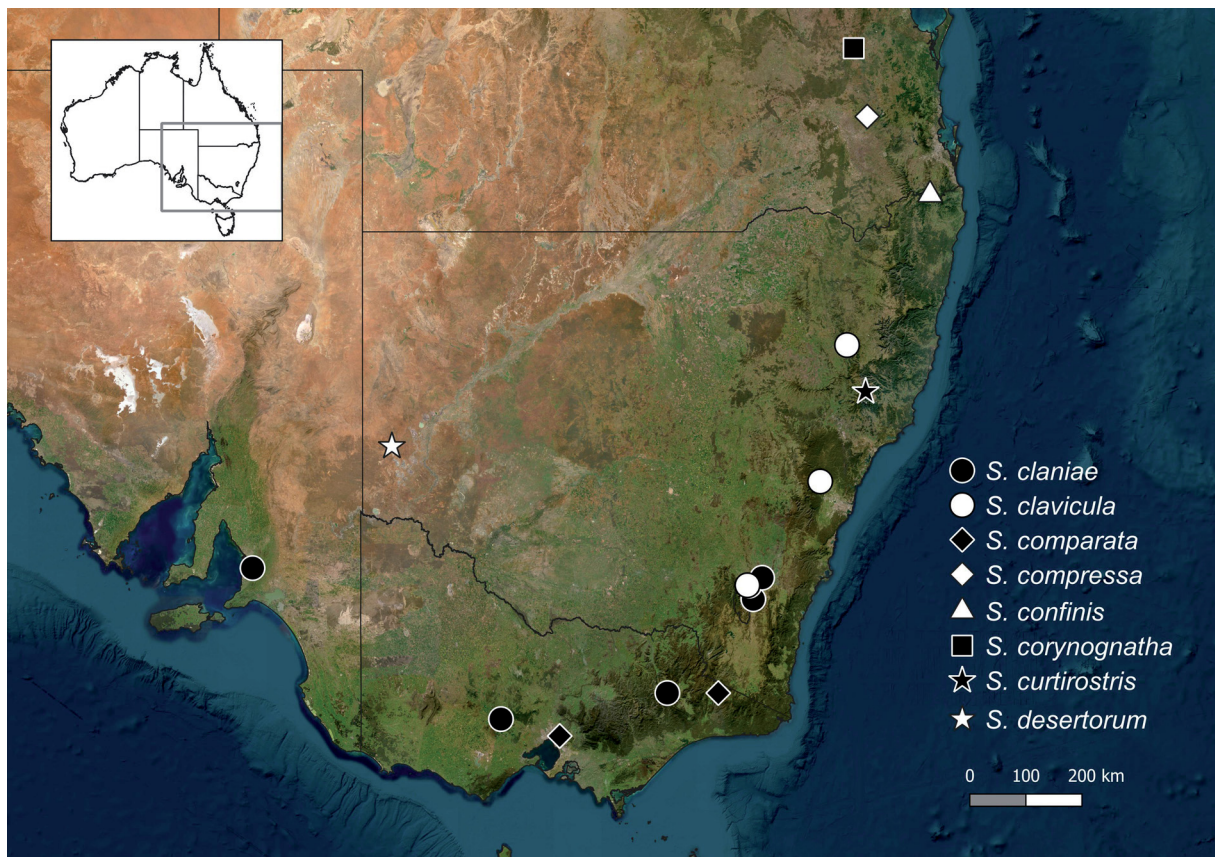


Fig. 49. Map of collection records of *Sierola claniae* sp. nov., *S. clavicula* sp. nov., *S. comparata* sp. nov., *S. compressa* sp. nov., *S. confinis* sp. nov., *S. corynognatha* sp. nov., *S. curtirostris* sp. nov., and *S. desertorum* sp. nov.

Remarks

Cameron labelled the NHMUK specimens *Sierola claniae* but never published the name. I have kept the name to avoid confusion, though neither of those (both mounted on one card) are designated as the holotype.

***Sierola clavicula* sp. nov.**

urn:lsid:zoobank.org:act:F0B3DD68-C254-4449-A666-5D14A7A67DA2

Figs 49–50

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Distinguished from most others by having the clypeus basally raised in a narrow, convex ridge, neither carinate nor entirely flat to the base. Separated from the similar, sympatric *S. claniae* sp. nov. by having the clypeal ridge extending to the apex, the entire clypeus dull and microreticulate; head broader and more circular in dorsal view, narrowed immediately posterior of eyes; vein Rs not reaching the wing margin, cell 2R1 open; and propodeum lacking a median polished area.

Etymology

From the Latin ‘*clavicula*’, ‘key’, referring to the round head with a projecting clypeus appearing like a keyhole in dorsal view. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **Australian Capital Territory** • ♀; Canberra, Cook, 8 Moss Street; 35.261° S, 149.0591° E; elev. 632 m; 30 Oct. 2010; C. Carr, S. Kirk, J. McCormick, R. Rougerie and J. Sones leg.; BOLD: sample ID BIOUG00859-F11, process ID HYAS252-11, BIN AAY6880; ANIC 32-154821.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; same data as for holotype; BOLD: process ID AACTA5403-20, BIN AAY6880; ANIC. – **New South Wales** • 1 ♀; 7.5 km NE of Bilpin, Blue Mts; 23 Oct. 1982; N.W. Rodd leg.; AM K.628963 • 1 ♀; Cockburn River Camp; 31.0522° S, 151.1441° E; elev. 461 m; 10 Dec. 2019; J.B. Dorey leg.; sweeping *Brachychiton*, sclerophyll forest; BPBM.

Description**Female**

HEAD. Clypeal process quadrate, apex truncate; dorsally rounded, convex, lacking a carina; in profile evenly sloping, nearly straight. Mandible broad, ventral margin slightly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave, corners strongly rounded off; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate. Gena ventral to eye flat; sculpture mostly even,

small area of colliculate sculpture along ventral eye margin. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible dark basally, apical half reddish brown. Coxae and femora dark brown to black, basal half of protibia brown, apical half yellow, meso- and metatibiae yellowish tinged with brown, trochanters and tarsi yellow.

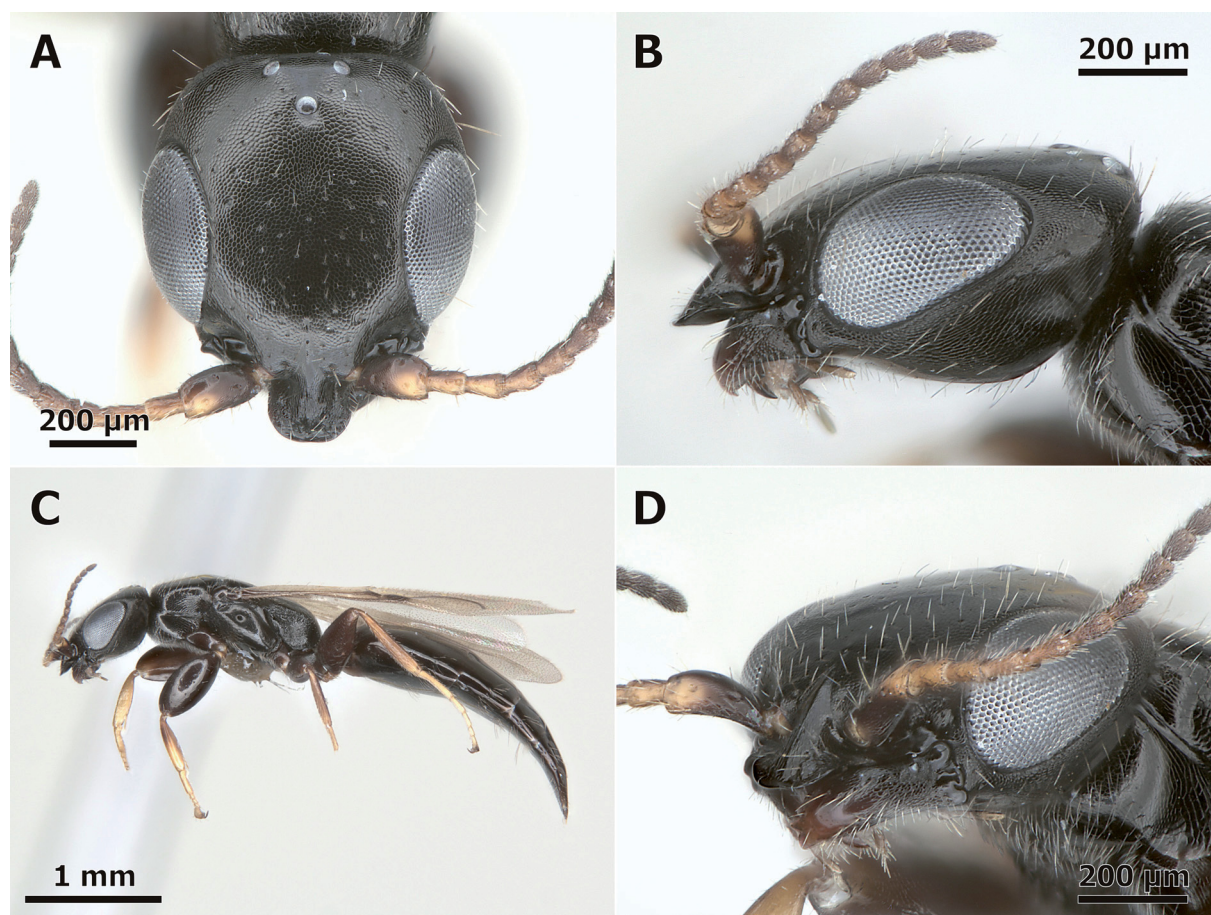


Fig. 50. *Sierola clavicula* sp. nov., holotype, ♀ (ANIC 32-154821). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane weakly infusate. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 2.75 mm; LM 1.42 mm (1.07–1.42); WH/LH 0.84 (0.84–0.89); DH/LH 0.49 (0.49–0.53); EV/HE 0.45 (0.37–0.45); EV/WF 0.45 (0.38–0.46); WF/HE 1.01 (0.97–1.01); WH/WF 1.76 (1.76–1.82); OOL/WOT 1.27 (0.98–1.27); DM/LM 0.36; FL/FW 1.95 (1.91–2.06); HFL/HFW 2.39 (2.21–2.43); A3 L/W 1.51 (1.35–1.51); 2R1 L/W 2.89. N = 4.

Distribution

New South Wales and Australian Capital Territory; known from four specimens, all recent.

Sierola collina sp. nov.

urn:lsid:zoobank.org:act:0D6F58D2-08B0-42B0-A3A1-032D80245841

Figs 41, 51

Diagnosis

A member of the *longifacies* species group, characterized by the very narrow, compressed head (WH/LH 0.67–0.68), flat dorsally and long posterior to the eyes, short clypeus, short antenna (hardly reaching past the head), lateral ocelli separated from the vertex crest, and ocellar triangle strongly acute. Separated from similar species by having the head moderately deep for the group, $DH/LH \geq 0.47$, mandible not twisted, clypeal carina prolonged posteriorly beyond the antennal sockets, vertex straight in dorsal view, ocellar triangle about equilateral rather than more elongate, lateral ocelli separated from the vertex crest by about their diameter, and basal wing cells setose.

Etymology

From the Latin ‘*collinus*’, ‘hilly’, referring to the type locality in the foothills of the Iron Range.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; 9 km W by N of Mt Tozer; 12°44' S, 143°08' E; 30 Jun.–7 Jul. 1986; J.C. Cardale leg.; Malaise trap/ethanol; ANIC 32-154822.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Heathlands dump; 11°45' S, 142°35' E; 22 Mar.–25 Apr. 1992; T. McLeod leg.; Malaise #2, open forest; ANIC • 1 ♀; same data as for preceding; 25 Apr.–7 Jun. 1992; ANIC.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a low carina, prolonged posteriorly well beyond antennal sockets to about $\frac{1}{3}$ eye height; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible broad, not narrowed from base, ventral margin nearly straight; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons

microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of long erect setae, those on S5–6 about twice as long as preceding. Sixth sternum broadly glabrous medially, with sparse setae laterally.

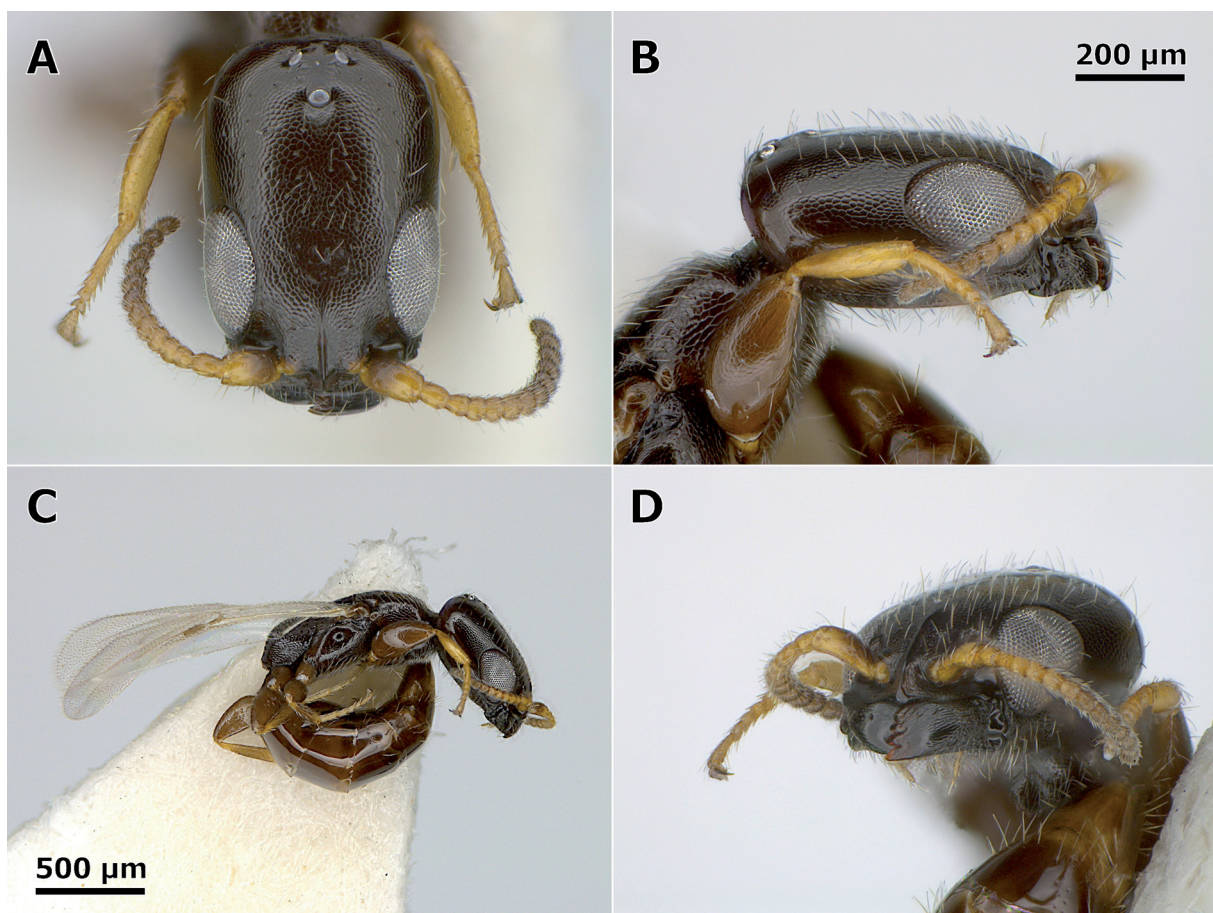


Fig. 51. *Sierola collina* sp. nov., holotype, ♀ (ANIC 32-154822). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing with intermediate setation, each with two complete rows and a few additional setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.51 mm; LM 0.82 mm (0.70–0.82); WH/LH 0.67 (0.67–0.68); DH/LH 0.49 (0.49–0.50); EV/HE 1.14 (1.06–1.17); EV/WF 1.25 (1.21–1.25); WF/HE 0.91 (0.88–0.95); WH/WF 1.91 (1.84–1.93); OOL/WOT 2.44 (2.44–2.47); DM/LM 0.36; FL/FW 2.00 (2.00–2.15); HFL/HFW 2.18 (2.18–2.29); A3 L/W 1.08 (0.92–1.08); 2R1 L/W 2.69. N = 3.

Distribution

Queensland; known from three specimens collected on the Cape York Peninsula.

Sierola comparata sp. nov.

urn:lsid:zoobank.org:act:CCC92E54-7735-4FE6-81FC-9940FBC348D7

Figs 49, 52

Diagnosis

Part of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Nearly identical to *S. adalaidensis* sp. nov., together distinguished from others by having the vertex narrowly carinate between the lateral ocelli and mandible strongly convex outwardly, the second ventral tooth prominent. Separated by the shorter, truncate clypeus, the more ventrally concave mandible, and head longer posterior of the eye.

Etymology

From the Latin '*comparatus*', 'comparing between two things', referring to the close similarity between the two relatively widely separated collecting areas.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Deddick River, 2 km WSW of Deddick; 37°05' S, 148°27' E; 3 Dec. 1985; A.L. Yen, M.S. Harvey and P.K. Lillywhite leg.; beat sample; MVMA HYM-86621.

Paratype

AUSTRALIA – **Victoria** • 1 ♀; Eastern Freeway Extension Survey Site #8; 7 Sep. 1989; P. Lillywhite and K. Ebert leg.; beat sample: *Acacia mearnsii*, 8/5; MVMA HYM-86603.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with second ventral tooth largest. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer.

Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

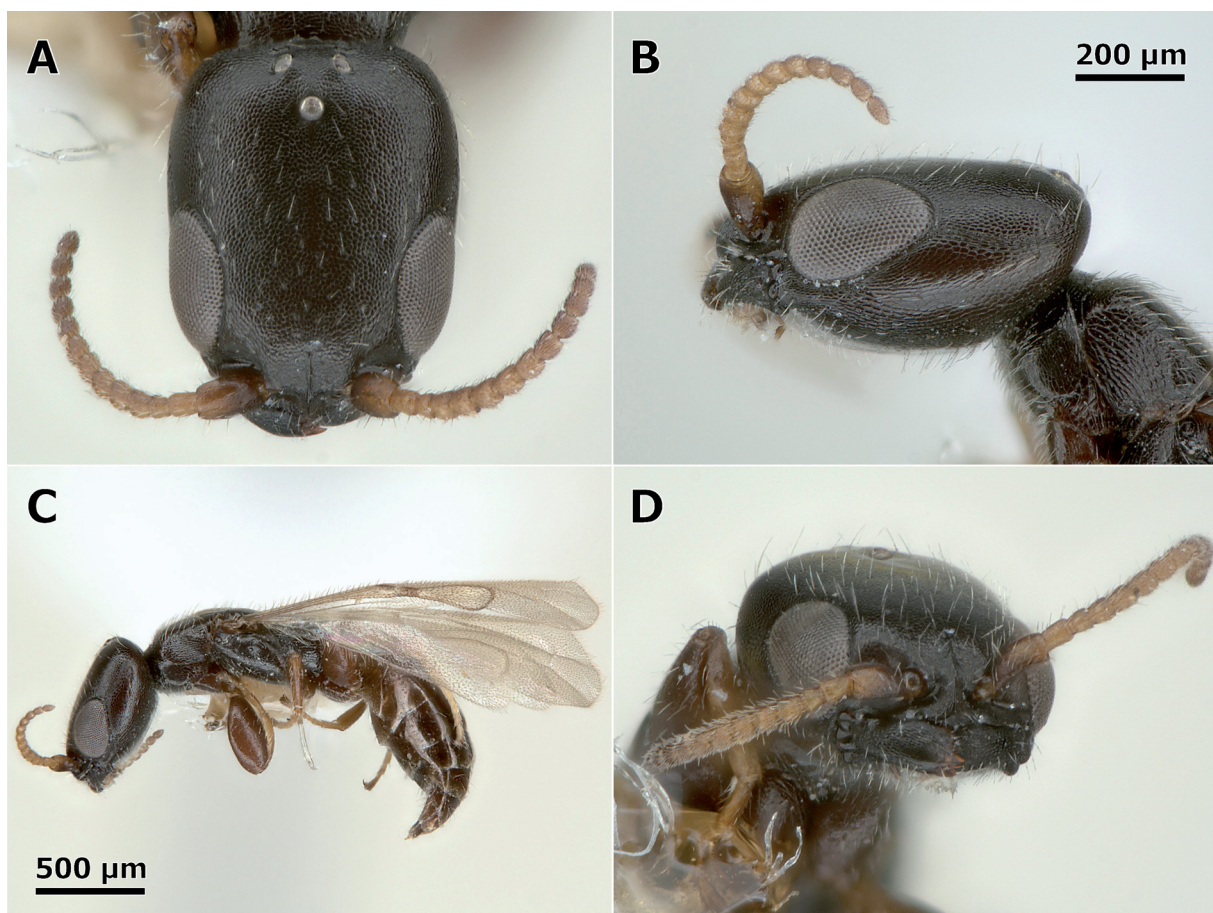


Fig. 52. *Sierola comparata* sp. nov., holotype, ♀ (MVMA HYM-86621). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow-brown. Mandible black. Legs all brown.

WINGS. Membrane weakly infusate. Basal cells of fore wing with intermediate setation, each with two complete rows and a few additional setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.90 mm; LM 0.97 mm; WH/LH 0.74; DH/LH 0.53; EV/HE 1.06; EV/WF 1.02; WF/HE 1.05; WH/WF 1.72; OOL/WOT 1.96; DM/LM 0.34; FL/FW 1.97; HFL/HFW 2.09; A3 L/W 0.88; 2R1 L/W 2.60.

Distribution

Victoria; known from two specimens.

Remarks

See Remarks under *S. adelaidensis* sp. nov.

***Sierola compressa* sp. nov.**

urn:lsid:zoobank.org:act:B4F641AC-5DFF-479E-8930-AB570FD4D22C

Figs 49, 53

Diagnosis

Namesake of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely to densely setose. Distinguished from related species by the strongly acute ocellar triangle and clypeus recurved ventrally in profile. The frons is also very dull with a velvety appearance, different from the granular sculpture of others.

Etymology

Referring to the extremely flattened body.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; near Westcott Plain, Bunya Mts National Park; 26°52' S, 151°34' E; 6–7 Oct. 1984; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154823.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, obliquely truncate subapically, with dorsal tooth broad but short, on dorsal surface, indistinct, three ventral teeth pointed and equal. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture microreticulate and extremely dull, velvety. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli

distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye flat; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression shallow, rounded. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

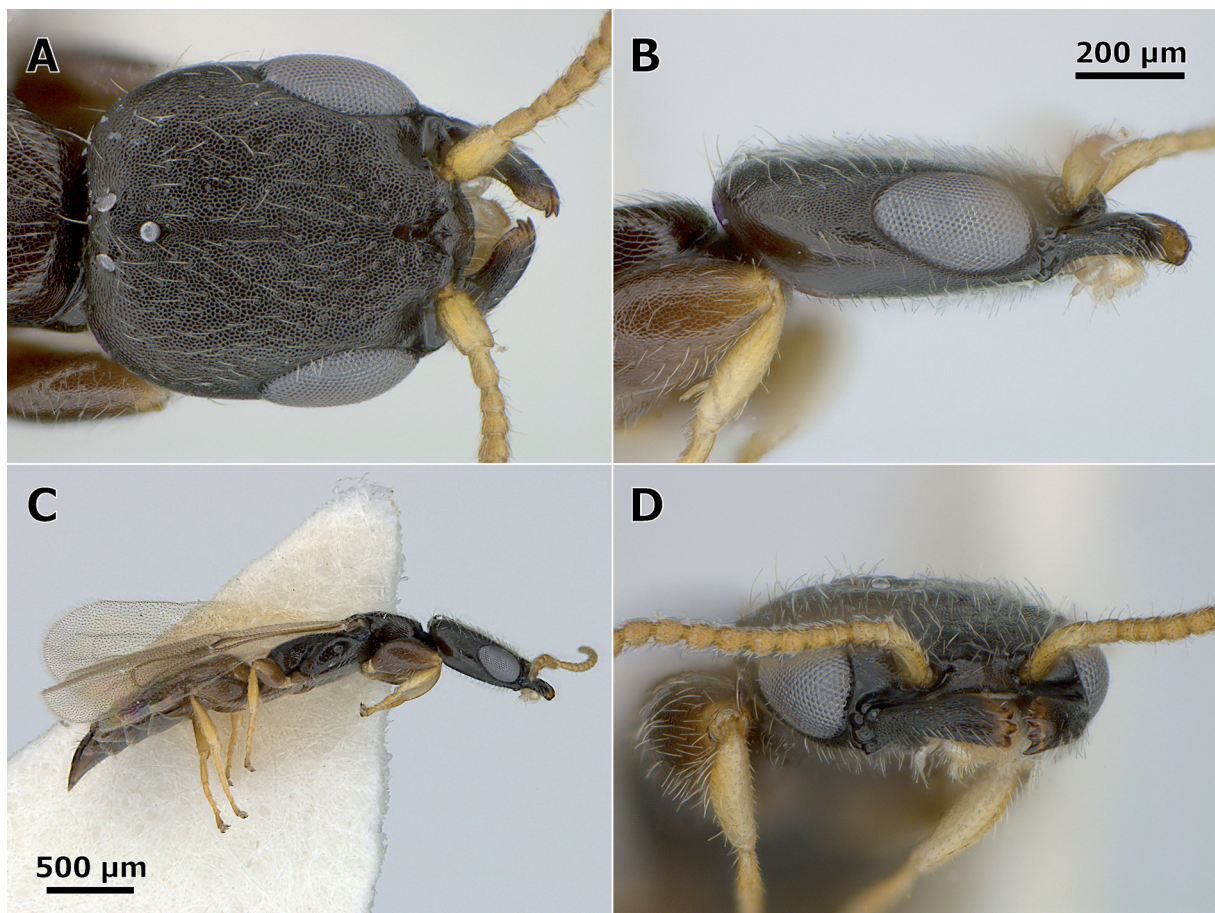


Fig. 53. *Sierola compressa* sp. nov., holotype, ♀ (ANIC 32-154823). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna entirely dull yellow. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.90 mm; LM 1.01 mm; WH/LH 0.91; DH/LH 0.37; EV/HE 1.00; EV/WF 0.72; WF/HE 1.38; WH/WF 1.53; OOL/WOT 2.08; DM/LM 0.29; FL/FW 1.94; HFL/HFW 2.00; A3 L/W 0.91; 2R1 L/W 2.28.

Distribution

Queensland; known only from the holotype, collected in the Bunya Mountains.

Sierola confecta sp. nov.

urn:lsid:zoobank.org:act:088D91DF-5722-4D8E-9351-E894D0F6C931

Figs 14, 54

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. United with *S. contracta* sp. nov., *S. paracontracta* sp. nov., *S. parallela* sp. nov., *S. pericontracta* sp. nov., and *S. subcontracta* sp. nov. in having the long setae brown, scrobal carinae converging but not fused, clypeus apically with a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Forming a well-defined group with *S. paracontracta* and *S. parallela*, distinguished by the strongly obtuse ocellar triangle and carinate occipital margin; separated from the former by the more strongly downcurved clypeus, from the latter by the slightly narrower clypeal ridge, and from both by the hyaline fore wing.

Etymology

From the Latin '*confectus*', 'completed' or 'assembled', referring to the discovery of this species late in preparation of this manuscript as the 'missing piece' Southeastern representative of the *contracta* subgroup.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Shoalhaven River 30 km W of Nowra; 25 Dec. 1986; G.A. Holloway leg.; AM K.628964.

Description

Female

HEAD. Clypeal process semicircular, apex broadly rounded; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin not

carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate. Gena ventral to eye flat; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Moderately shining with distinct microreticulation over all terga, T4–6 punctate and conspicuously setose. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with sparse setae laterally.

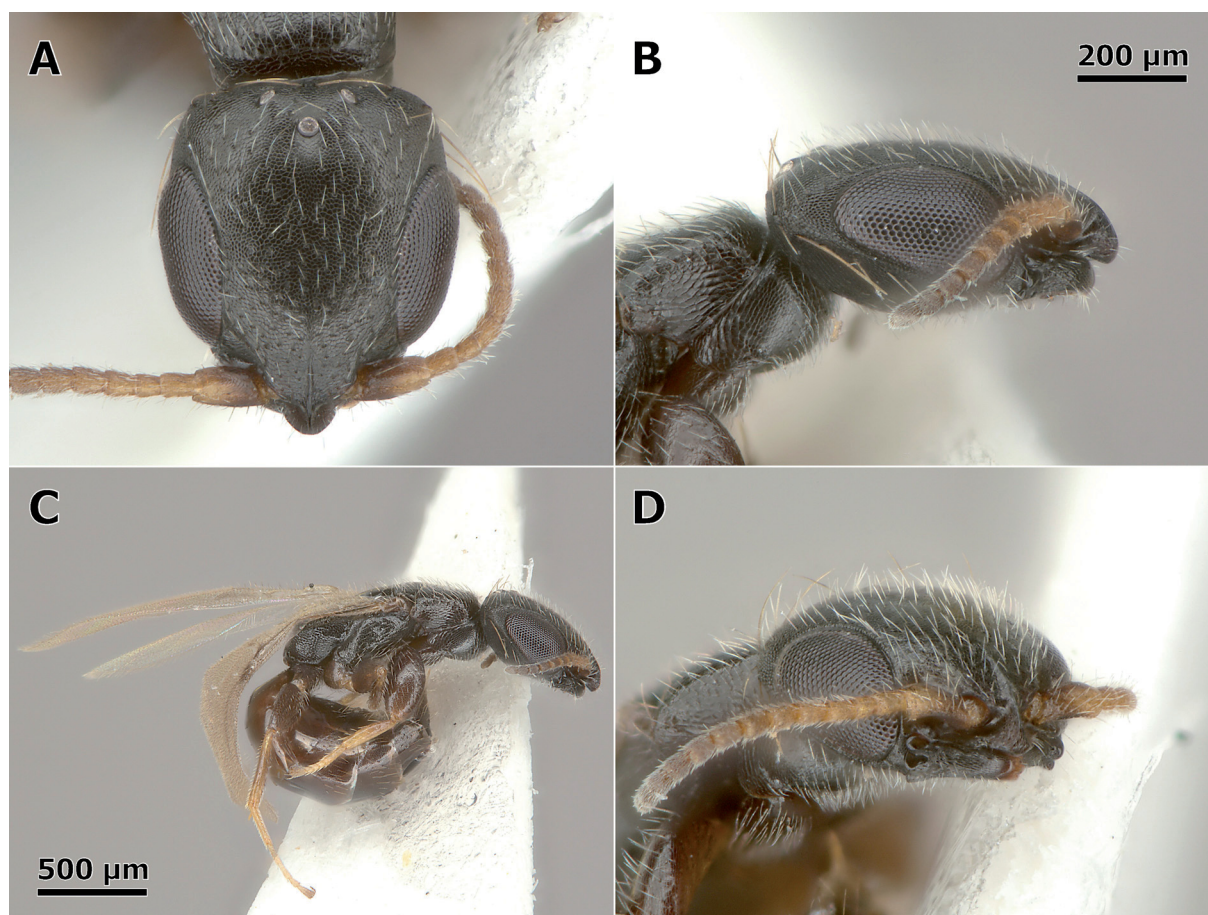


Fig. 54. *Sierola confecta* sp. nov., holotype, ♀ (AM K.628964). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M elongate triangular, posterodistal corner extended into a point. Distal portion of vein Rs short, weakly curved, remote from wing margin (traceable to margin as a fold in certain lights).

MEASUREMENTS. LFW 1.48 mm; LM 0.79 mm; WH/LH 0.85; DH/LH 0.51; EV/HE 0.40; EV/WF 0.44; WF/HE 0.90; WH/WF 1.78; OOL/WOT 0.98; DM/LM 0.35; FL/FW 1.83; HFL/HFW 2.14; A3 L/W 1.08; 2R1 L/W 2.65.

Distribution

New South Wales; known only from the holotype.

Remarks

See Remarks under *S. parallela* sp. nov.

***Sierola confinis* sp. nov.**

urn:lsid:zoobank.org:act:0F175AEC-E96C-44FB-82D6-7458CAC3D604

Figs 49, 55

Diagnosis

A member of the *longifacies* species group, characterized by the very narrow, compressed head, somewhat flat dorsally and long posterior to the eyes, short clypeus, short antenna (hardly reaching past the head), lateral ocelli separated from the vertex crest, and ocellar triangle strongly acute. Separated from similar species by having the head relatively deep for the group, DH/LH 0.52, mandible slightly twisted, clypeal carina not prolonged posteriorly above the antennal sockets, vertex slightly concave in dorsal view, ocellar triangle very strongly acute, lateral ocelli separated from the vertex crest by about their diameter, and basal wing cells setose.

Etymology

From the Latin '*confinis*', 'bordering', from the collection of the type series in the Border Ranges between Queensland and New South Wales.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Lever's Plateau, via Rathdowney; elev. 640–670 m; 1 Nov. 1975; I. Naumann leg.; sweeping low vegetation in rainforest; QM T262155.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; same data as for holotype; QM.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly

concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view broadly, shallowly concave, corners strongly rounded off; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete.

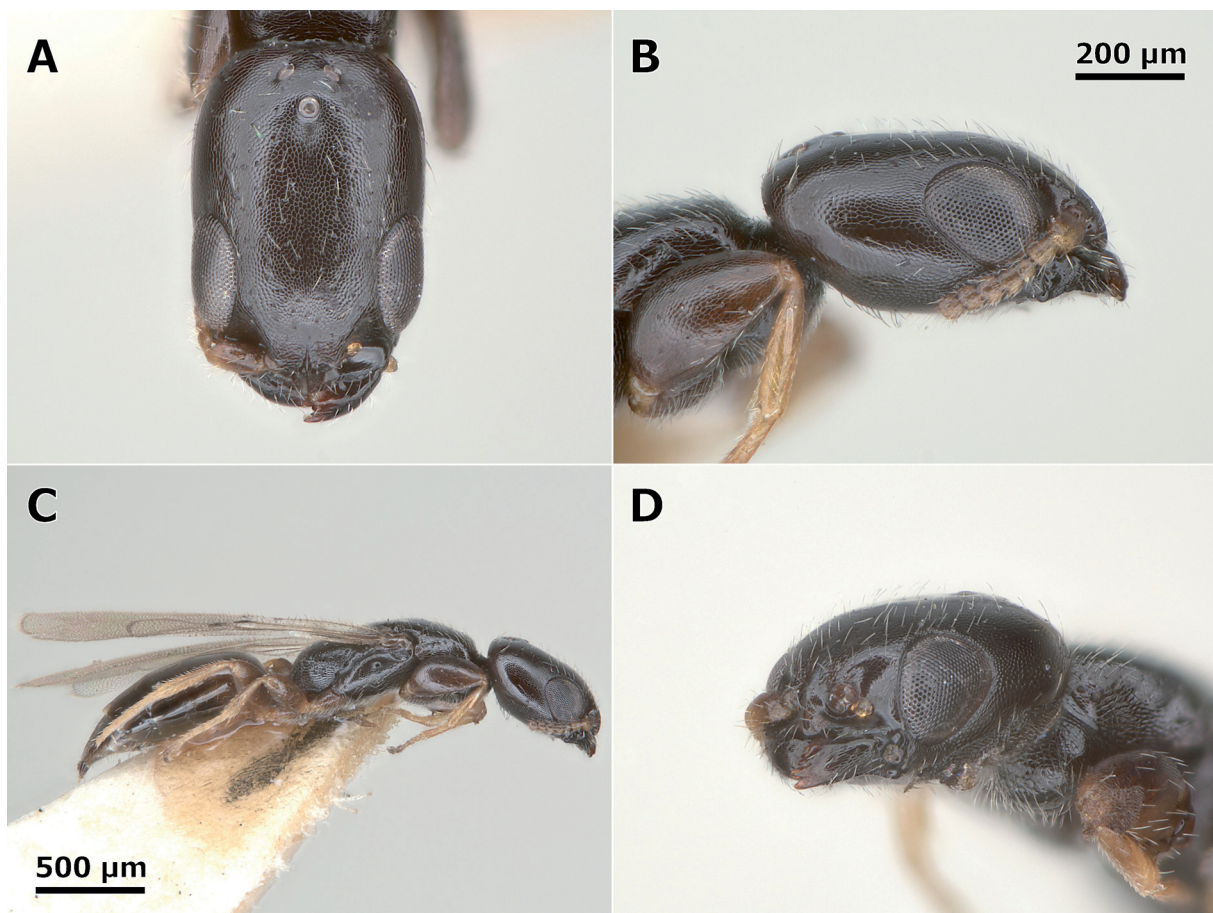


Fig. 55. *Sierola confinis* sp. nov., holotype, ♀ (QM T262155). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S5–6 each with a pair of moderately long erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose, or sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.89 mm; LM 0.95 mm; WH/LH 0.66; DH/LH 0.52; EV/HE 1.29; EV/WF 1.25; WF/HE 1.03; WH/WF 1.72; OOL/WOT 2.24; DM/LM 0.35; FL/FW 2.03; HFL/HFW 2.09; A3 L/W 1.00; 2R1 L/W 2.70.

Distribution

Queensland, undoubtedly also occurs in New South Wales; known only from two specimens collected together.

Remarks

The holotype has the basal wing cells distinctly more densely setose than the paratype, particularly at the apex of R.

Sierola contracta sp. nov.

urn:lsid:zoobank.org:act:20D6B5E0-2B46-4793-A610-35F52782262F

Figs 56–57

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. United with *S. confecta* sp. nov., *S. paracontracta* sp. nov., *S. parallela* sp. nov., *S. pericontracta* sp. nov., and *S. subcontracta* sp. nov. in having the long setae brown, scrobal carinae converging but not fused, clypeus apically with a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Separated from the first four by the narrower head (WH/LH ~0.80) with posterior corners strongly rounded off, flat portion of the anterior clypeus distinct and rather broad, and frons punctation sparser posterior of the eyes with much longer setae (setae about twice as long as the medial flagellum width); and from the last by the low carina on the anterior frons, mandible entirely black, and fore wing evenly tinged with yellow.

Etymology

From the Latin '*contractus*', 'narrowed', referring to the clypeal margins converging but not meeting in a sharp carina.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; New Beach 24 mi. S of Carnarvon; 7 Oct. 1969; H. Evans and R.W. Matthews leg.; UCRC 537324.

Description

Female

HEAD. Clypeal process semicircular, apex truncate; flat with a low carina dorsally, narrowing to a flat ridge on anterior face, antennal scrobes carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about twice as long as flagellar width or more. Frons with shallow punctures, dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-

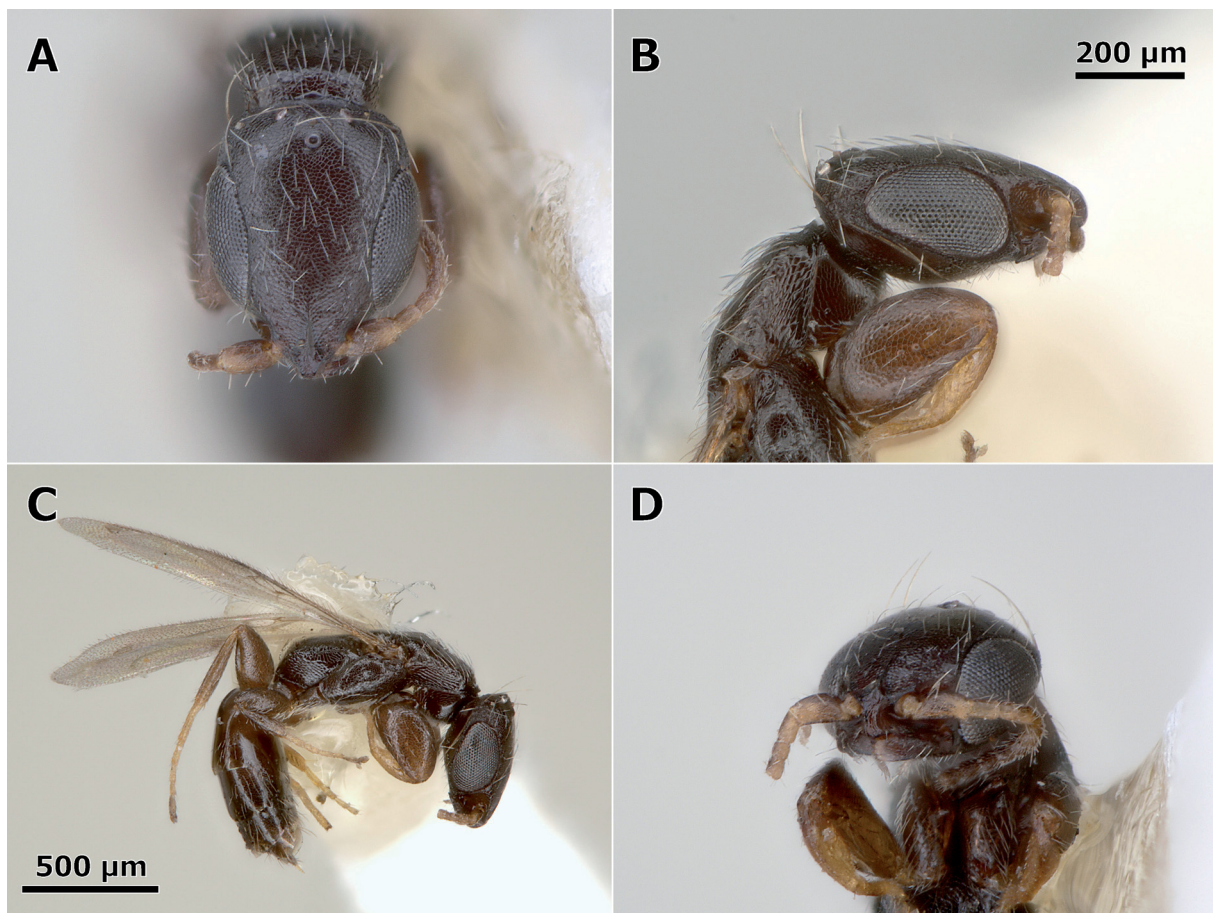


Fig. 56. *Sierola contracta* sp. nov., holotype, ♀ (UCRC 537324). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga, apical tergites punctate laterally. S3–5 each with a pair of long erect black setae near posterior margin.

COLOR. Body entirely dark brown to black. Antenna all brown except scape pale on apical third. Mandible black. Coxae, trochanters, and femora dark brown, tibiae brown, tarsi yellow.

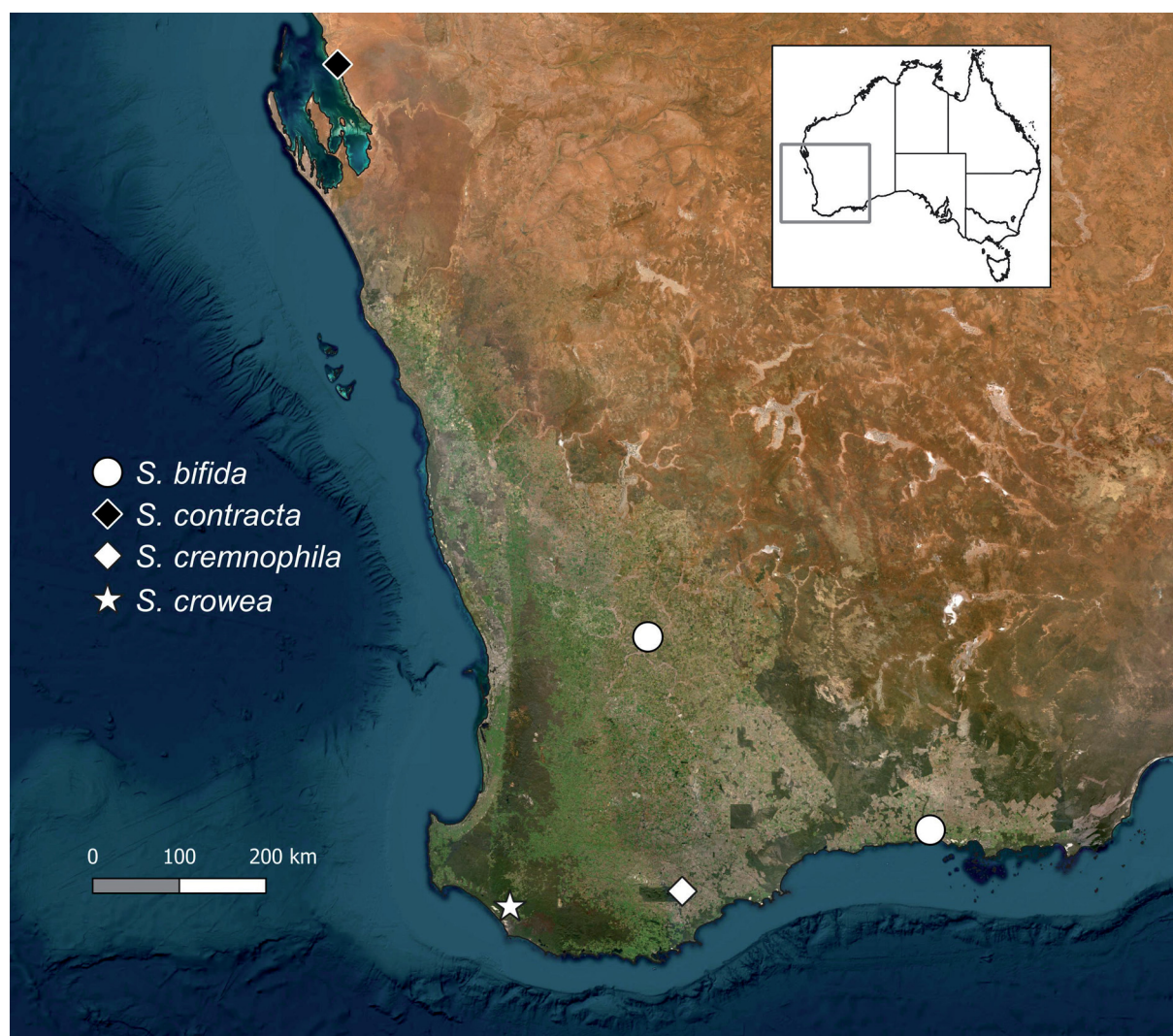


Fig. 57. Map of collection records of *Sierola bifida* sp. nov., *S. contracta* sp. nov., *S. cremnophila* sp. nov., and *S. crowea* sp. nov.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.44 mm; LM 0.80 mm; WH/LH 0.80; DH/LH 0.51; EV/HE 0.40; EV/WF 0.50; WF/HE 0.79; WH/WF 1.86; OOL/WOT 0.83; DM/LM 0.35; FL/FW 1.75; HFL/HFW 1.93; A3 L/W 1.06; 2R1 L/W 3.50.

Distribution

Western Australia; known only from the holotype, collected on the central west coast near Shark Bay.

Remarks

The species of this complex are largely allopatric, but so far each is only known from a single specimen. See also Remarks under *S. parallela* sp. nov.

Sierola corynognatha sp. nov.

urn:lsid:zoobank.org:act:4AF29CCD-AD74-44C4-8398-CAD67D5A969D

Figs 49, 58

Diagnosis

Among species with the basal wing cells sparsely setose, mandible black, and head convex dorsally, forming a species pair with *S. sinuata* sp. nov., united by the unusual sinuate mandible (bent mesally near the base to form an outward concavity, apical half convex and swollen). Distinguished by the stripe of modified sculpture on the median frons (cellules greatly elongated, distinctly different from the round cellules of the rest of the head), head dorsally more strongly convex, lateral ocelli nearly touching the vertex crest, legs mostly yellow with the femora tinged brown, and in the head dimensions.

Etymology

From the Greek ‘*koryne*’, ‘club’, + *gnathos*’, ‘jaw’, referring to the apically swollen mandible. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Mundubbera; May 2000; C. Freebairn leg.; Malaise trap; UCRC 154014.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; bent inwards and conspicuously concave externally just past base, apical half outwardly convex and slightly swollen, outwardly coriaceous in median concavity, polished at base, apex somewhat shining but with distinct, fine microsculpture; in ventral view sinuate. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular (with distinct strip of dense lineate sculpture between the median ocellus and clypeus). Vertex in dorsal view more or less straight; occipital margin not

carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye concave; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with an apical band of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

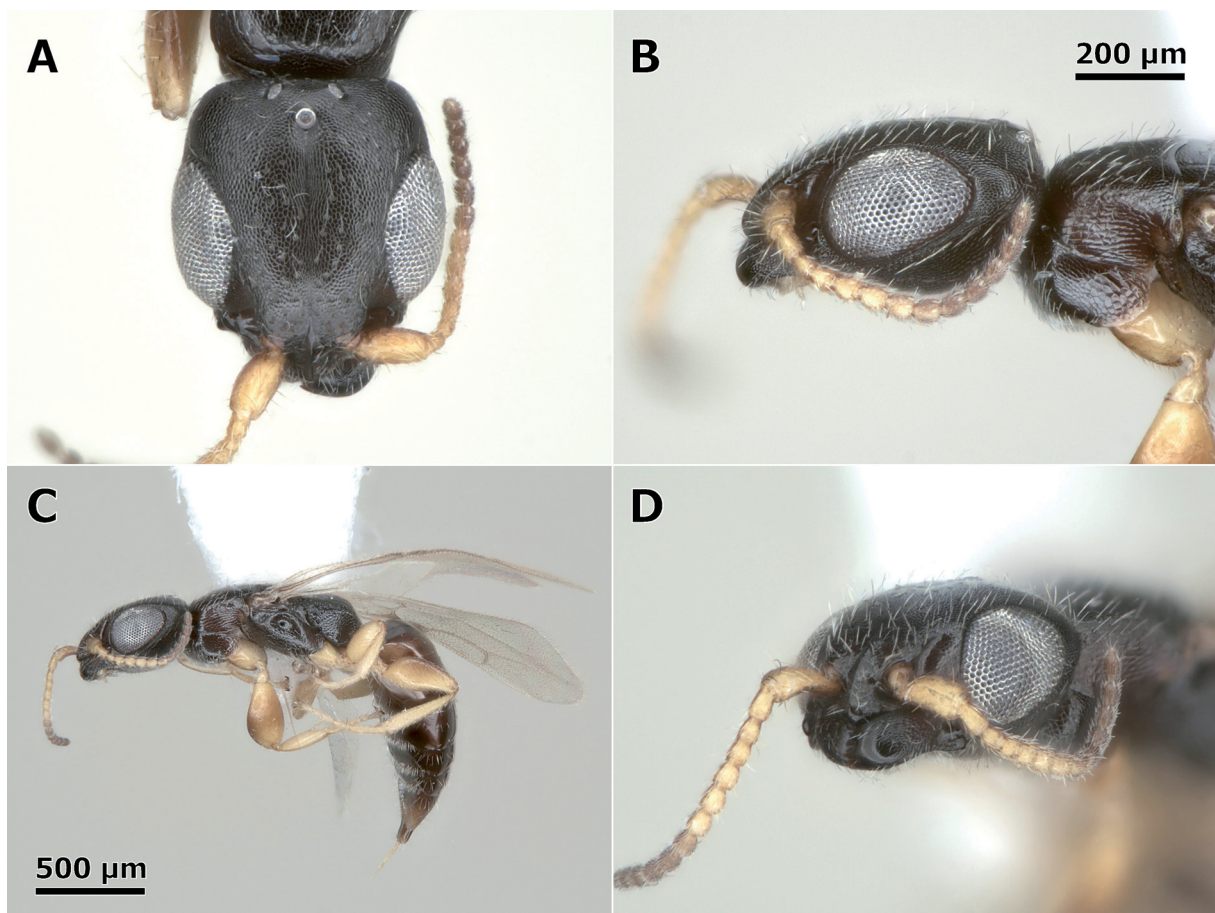


Fig. 58. *Sierola corynognatha* sp. nov., holotype, ♀ (UCRC 154014). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black (metasomal terga with slightly paler W-shaped marks). Antenna yellow, apical flagellomeres tinged with brown. Mandible black. Legs all yellow except dorsal margins of femora tinged with brown.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.70 mm; LM 0.90 mm; WH/LH 0.88; DH/LH 0.56; EV/HE 0.46; EV/WF 0.50; WF/HE 0.93; WH/WF 1.87; OOL/WOT 1.02; DM/LM 0.37; FL/FW 1.97; HFL/HFW 2.12; A3 L/W 1.21; 2R1 L/W 2.67.

Distribution

Queensland; known only from the holotype, collected in the southeast interior.

Sierola cremnophila sp. nov.

urn:lsid:zoobank.org:act:D72EC25A-10DA-4B0B-B597-7425519ADCEB

Figs 57, 59

Diagnosis

A distinctive species, recognizable by the combination of very broad, parallel-sided, slightly twisted mandible; lateral ocelli separated from the vertex by about their length; sparsely setose basal wing cells; and somewhat short clypeus, weakly curved in profile with the apical angle acute. Nearly identical to *S. adversa* sp. nov., separated by the straight, truncate anterior clypeal margin; shining, finely microreticulate frons sculpture; and lower OOL/WOT.

Etymology

From the Greek ‘*kremnos*’, ‘cliff’, + ‘*phila*’, ‘loving’, referring to the collection of the type at Bluff Knoll.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Stirling Ranges, near Bluff Knoll; Nov.–Dec. 1996; Austin, Harvey and Main leg.; above creek bed, Malaise trap; SAMA.

Description

Female

HEAD. Clypeal process trapezoidal, apex truncate; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile elongate, evenly curved, apex acute. Mandible broad, not narrowed from base, ventral margin nearly straight; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex

ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–5 each with an apical band of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora brown, all tibiae and tarsi yellow-brown.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

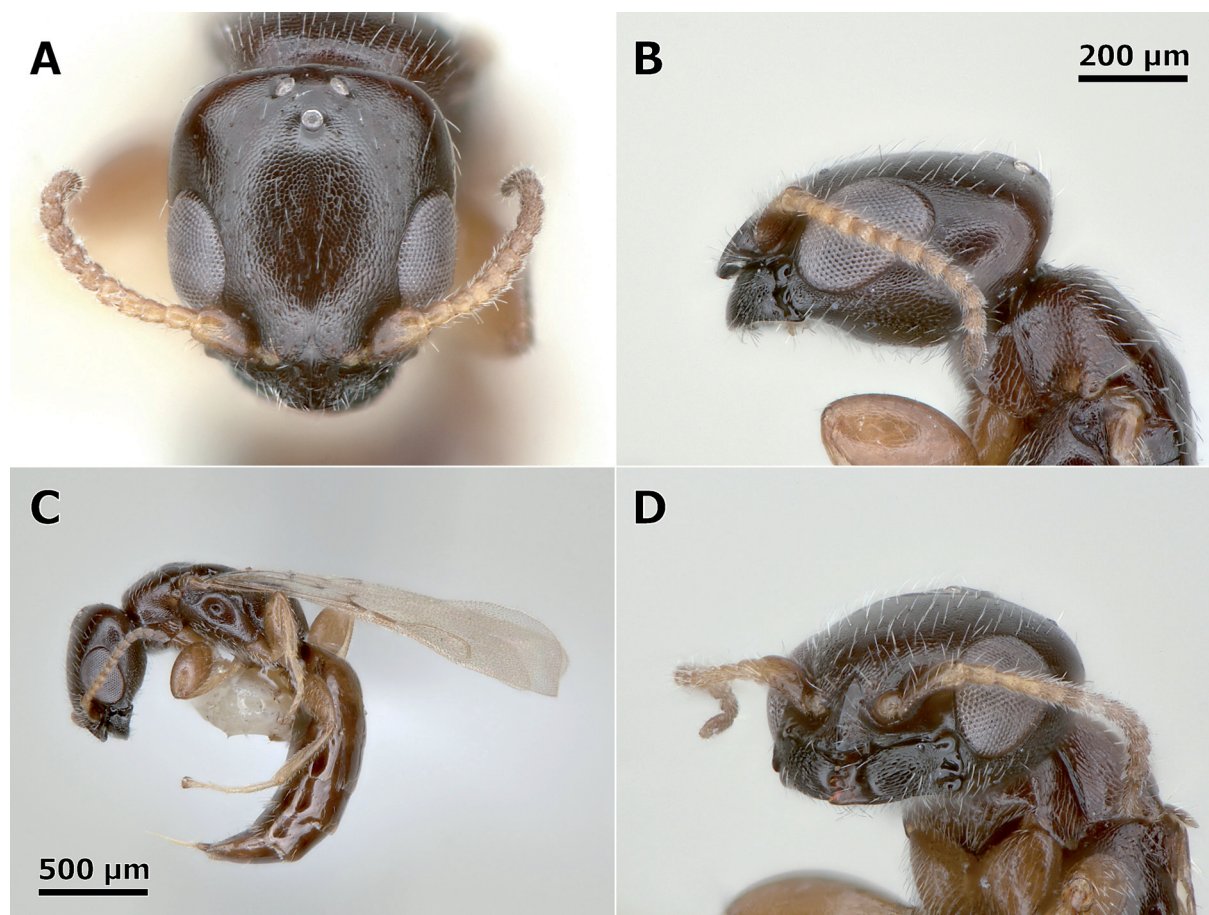


Fig. 59. *Sierola cremnophila* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.91 mm; LM 0.92 mm; WH/LH 0.84; DH/LH 0.56; EV/HE 0.72; EV/WF 0.63; WF/HE 1.13; WH/WF 1.70; OOL/WOT 1.63; DM/LM 0.41; FL/FW 2.00; HFL/HFW 2.00; A3 L/W 1.08; 2R1 L/W 2.83.

Distribution

Western Australia; known only from the holotype, from the Stirling Ranges.

Remarks

See Remarks under *S. adversa* sp. nov.

Sierola crinita sp. nov.

urn:lsid:zoobank.org:act:1B0657E1-1E13-4880-856B-652A95EA42A6

Figs 14, 60

Diagnosis

Among species with the head convex dorsally, basal wing cells setose, and mandible black, easily recognized by the combination of cell 2R1 open (vein Rs not reaching the wing margin), narrow mandible, and malar space elongate, about $\frac{1}{3}$ as long as the mandible base. Closest to *S. regulus* sp. nov., differing in the narrower head and ocellar triangle right to weakly acute.

Etymology

From the Latin ‘*crinitus*’, long-haired, referring to the conspicuous setae of the metasoma.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham Dam, 117 Saltwood Road; 41.0234° S, 147.2119° E; 15 Jan. 2024; S.J. Grove leg.; Malaise trap 2; TMAG F153000.

Paratype

AUSTRALIA – **New South Wales** • 1 ♀; Blue Mts near Hampton; 3 Sep. 1978; B.J. Day leg.; from grass in pine forest; AM K.628962.

Description

Female

HEAD. Clypeal process rounded triangular to elongate trapezoidal, apex rounded or truncate; dorsally with a rounded carina, effaced towards apex; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute to weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to

eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black (sometimes slightly reddish on apical half). Coxae, trochanters, and femora dark brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

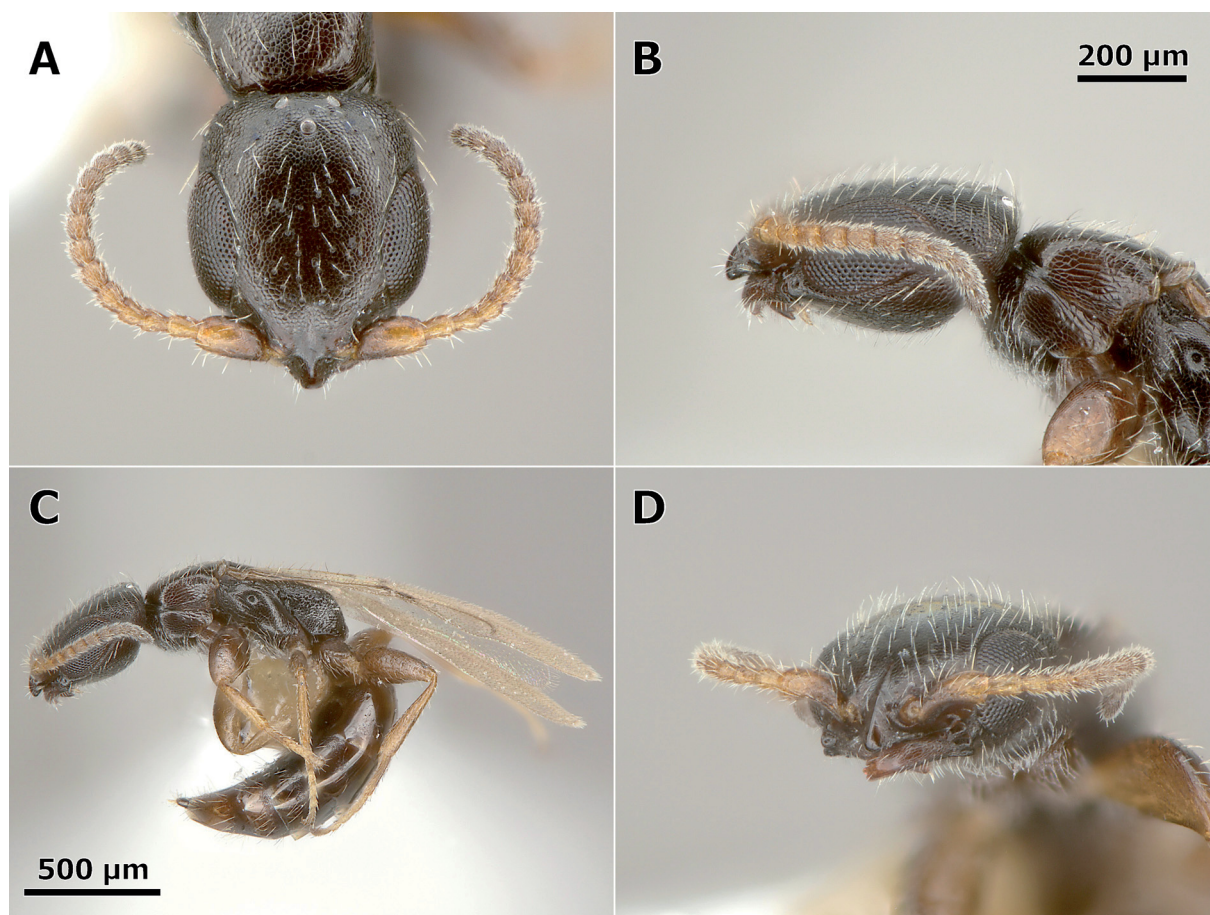


Fig. 60. *Sierola crinita* sp. nov., holotype, ♀ (TMAG F153000). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose, or with intermediate setation. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.53 mm; LM 0.81 mm; WH/LH 0.81; DH/LH 0.51; EV/HE 0.60; EV/WF 0.61; WF/HE 0.98; WH/WF 1.78; OOL/WOT 1.34; DM/LM 0.38; FL/FW 1.98; HFL/HFW 2.35; A3 L/W 1.22; 2R1 L/W 2.81.

Distribution

Tasmania and New South Wales; known only from the holotype and one paratype.

Remarks

The specimen from New South Wales differs slightly from the Tasmanian holotype, with the clypeus slightly narrower, head slightly deeper, metafemur slightly broader, and basal wing cells more sparsely setose. However, these appear to be within the range of normal variation, and it does not seem worth splitting them based on the two specimens on hand.

Sierola crowea sp. nov.

urn:lsid:zoobank.org:act:01D9A098-1B98-4B94-8C92-433180045499

Figs 57, 61

Diagnosis

Belonging to the *compressa* species group, having the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells densely setose. Distinguished from related species by the strongly acute ocellar triangle, evenly curved clypeus in profile, dark femora, and coriaceous rather than strongly dull sculpture of the frons. The head is also slightly deeper than most similar species except *S. medialis* sp. nov.

Etymology

Named for the type locality.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Crowea State Forest near Pemberton; 29 Oct.–20 Dec. 1979; S.J. Curry leg.; Malaise trap, closed forest; ANIC 32-154824.

Description

Female

HEAD. Clypeal process semi-elliptical or very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a sharp carina, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous to finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli distinctly separate from vertex crest by less than ocellus

length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex or nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

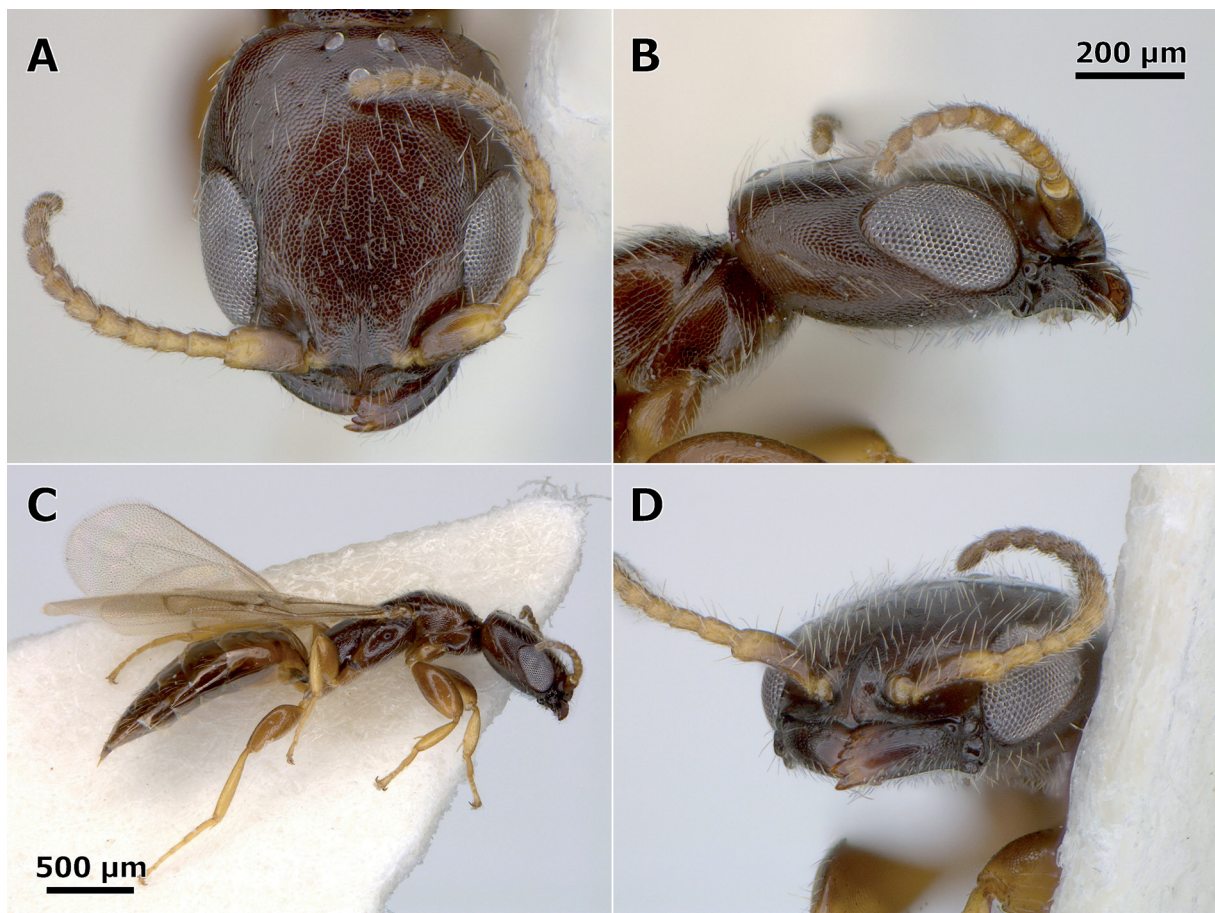


Fig. 61. *Sierola crowea* sp. nov., holotype, ♀ (ANIC 32-154824). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.02 mm; LM 1.02 mm; WH/LH 0.87; DH/LH 0.46; EV/HE 0.81; EV/WF 0.65; WF/HE 1.25; WH/WF 1.60; OOL/WOT 2.05; DM/LM 0.29; FL/FW 2.11; HFL/HFW 2.15; A3 L/W 1.06; 2R1 L/W 2.78.

Distribution

Western Australia; known only from the holotype.

Sierola cuneata sp. nov.

urn:lsid:zoobank.org:act:18A31FA8-9F49-4CFC-AD7C-1D7588629B6B

Figs 28, 62

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided or broadened beyond the antennae. Together with *S. biloba* sp. nov., differing from all other *Sierola* in having the clypeus apically emarginate, divided into two rounded lobes. Easily distinguished from that species by having the clypeus straight laterally rather than rounded, and with divergent lateral carinae that form a triangular enclosure with the slightly upturned apical rim. In addition, the lateral ocelli are separated from the vertex crest by less than their length; propodeal transverse carina faint, hardly differentiated from other striae; metasoma polished, with faint microsculpture only laterally; and vein Rs does not reach the anterior wing margin, leaving cell 2R1 open.

Etymology

From the Latin ‘*cuneatus*’, ‘wedge-shaped’, referring to the peculiar shape of the clypeus.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; near Renmark, Border Cliffs Resort, on property; 33.9788° S, 140.9534° E; 5 Dec. 2011; P. Hebert leg.; BOLD: sample ID BIOUG02294-B12, process ID AUSBC308-12, BIN ABX1506; ANIC 32-154825.

Paratypes

AUSTRALIA – **Victoria** • 1 ♀; Loch Sport; elev. 134 m; 2 Jan. 2003; L.J. Cookson leg.; MVMA HYM-86599. – **Western Australia** • 1 ♀; 120 km N of Northampton; 27°29' S, 114°43' E; 4 Jan. 1995; L.S. and R.B. Kimsey leg.; ex *Eucalyptus*; UCDC.

Description

Female

HEAD. Clypeal process broad, elongate, rounded laterally, apex narrowly emarginate, forming two rounded lobes; dorsally flat with a faint median carina, bounded laterally by stronger carinae forming a triangular enclosure; in profile straight, slightly upturned at apex. Mandible broad, ventral margin slightly concave; slightly twisted, outwardly polished, smooth, shining; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base

of mandible. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of smooth tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture entirely smooth and polished. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

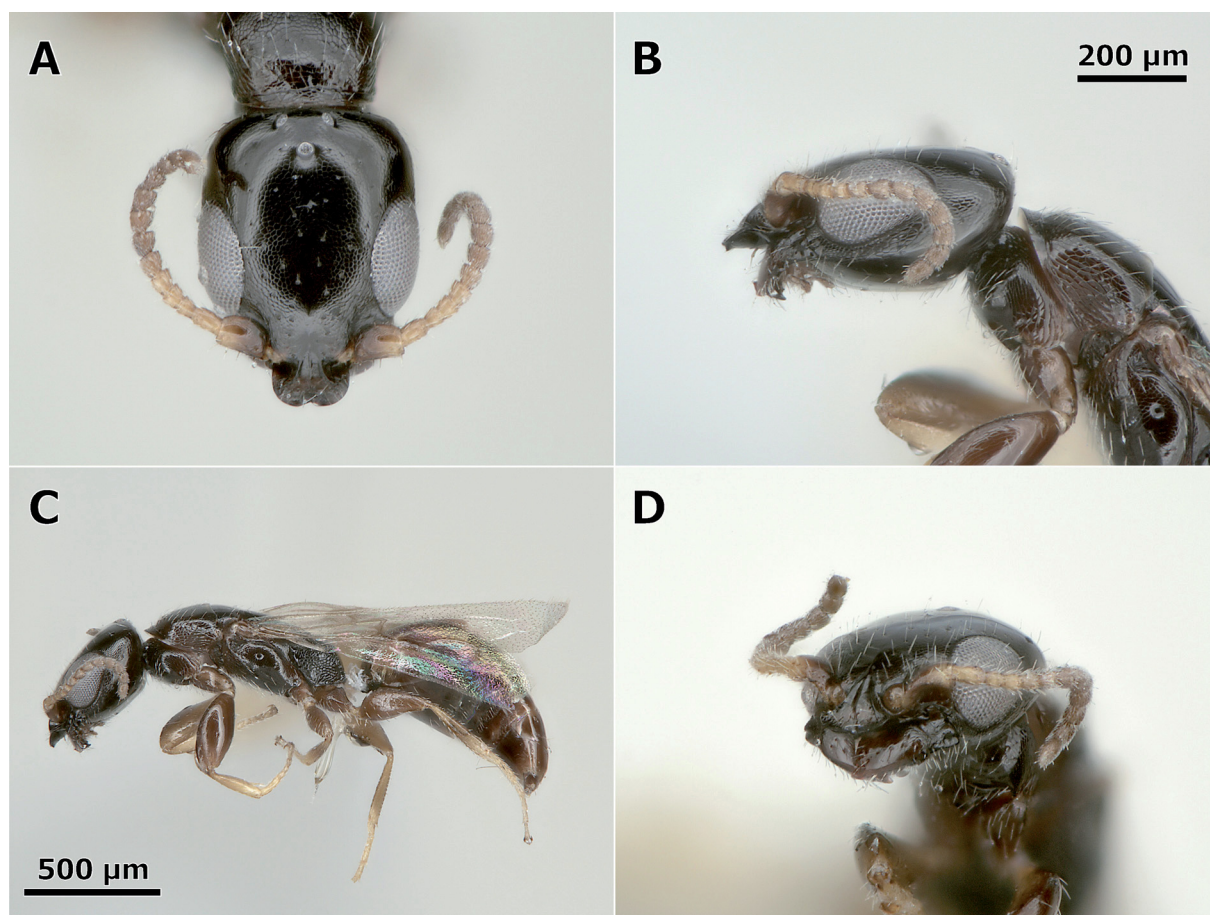


Fig. 62. *Sierola cuneata* sp. nov., holotype, ♀ (ANIC 32-154825). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible dark basally, apical half reddish brown. Coxae and femora brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.27 mm; LM 0.71 mm; WH/LH 0.71 (0.71–0.75); DH/LH 0.48 (0.47–0.48); EV/HE 0.71 (0.60–0.71); EV/WF 0.74 (0.64–0.74); WF/HE 0.96 (0.94–0.98); WH/WF 1.84 (1.81–1.86); OOL/WOT 1.48 (1.43–1.50); DM/LM 0.34; FL/FW 2.03 (2.03–2.15); HFL/HFW 2.23 (2.23–2.36); A3 L/W 0.91 (0.91–1.00); 2R1 L/W 2.56. N = 3.

Distribution

Western Australia, South Australia, and Victoria. Known from three widely separated individuals.

Remarks

The specimen from Victoria has a distinct median propodeal carina while the holotype lacks one. However, despite their geographic separation, this does not seem sufficient to describe them as distinct species; they are otherwise more similar than most specimens regarded as conspecific. The median carina has been observed to be variable in some Hawaiian species.

Sierola curtirostris sp. nov.

urn:lsid:zoobank.org:act:6FBF590E-0959-490E-9ED0-B60F12F56C2E

Figs 49, 63

Diagnosis

A distinctive species, recognizable by the unusual clypeus which is moderately short but broadened laterally anterior of the antennal sockets, the lateral margin rounded with a constriction between the anterior clypeal projection and posterior lateral lobe. This is shared only with its sibling species *S. abrupta* sp. nov., which differs in having the clypeus short with the apex nearly vertical in profile, head deeper (DH/LH 0.57 vs 0.51), and basal wing cells glabrous except cell R setose apically. The occipital margin is narrowly carinate between the lateral ocelli and the wings infusate, a combination otherwise found only in *S. bidawal* sp. nov. and *S. lacustris* sp. nov., both of which are very different; the former has the clypeus straight sloping in profile and head narrowed posterior of the eye, and the latter has the frons much broader (WF/HE 1.20 vs 1.00 in *S. curtirostris*).

Etymology

From the Latin ‘*curtus*’, ‘short’, + ‘*rostrum*’, ‘nose’, referring to the short, broadly truncate clypeus.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Dilgry River, Barrington Tops State Forest; 31°53′ S, 151°32′ E; 15–16 Nov. 1981; T. Weir leg.; Pyrethrin spray, *Banksia*; ANIC 32-154826.

Description**Female**

HEAD. Clypeal process short, broad, transverse, rounded laterally, apex truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile elongate, evenly curved, apex acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad

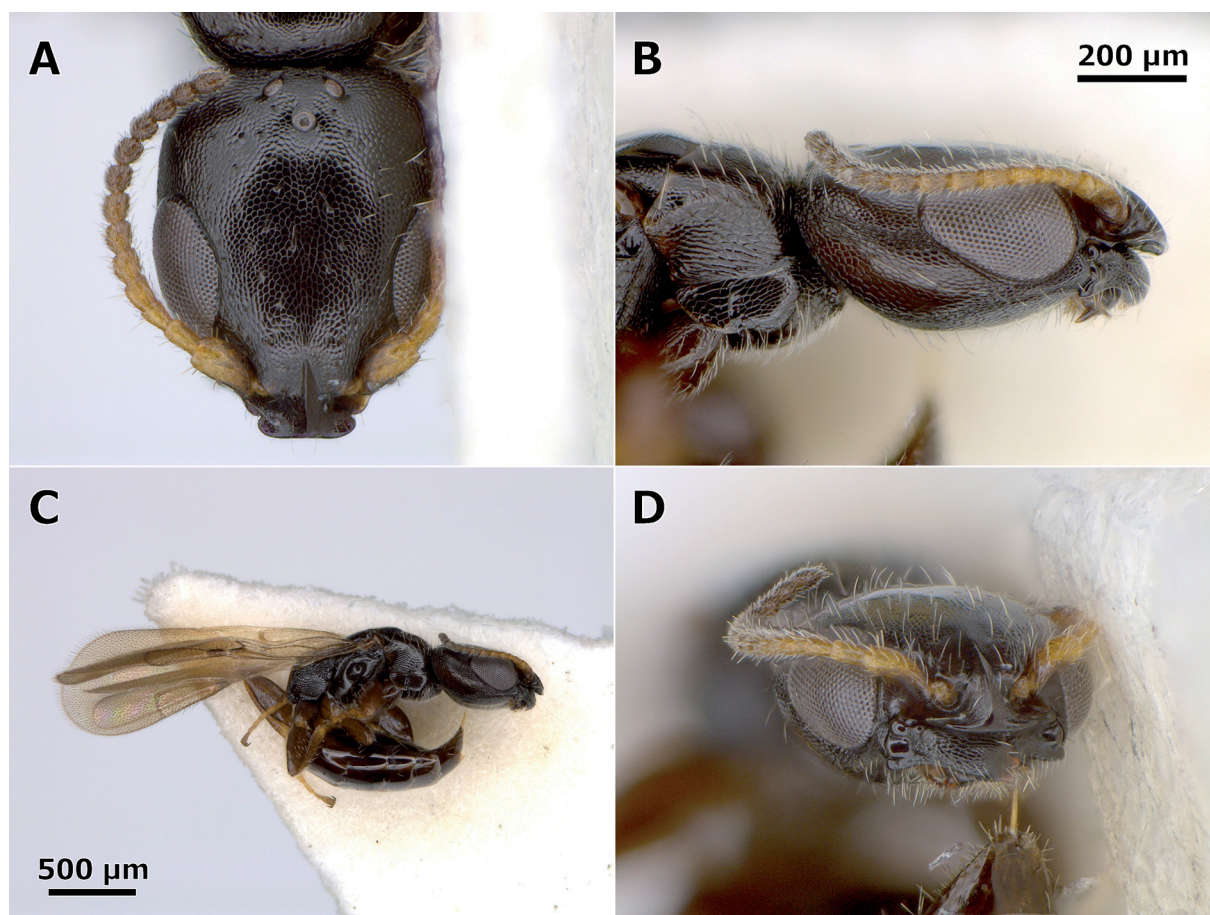


Fig. 63. *Sierola curtirostris* sp. nov., holotype, ♀ (ANIC 32-154826). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae dark brown, trochanters, tarsi, and bands at bases and apices of tibiae orange.

WINGS. Membrane weakly infusate. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.90 mm; LM 0.91 mm; WH/LH 0.86; DH/LH 0.51; EV/HE 0.74; EV/WF 0.74; WF/HE 1.00; WH/WF 1.88; OOL/WOT 1.55; DM/LM 0.44; FL/FW 2.04; HFL/HFW 2.27; A3 L/W 1.10; 2R1 L/W 2.67.

Distribution

New South Wales; known only from the holotype, collected in the central mountains.

Sierola cylindrica sp. nov.

urn:lsid:zoobank.org:act:1A8DE82D-D469-4F1F-928B-80EF56CA1004

Figs 14, 64

Diagnosis

This species resembles some members of the *longifacies* group such as *S. dolichops* sp. nov. and *S. elongata* sp. nov., but is immediately distinguished by the extremely narrow head, which is nearly twice as long as wide. The mesosoma is also compressed, unlike in the *longifacies* group.

Etymology

Named for the peculiar elongate head, which is hardly wider than deep.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham Dam, 117 Saltwood Road; 41.0234° S, 147.2119° E; 15 Jan. 2024; S.J. Grove leg.; Malaise trap 2; TMAG F180578.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate to broadly rounded; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately broad, more or less parallel-sided except at base; not twisted, at most

weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate posterior of eye, ventrally with colliculate-coriaceous sculpture. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

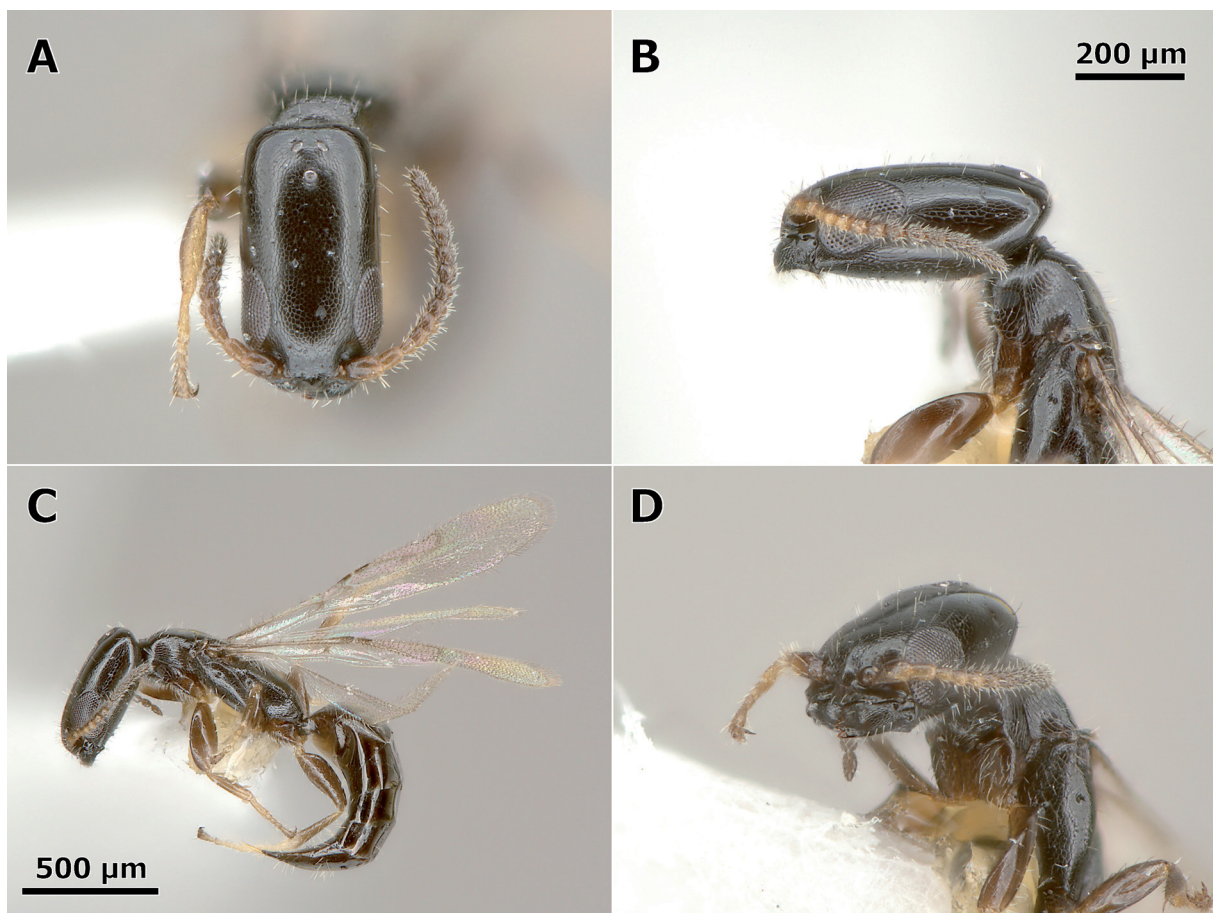


Fig. 64. *Sierola cylindrica* sp. nov., holotype, ♀ (TMAG F180578). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.39 mm; LM 0.68 mm; WH/LH 0.52; DH/LH 0.43; EV/HE 1.47; EV/WF 1.79; WF/HE 0.82; WH/WF 1.79; OOL/WOT 3.31; DM/LM 0.30; FL/FW 2.33; HFL/HFW 2.30; A3 L/W 1.23; 2R1 L/W 2.63.

Distribution

Tasmania; known only from the holotype.

Remarks

The very narrow head is the most extreme known in the genus. The OOL/WOT ratio is likewise the highest known; only a few others even approach 3.0.

Sierola desertorum sp. nov.

urn:lsid:zoobank.org:act:14056A24-8BD6-43FF-AB58-84D083B707FB

Figs 49, 65

Diagnosis

Belonging to the *compressa* species group, having the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely setose. Distinguished from most related species by the strongly acute ocellar triangle, dull and granular frons microsculpture, and predominantly yellow legs. Closest to *S. medialis* sp. nov., separated by having the head nearly parallel-sided in lateral view, ocellar triangle more strongly acute (OOL/WOT over 2.00), femora slightly brownish, and posterior margin of cell 1M nearly straight.

Etymology

Named for the remote desert type locality.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; 100 km S by E of Broken Hill; 32°51' S, 141°37' E; 3–13 Oct. 1986; E.D. Edwards leg.; Malaise trap/ethanol; SAMA.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal

and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly to very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally,

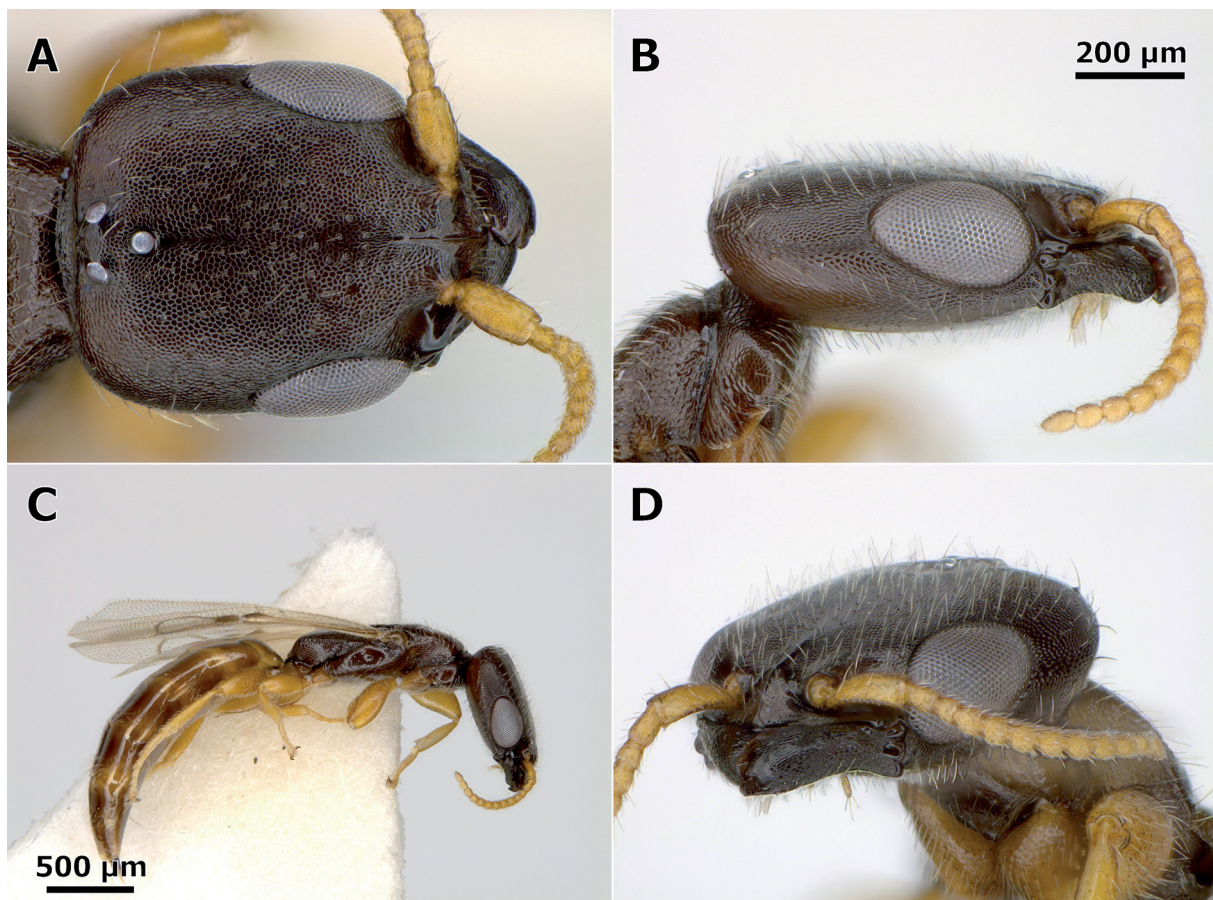


Fig. 65. *Sierola desertorum* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with a pair of moderately long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna bright yellow. Mandible black. Coxae brown, femora brown dorsally, legs otherwise yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose or sparsely setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.92 mm; LM 1.05 mm; WH/LH 0.86; DH/LH 0.42; EV/HE 0.98; EV/WF 0.71; WF/HE 1.38; WH/WF 1.53; OOL/WOT 2.09; DM/LM 0.31; FL/FW 2.08; HFL/HFW 2.00; A3 L/W 0.91; 2R1 L/W 2.19.

Distribution

New South Wales; known only from the holotype, taken in the interior near the border with South Australia.

Remarks

The setation of the basal wing cells is indistinct, and appears to have been damaged.

Sierola digitata sp. nov.

urn:lsid:zoobank.org:act:FE403641-45A1-4A40-8AD9-6BD68F4D1753

Figs 66–67

Diagnosis

This unique species is easily recognized by the unusual clypeus, with the dorsal process narrow and rostrate, strongly convex dorsally, appearing finger-like in dorsal view, and strongly rounded and recurved apically in lateral view. The only *Sierola* with a similar rostrate clypeus are *S. hawaiiensis* Fullaway, 1920 and *S. spicata* Fullaway, 1920 of Hawaii, which are otherwise very different in most other respects. In general appearance it resembles the species of the *vibrissata* group, with the eyes large and head short posteriorly, but lacks the characteristic long setae found in those.

Etymology

From the Latin ‘*digitus*’, ‘finger’, referring to the narrow, convex clypeus.

Type material

Holotype

AUSTRALIA – **Australian Capital Territory** • ♀; Canberra, CSIRO, behind CSIRO; 35.275° S, 149.1109° E; elev. 590 m; 9 Oct. 2010; C. Carr, P. Hebert, S. Kirk, J. McCormick and J. Sones leg.; BOLD: sample ID BIOUG00905-B06, process ID HYAT208-11, BIN ABA6234; ANIC 32-154827.

Description**Female**

HEAD. Clypeal process narrow, rostrate (ventral portion triangular), apex weakly pointed; dorsally with a broad, rounded ridge; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with three subequal apical teeth and one inwardly-directed ventral tooth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest, or distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right to weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate

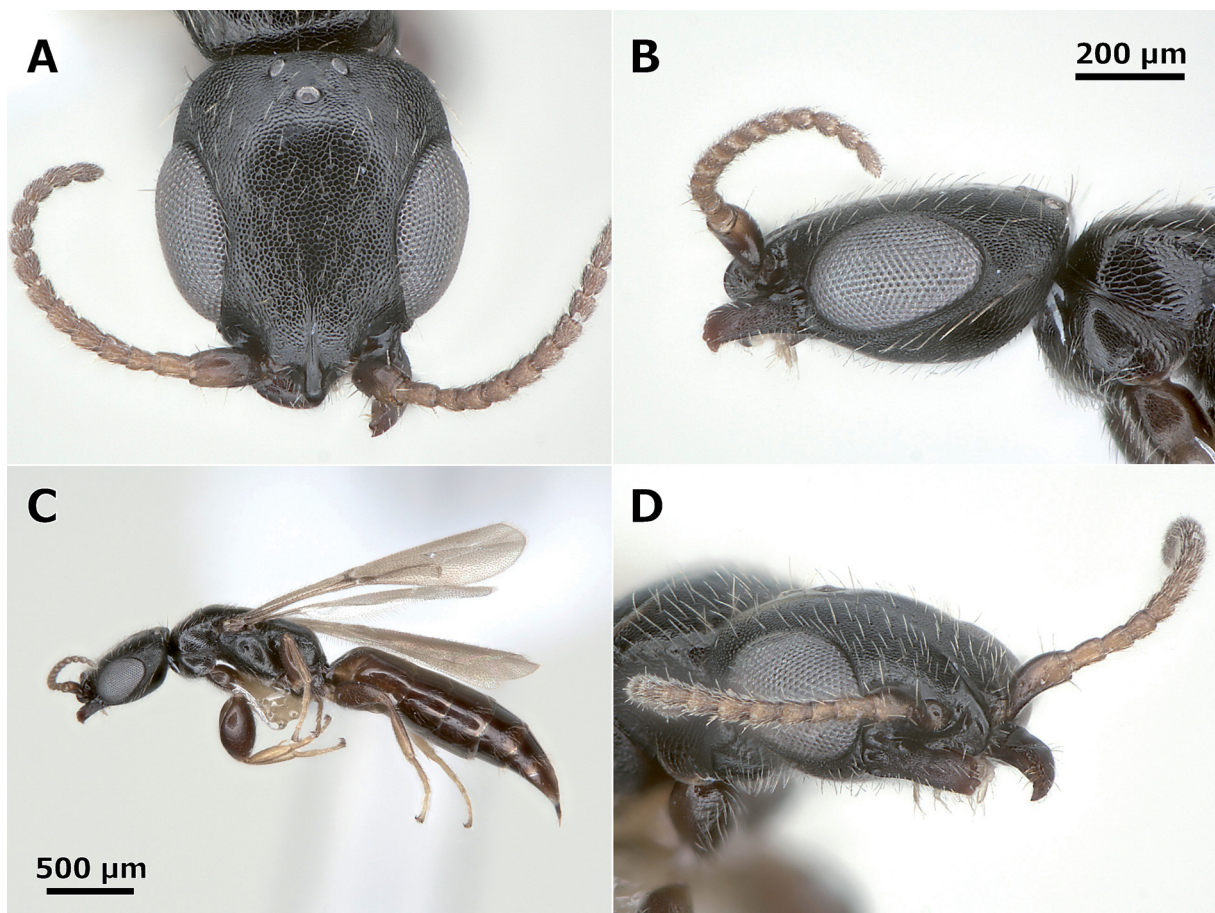


Fig. 66. *Sierola digitata* sp. nov., holotype, ♀ (ANIC 32-154827). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S5 with a pair of long erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora dark brown to black, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

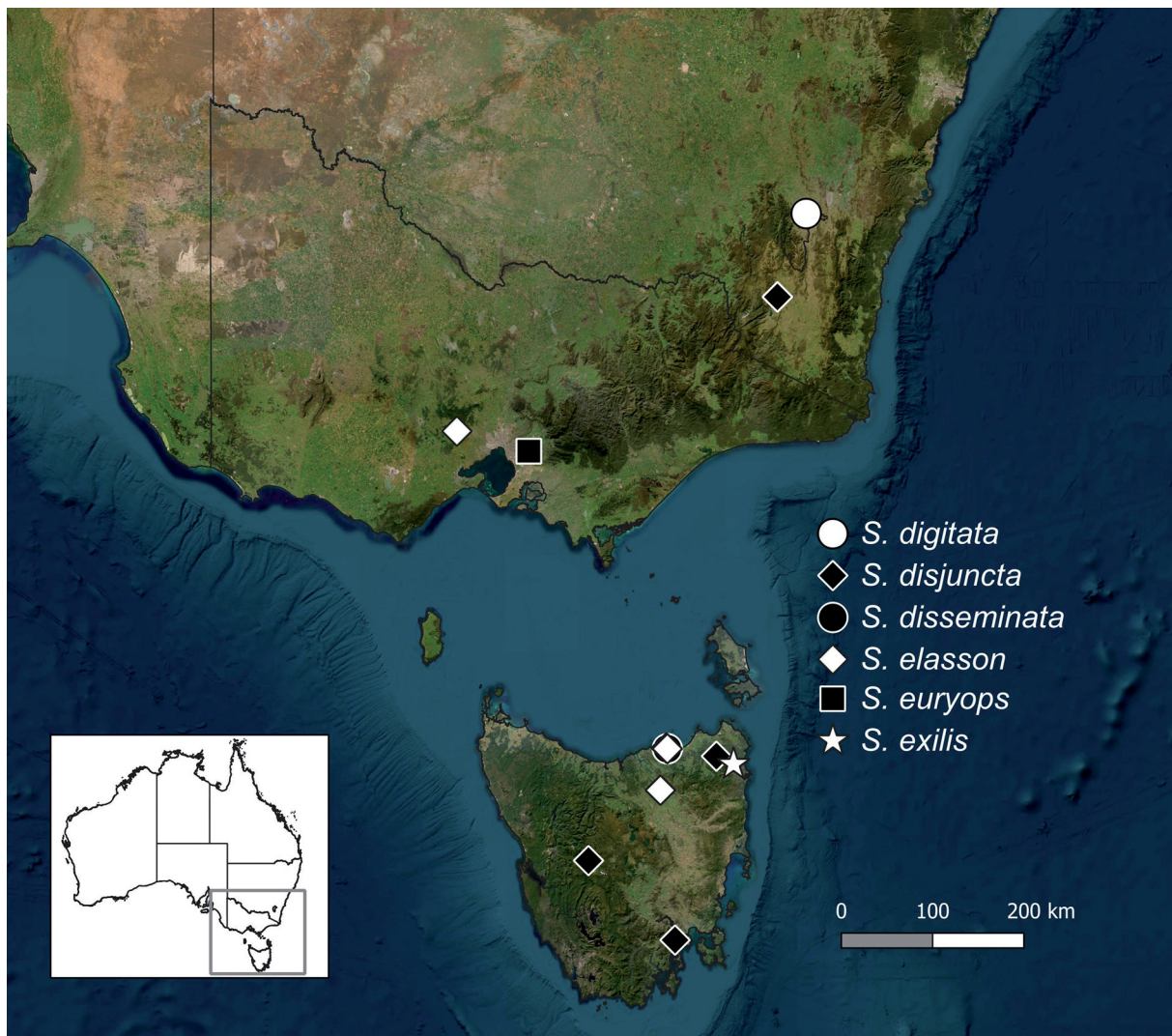


Fig. 67. Map of collection records of *Sierola digitata* sp. nov., *S. disjuncta* sp. nov., *S. disseminata* sp. nov., *S. elasson* sp. nov., *S. euryops* sp. nov., and *S. exilis* sp. nov.

WINGS. Membrane infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.89 mm; LM 0.96 mm; WH/LH 0.88; DH/LH 0.50; EV/HE 0.48; EV/WF 0.53; WF/HE 0.89; WH/WF 1.90; OOL/WOT 1.27; DM/LM 0.40; FL/FW 1.80; HFL/HFW 2.18; A3 L/W 1.16; 2R1 L/W 2.96.

Distribution

Australian Capital Territory; known only from the holotype.

Sierola disjuncta sp. nov.

urn:lsid:zoobank.org:act:CACBA51B-AFBA-4D35-8145-D2F422F1ACF9

Figs 67–68

Diagnosis

A member of the *megacephala* group, with the head large and flat dorsally and ventrally, frons very broad, clypeus short with a low carina, and basal wing cells densely setose. Differing from related species in having the lateral ocelli close to the vertex crest which is narrowly carinate posterior of.

Etymology

From the Latin ‘*disiunctus*’, ‘separated’, referring to the label coordinates being far off from the recorded locality, as well as the two known populations in New South Wales and Tasmania.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Dainers Gap; 36°12' S, 148°43' E; elev. 1585 m; 20 Mar. 1974; P. Morrow leg.; ex *Eucalyptus perriniana*; ANIC 32-154828.

Paratypes

AUSTRALIA – New South Wales • 2 ♀♀; same data as for holotype; ANIC • 2 ♀♀; same data as for holotype; 6 Mar. 1974; ANIC • 1 ♀; Dainers Gap; 36°12' S, 148°43' E; elev. 1585 m; 19 Sep. 1972; P. Morrow leg.; emerged from eggs laid on *Agriophara* sp.; ANIC • 1 ♀; Dainers Gap; 36°12' S, 148°43' E; elev. 1585 m; 6 Nov. 1973; P. Morrow leg.; *Euc. pauciflora*, *stellulata*, and *perriniana* forest; ANIC • 2 ♀♀; same data as for preceding; 13 Dec. 1973; ANIC • 2 ♀♀; same data as for preceding; 19 Dec. 1973; ANIC • 4 ♀♀; same data as for preceding; 28 Dec. 1973; ANIC • 1 ♂; same data as for preceding; 9 Jan. 1974; ANIC • 1 ♀; same data as for preceding; 21 Feb. 1974; ANIC. – Tasmania • 1 ♀; 1 km NE of Kingston; 26 Dec. 1979; J.C. Cardale leg.; ex alcohol collection; ANIC • 1 ♀; 9 km WSW of Derwent Bridge; 42°10' S, 146°08' E; 21 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 1 km E by N of Herrick; 41°06' S, 147°53' E; 29–30 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces,

outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with second ventral tooth largest. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli separated from vertex crest by about their own length (sometimes slightly less). Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice

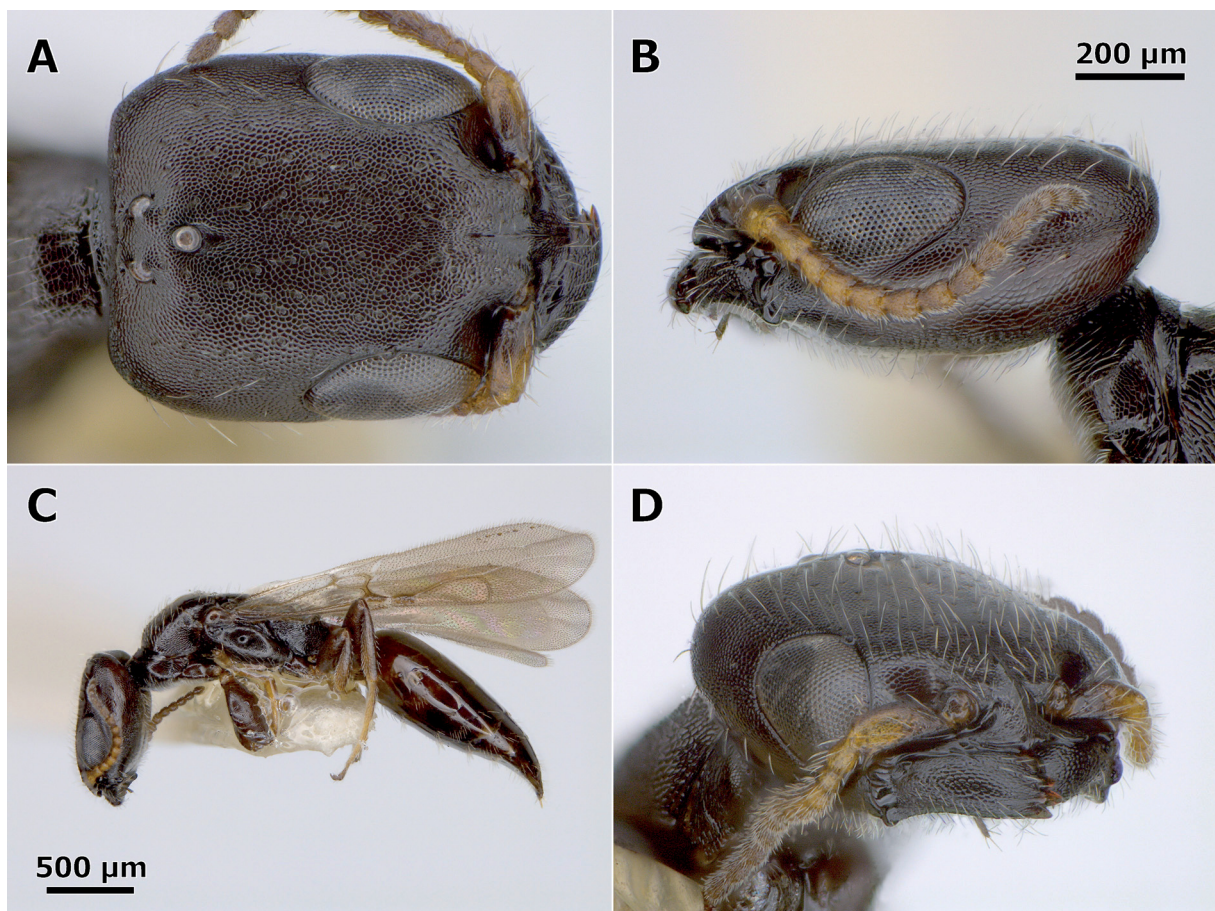


Fig. 68. *Sierola disjuncta* sp. nov., holotype, ♀ (ANIC 32-154828). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora dark brown to black with all tibiae and tarsi yellow-brown, or protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.26 mm; LM 1.15 mm (0.94–1.19); WH/LH 0.78 (0.78–0.83); DH/LH 0.47 (0.46–0.50); EV/HE 1.08 (0.97–1.10); EV/WF 0.88 (0.82–0.89); WF/HE 1.23 (1.18–1.28); WH/WF 1.63 (1.61–1.69); OOL/WOT 2.13 (2.07–2.29); DM/LM 0.38; FL/FW 2.10 (2.06–2.28); HFL/HFW 2.59 (2.55–2.93); A3 L/W 1.14 (1.00–1.30); 2R1 L/W 2.62. N = 9.

Male

Similar to female with the following exceptions. *Head.* Frons microsculpture coriaceous, weakly shining. Lateral ocelli nearly touching vertex crest. Antenna longer, extending to middle of pronotum. *Color.* Mandible yellow. All tibiae brown.

MEASUREMENTS. LFW 1.54 mm; LM 0.76 mm; WH/LH 0.90; DH/LH 0.52; EV/HE 0.73; EV/WF 0.67; WF/HE 1.09; WH/WF 1.78; OOL/WOT 1.40; DM/LM 0.38; FL/FW 2.44; HFL/HFW 2.93; A3 L/W 1.20; 2R1 L/W 2.63.

Distribution

New South Wales and Tasmania; probably also occurs in Victoria.

Remarks

With 19 specimens, this species is represented by the largest number of any of the new species treated here. However, 16 of those are from a single locality. The coordinates listed on the label of the type series are approximately 30 km from the actual locality of Dainers Gap. If it was erroneously recorded as a mix of decimal degrees and decimal minutes then the coordinates are about 5km away, but still well outside the range of error. Although widely separated, the specimens from Tasmania do not differ from the NSW specimens except in having very slightly narrower profemur, well within the range of normal variation. In other measurements, similar variation is found in both populations despite the limited sampling available.

Sierola disseminata sp. nov.

urn:lsid:zoobank.org:act:7DD7B974-4A3F-4E8D-B5D0-9C3BABFC5C13

Figs 67, 69

Diagnosis

A member of the *longifacies* species group, characterized by the very narrow, compressed head, somewhat flat dorsally and long posterior to the eyes, short clypeus, short antenna, lateral ocelli separated

from the vertex crest, and ocellar triangle strongly acute. Separated from similar species by having the head relatively deep for the group, DH/LH 0.49, mandible slightly twisted, clypeal carina not prolonged posteriorly above the antennal sockets, lateral ocelli separated from the vertex crest by less than their diameter, and basal wing cells densely setose.

Etymology

From the Latin ‘*disseminatus*’, ‘spread’ or ‘scattered’, referring to the widely separated Distribution of this species and its closest relatives *S. collina* sp. nov. and *S. confinis* sp. nov. along the eastern side.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham Dam, 117 Saltwood Road; 41.0234° S, 147.2119° E; 15 Jan. 2024; S.J. Grove leg.; Malaise trap 2; TMAG F180579.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile steep and short, evenly curved. Mandible moderately broad, more or less parallel-sided except at base; slightly twisted,

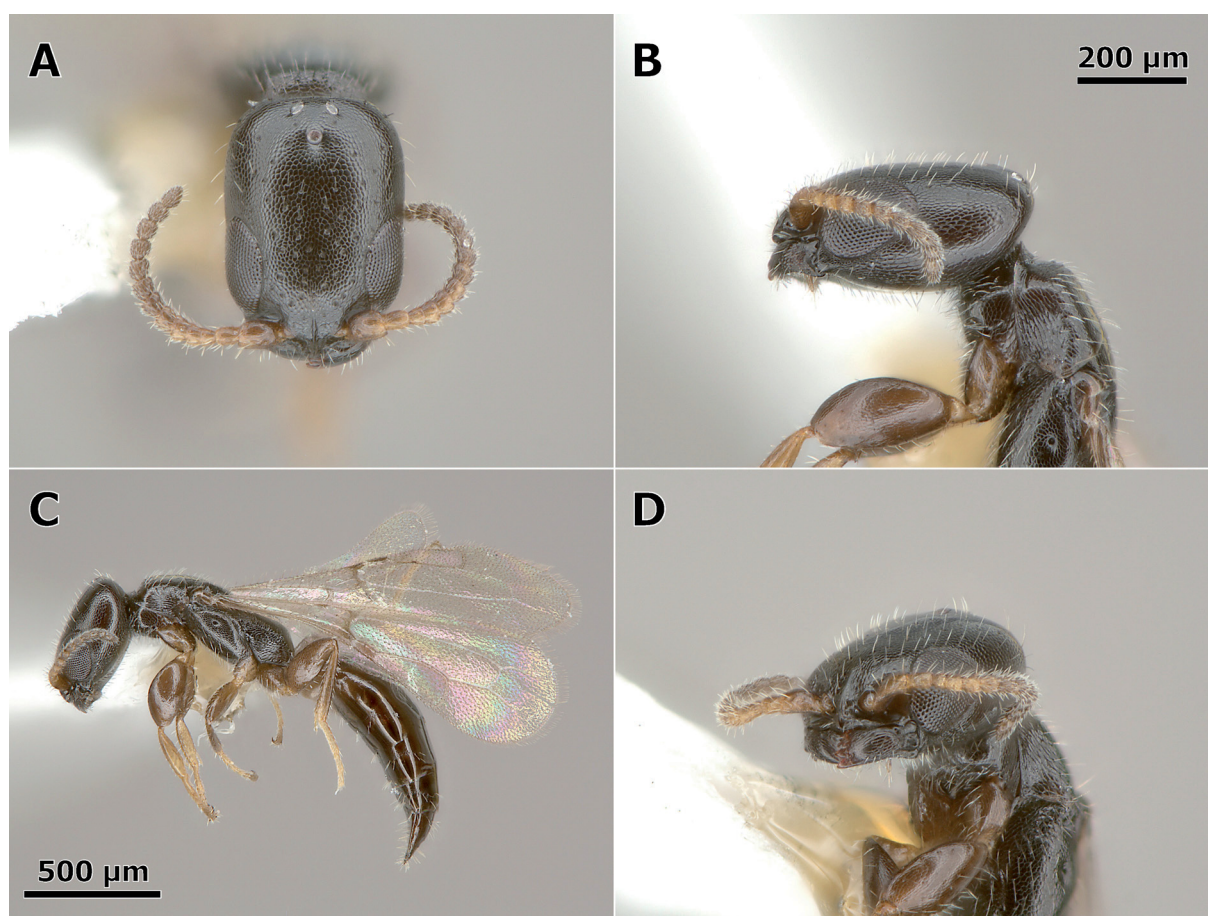


Fig. 69. *Sierola disseminata* sp. nov., holotype, ♀ (TMAG F180579). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae, trochanters, and femora dark brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.48 mm; LM 0.68 mm; WH/LH 0.67; DH/LH 0.49; EV/HE 1.15; EV/WF 1.24; WF/HE 0.93; WH/WF 1.85; OOL/WOT 2.30; DM/LM 0.33; FL/FW 2.00; HFL/HFW 2.27; A3 L/W 0.90; 2R1 L/W 2.72.

Distribution

Tasmania; known only from the holotype.

Sierola diversa sp. nov.

urn:lsid:zoobank.org:act:D4C50287-D8C2-482D-AC0E-036A394E35E0

Figs 41, 70

Diagnosis

Distinguished by the combination of the head moderately deep (DH/LH 0.53–0.55) and convex dorsally; mandible moderately broad, parallel-sided or very weakly concave ventrally, slightly twisted, and black; lateral ocelli distinctly separated from the vertex crest, ocellar triangle strongly acute; and basal wing cells sparsely setose. Closest to *S. exleyae* sp. nov., which has the mandible very different, deeply concave ventrally and not twisted.

Etymology

From the Latin '*diversus*', 'turned away', referring to the type locality on the inland side of the northern wet forest and on a stream that flows away from the ocean for some distance before turning to reach the sea.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Davies Creek, 18 km E by S of Mareeba; 18 May 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC 32-154829.

Paratypes

AUSTRALIA – **Queensland** • 2 ♀♀; Vines Creek Road; 17°41' S, 145°32' E; elev. 1100 m; 24 Nov. 1994; G.B. Monteith leg.; pyrethrum trees and logs; QM • 1 ♀; Upper Hall Creek, via Carmila; 21°52' S, 149°18' E; 4 Dec. 1996–6 Apr. 1997; G. Monteith and E. Mulder leg.; intercept, "RF" at creek; QM.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved



Fig. 70. *Sierola diversa* sp. nov., holotype, ♀ (ANIC 32-154829). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

from base to apex, apical angle slightly acute. Mandible moderately broad, more or less parallel-sided or slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.80 mm; LM 0.86 mm (0.80–0.86); WH/LH 0.83; DH/LH 0.55 (0.53–0.55); EV/HE 0.59 (0.52–0.68); EV/WF 0.63 (0.59–0.76); WF/HE 0.93 (0.88–0.93); WH/WF 1.84 (1.84–1.91); OOL/WOT 1.56 (1.56–1.77); DM/LM 0.39; FL/FW 1.96 (1.88–2.00); HFL/HFW 1.99 (1.91–1.99); A3 L/W 0.92 (0.83–0.92); 2R1 L/W 2.78. N = 3.

Distribution

Queensland; known from four specimens taken on the central to northern coast.

Sierola dolichops sp. nov.

urn:lsid:zoobank.org:act:8006C85E-CFBF-4739-B8BE-8B26D3F273E6

Figs 71–72

Diagnosis

A member of the *longifacies* species group, characterized by the very narrow, compressed head (WH/LH 0.63–0.68), flat dorsally and long posterior to the eyes, short clypeus, short antenna (hardly reaching past the head), lateral ocelli separated from the vertex crest, and ocellar triangle very strongly acute. Separated from similar species by having the clypeus very short, steep and straight in profile; mandible slightly

twisted and outwardly convex; dull, granular frons microsculpture; vertex straight in dorsal view; lateral ocelli separated from the vertex crest by less than their diameter; and basal wing cells setose.

Etymology

From the Greek ‘*dolichos*’, ‘long, + ‘*ops*’, ‘face’, referring to the shape of the head and the similarity of this species to *S. longifacies*. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Toogoom; 11 Oct. 1979; H.E. and M.A. Evans leg.; QM T262156.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally flat, with a trace of a low carina; in profile very short, nearly straight. Mandible moderately broad, slightly to distinctly narrowed medially and broadened at apex, ventral margin concave; slightly twisted, outwardly slightly curved so that ventral tooth slightly posterior of second, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3



Fig. 71. *Sierola dolichops* sp. nov., holotype, ♀ (QM T262156). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate posterior of eye, ventrally with colliculate-coriaceous sculpture. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

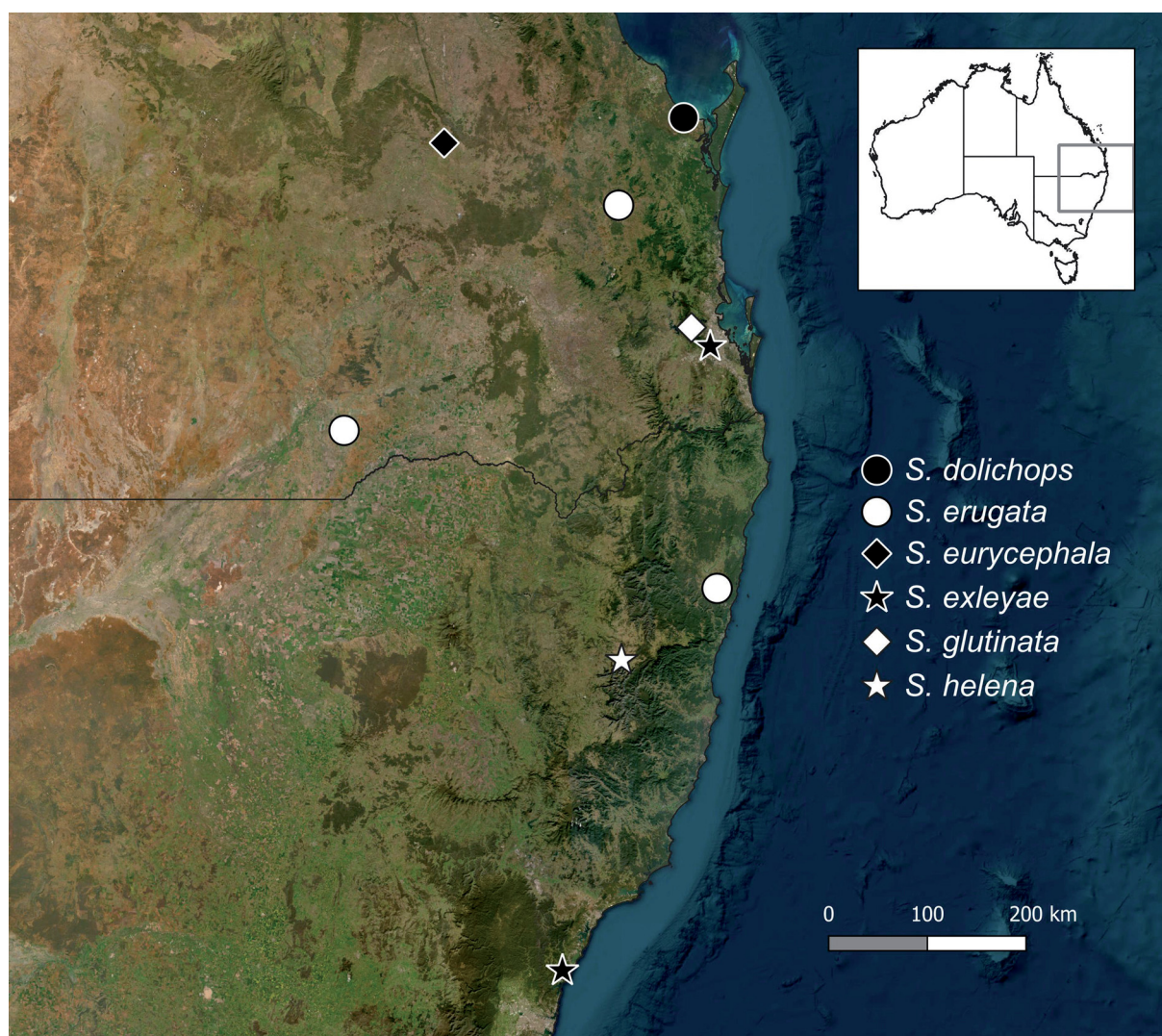


Fig. 72. Map of collection records of *Sierola dolichops* sp. nov., *S. erugata* sp. nov., *S. eurycephala* sp. nov., *S. exleyae* sp. nov., *S. glutinata* sp. nov., and *S. helena* sp. nov.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae brown, tarsi yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely or sparsely setose. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.46 mm; LM 0.80 mm; WH/LH 0.66; DH/LH 0.42; EV/HE 1.28; EV/WF 1.24; WF/HE 1.03; WH/WF 1.73; OOL/WOT 2.44; DM/LM 0.35; FL/FW 2.09; HFL/HFW 2.26; A3 L/W 1.00; 2R1 L/W 2.93.

Distribution

Queensland; known only from the holotype, collected on the southeast coast.

Remarks

The specimen is glued with the wings down, so the precise wing setation is uncertain.

Sierola dolichothrix sp. nov.

urn:lsid:zoobank.org:act:1FB02520-B35E-4C9B-991E-82BC6DFF50D8

Figs 41, 73

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, dense frons punctation, and the basal wing cells very densely setose. Closest to *S. vulsa* sp. nov. in having the long setae yellow-brown rather than black; joined with *S. reburra* sp. nov. in having the head narrow and a sharp, thin, laminate clypeal carina, continuous from the anterior to dorsal surface between the antennal sockets, distinguished by the yellow mandible and polished dorsal metasoma.

Etymology

From the Greek ‘*dolichos*’, ‘long’, + ‘*thrix*’, ‘hair’, referring to the very long setae of the vertex and gena. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Cow Bay, Cape Tribulation, Daintree Discovery Centre; 16.2382° S, 145.427° E; elev. 86 m; 26 Oct.–2 Nov. 2014; C.J. Bennett leg.; Malaise trap; BOLD: sample ID BIOUG43544-H04, process ID GMQQD182-18, BIN ADX2126; ANIC 32-154830.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; 12 km SSE of Heathlands; 11°51′ S, 142°38′ E; 22 Mar.–25 Apr. 1992; T. McLeod leg.; closed forest, Malaise #3 and #4; ANIC • 1 ♀; 14 km ENE of Heathlands; 11°41′ S, 142°42′ E; 12 Aug.–9 Sept. 1993; P. Zborowski and S. Shattuck leg.; flight intercept trap; ANIC.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally with a thin, laminar carina, the sides strongly concave; in profile strongly arched, vertical or slightly recurved at apex, carina extending

posterior of antennal sockets. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc slightly convex. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural

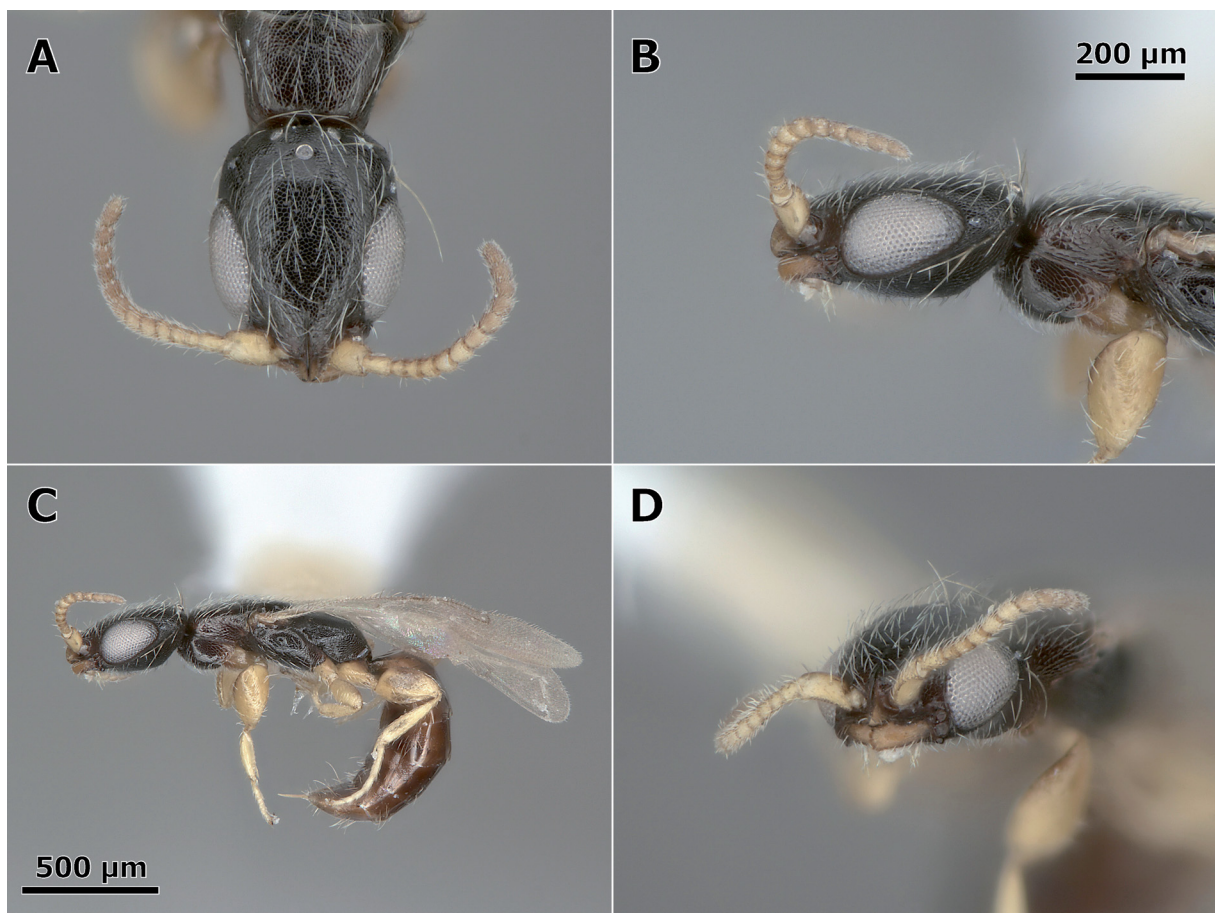


Fig. 73. *Sierola dolichothrix* sp. nov., holotype, ♀ (ANIC 32-154830). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–6 each with a pair of long erect setae, those on S5–6 about twice as long as preceding. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Head and mesosoma black, metasoma brownish. Antenna yellow, apical flagellomeres tinged with brown. Mandible yellow. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.31 mm; LM 0.73 mm (0.67–0.73); WH/LH 0.77 (0.76–0.78); DH/LH 0.48 (0.48–0.51); EV/HE 0.51 (0.51–0.57); EV/WF 0.59 (0.57–0.63); WF/HE 0.86 (0.86–0.90); WH/WF 1.78 (1.67–1.78); OOL/WOT 0.94 (0.94–1.03); DM/LM 0.33; FL/FW 1.96 (1.89–1.96); HFL/HFW 1.77 (1.77–1.95); A3 L/W 0.91 (0.82–0.91); 2R1 L/W 2.88. N = 3.

Distribution

Queensland; known from two locations in the far north.

Remarks

This and *S. reburra* sp. nov. are the only species with a distinct, high, sharp clypeal carina treated here. There are likely other related species yet to be discovered.

Sierola elasson sp. nov.

urn:lsid:zoobank.org:act:618A40A3-C90B-4D2C-8C7F-DE6100E41EDE

Figs 67, 74

Diagnosis

Distinguished from most other species by having the head both broad and deep, strongly convex dorsally and ventrally. Closest to *S. stilboparia* sp. nov., united in having the frons coriaceous, head not quite as wide as long, broad metafemur, and gena with a distinctive smooth polished area between the eye and a band of coarsely tessellate ventral sculpture. Differing in having the vertex crest straight (not emarginate), head obtusely angulate ventrally, and propodeum with an anterior raised, reticulate triangular area narrowing to a distinct median carina.

Etymology

From the Greek ‘*elasson*’, ‘smaller’, for F.M. Littler who collected the two earliest specimens. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham; 41.016° S, 147.197° E; Jan. 2024; S.J. Grove leg.; Malaise trap; TMAG F180581.

Paratypes

AUSTRALIA – **Tasmania** • 1 ♀; Launceston; 12 Feb. 1914; SAMA 32-42901 • 1 ♀; Launceston; 17 Dec. 1916; F.M. Littler leg.; SAMA 32-42926 • 1 ♂; Launceston; 25 Dec. 1916; F.M. Littler leg.;

SAMA 32-42072 • 1 ♀; Launceston; SAMA 32-42933 • 2 ♀♀; Bellingham; 41.016° S, 147.197° E; Jan. 2024; S.J. Grove leg.; Malaise trap; TMAG F180582, F180583 • 1 ♀; Bellingham Dam, 117 Saltwood Road; 41.0234° S, 147.2119° E; 15 Jan. 2024; S.J. Grove leg.; Malaise trap 2; TMAG F180580. – **Victoria** • 1 ♀; Melbourne, Werribee Gorge; 37°40' S, 144°20' E; 12 May 1993; P. Lillywhite leg.; Melbourne Western Region Survey, canopy fogging grey box woodland rep. 2; MVMA HYM-86604.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded or weakly pointed; dorsally weakly carinate, or rounded, convex; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished, smooth, shining; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex,

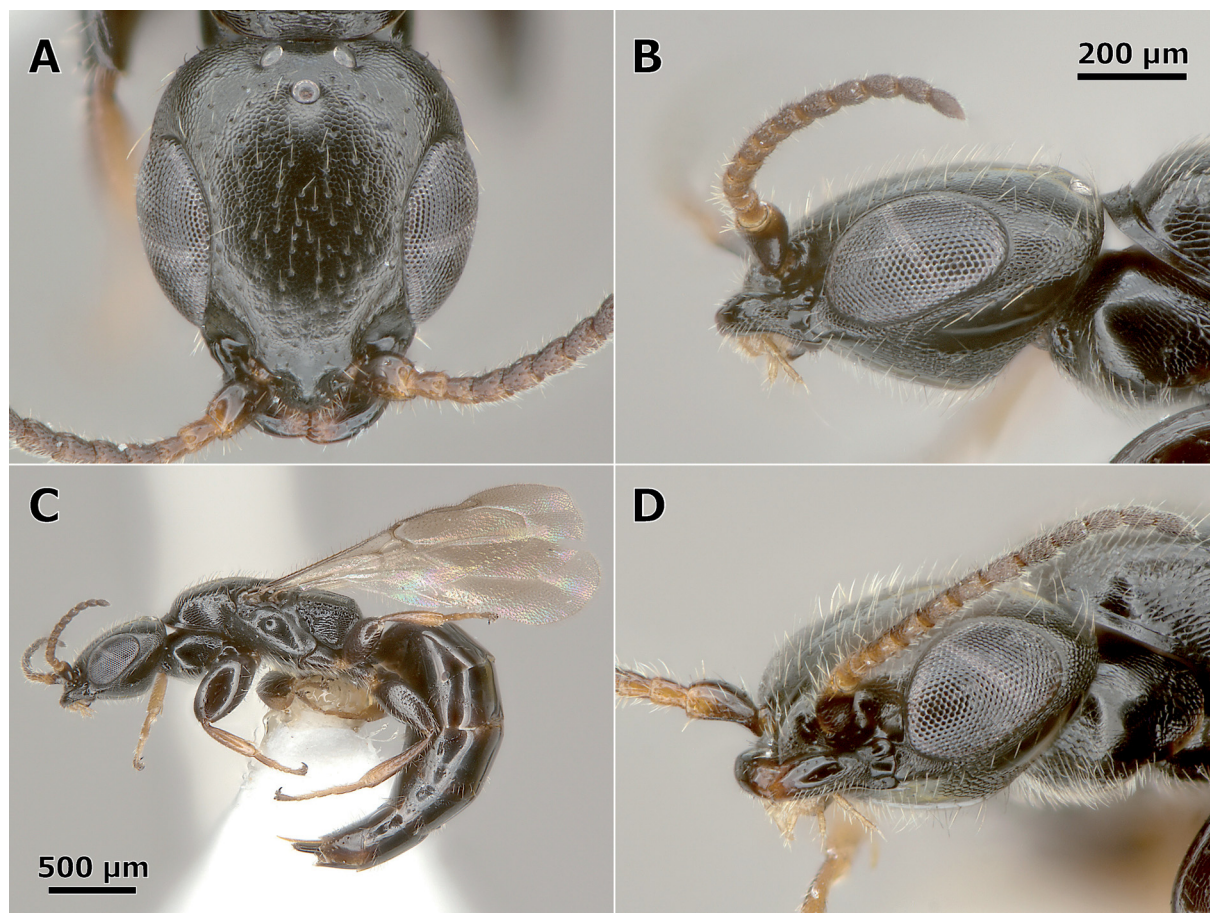


Fig. 74. *Sierola elasson* sp. nov., holotype, ♀ (TMAG F180581). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture smooth and polished ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina distinct posteriorly, with a median triangular raised, finely reticulate area covering anterior $\frac{1}{3}$; transverse carina distinct, complete; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora dark brown to black, all tibiae and tarsi yellow-brown.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose, or sparsely setose with cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.24 mm; LM 1.21 mm (1.20–1.35); WH/LH 0.92 (0.91–0.94); DH/LH 0.64 (0.60–0.64); EV/HE 0.45 (0.44–0.48); EV/WF 0.46 (0.46–0.50); WF/HE 0.98 (0.89–1.04); WH/WF 1.81 (1.75–1.92); OOL/WOT 1.21 (1.07–1.21); DM/LM 0.43; FL/FW 1.89 (1.73–1.89); HFL/HFW 1.94 (1.87–2.02); A3 L/W 1.29 (1.08–1.29); 2R1 L/W 2.27. N = 4.

Male

Similar to female with the following exceptions. *Head.* Frons microsculpture coriaceous, setae scarcely longer than flagellum width. Occipital margin bluntly carinate posterior of lateral ocelli, broadly rounded laterally. Gena ventral of eye with smooth patch well-defined as in female but with faint reticulation, not highly polished.

MEASUREMENTS. LFW 1.95 mm; LM 1.05 mm; WH/LH 0.95; DH/LH 0.61; EV/HE 0.52; EV/WF 0.52; WF/HE 1.00; WH/WF 1.83; OOL/WOT 1.08; DM/LM 0.40; FL/FW 2.15; HFL/HFW 2.00; A3 L/W 1.06; 2R1 L/W 2.67.

Distribution

Tasmania and Victoria; known from two localities.

Remarks

One of the female paratypes has an associated cocoon, but no rearing information; it is also heavily damaged and the metasoma is missing. While a number of species are found in both Tasmania and Victoria, it is unusual that the closely related *S. stilboparia* sp. nov. is also found in the latter; however, it differs in a number of distinct respects, and the Victoria specimen of *S. elasson* sp. nov. clearly matches the Tasmanian specimens rather than that species.

Sierola elongata sp. nov.

urn:lsid:zoobank.org:act:7556CB51-AE16-4B0F-9F1A-BCB3AA7F5038

Figs 26, 75

Diagnosis

A member of the *longifacies* species group, characterized by the very narrow, compressed head (WH/LH 0.62–0.68), flat dorsally and long posterior to the eyes, short clypeus, short antenna (hardly reaching past the head), lateral ocelli separated from the vertex crest, and ocellar triangle very strongly acute. Separated from similar species by the extreme head dimensions, very long and narrow, with the eyes small; clypeus rounded and recurved in profile; mandible moderately broad and concave ventrally, outwardly convex but not twisted; vertex slightly concave in dorsal view; lateral ocelli separated from the vertex crest by slightly more than their length.

Etymology

Named for the extremely long, narrow head.

Type material

Holotype

AUSTRALIA – **Northern Territory** • ♀; Trepina Gorge, east MacDonaldis; 23°32' S, 134°23' E; 17 Oct. 1995; K. Walker leg.; on *Eucalyptus*; MVMA HYM-86597.

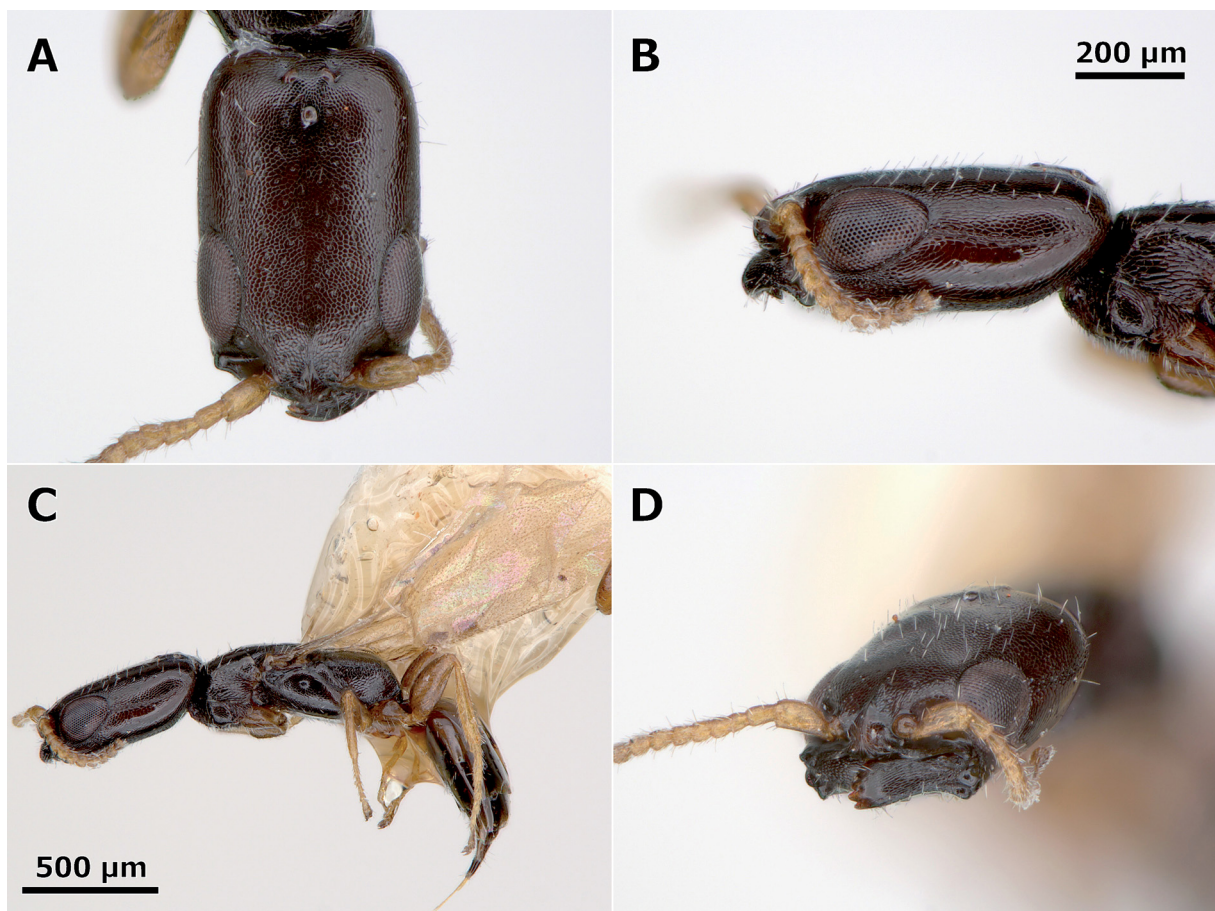


Fig. 75. *Sierola elongata* sp. nov., holotype, ♀ (MVMA HYM-86597). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae (?). Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.55 mm; LM 0.80 mm; WH/LH 0.64; DH/LH 0.41; EV/HE 1.58; EV/WF 1.36; WF/HE 1.16; WH/WF 1.68; OOL/WOT 2.93; DM/LM 0.35; FL/FW 2.19; HFL/HFW 2.33; A3 L/W 0.83; 2R1 L/W 1.48.

Distribution

Northern Territory; known only from the holotype, collected in the desert interior.

Remarks

The basal wing cells are mostly obscured by glue and the setation is unclear. The extreme head dimensions are close to an undescribed species from Samoa, which however has cell 2R1 extremely long and narrow.

Sierola erugata sp. nov.

urn:lsid:zoobank.org:act:FFB92581-04DD-46A0-B723-239A9404C3A7

Figs 72, 76

Diagnosis

Part of the *kalarku* species group, with the mandible strongly twisted and shiny, head more or less triangular in dorsal view, vertex slightly concave, frons microsculpture smooth, clypeus without any trace of a carina, and basal wing cells nearly glabrous. Distinguished from related species by the combination of the clypeus flat, malar space very small, frons sparsely punctate, propodeum with a polished strip extending to the declivity, and vein Rs not reaching the anterior wing margin. The frons is also more polished than in similar species, with the microreticulation only faintly visible.

Etymology

From the Latin '*erugatus*', 'smooth and without wrinkles', referring to the smooth frons.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Nangur State Forest; 26°08' S, 151°58' E; 24 Nov. 1995; G.B. Monteith leg.; pyrethrum trees 6129; QM T262157.

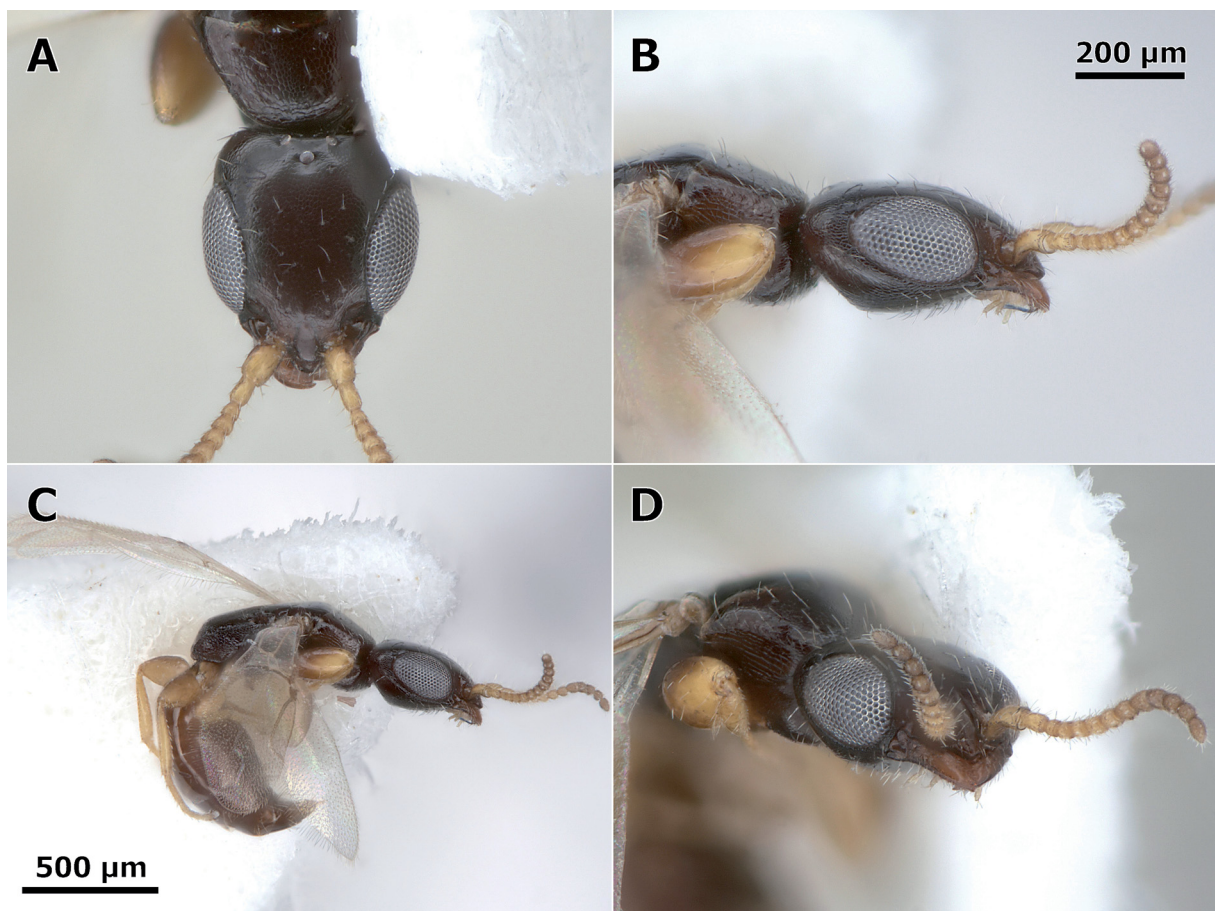


Fig. 76. *Sierola erugata* sp. nov., holotype, ♀ (QM T262157). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratypes

AUSTRALIA – **New South Wales** • 1 ♀; Murwillumbah–Coffs Harbor Hwy 1; 2 Sep. 1986; E.A. Sugden leg.; car net; UCDC. – **Queensland** • 1 ♀; Mt Blackwood; 18 Nov. 1992; Monteith, Thompson and Janetzki leg.; pyrethrum; QM.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally flat, not carinate, slightly convex only laterally; in profile evenly sloping, nearly straight. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; strongly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dull yellow. Mandible dark basally, apical half orange. Procoxa brown basally and yellow apically, basal $\frac{2}{3}$ of profemur dark brown, metafemur tinged with brown, legs otherwise yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.23 mm; LM 0.72 mm (0.69–0.76); WH/LH 0.90 (0.85–0.90); DH/LH 0.55 (0.50–0.55); EV/HE 0.38 (0.38–0.39); EV/WF 0.44 (0.43–0.45); WF/HE 0.85 (0.85–0.88); WH/WF 1.88 (1.80–1.88); OOL/WOT 1.12 (1.06–1.16); DM/LM 0.35; FL/FW 1.93 (1.93–2.05); HFL/HFW 2.18 (2.06–2.18); A3 L/W 0.86 (0.80–0.92); 2R1 L/W 2.94. N = 3.

Distribution

Queensland and New South Wales; known from three widely-separated specimens in the eastern forest region.

Sierola eurycephala sp. nov.

urn:lsid:zoobank.org:act:AD329D0A-B688-49D4-A69E-99931AFF0EBE

Figs 72, 77

Diagnosis

Easily recognized by the combination of head as wide or wider than long and convex dorsally, mesosoma compressed, and ocellar triangle strongly obtuse. The head is distinctly narrowed posterior of the eyes, giving it a round appearance in dorsal view.

Etymology

From the Greek ‘*eurys*’, ‘broad’, + ‘*kephalon*’, ‘head’, referring to the head being wider than long.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Boggomoss 10 via Taroom; 25°31' S, 150°03' E; 13 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; baited flight intercept 063; QM T33427.

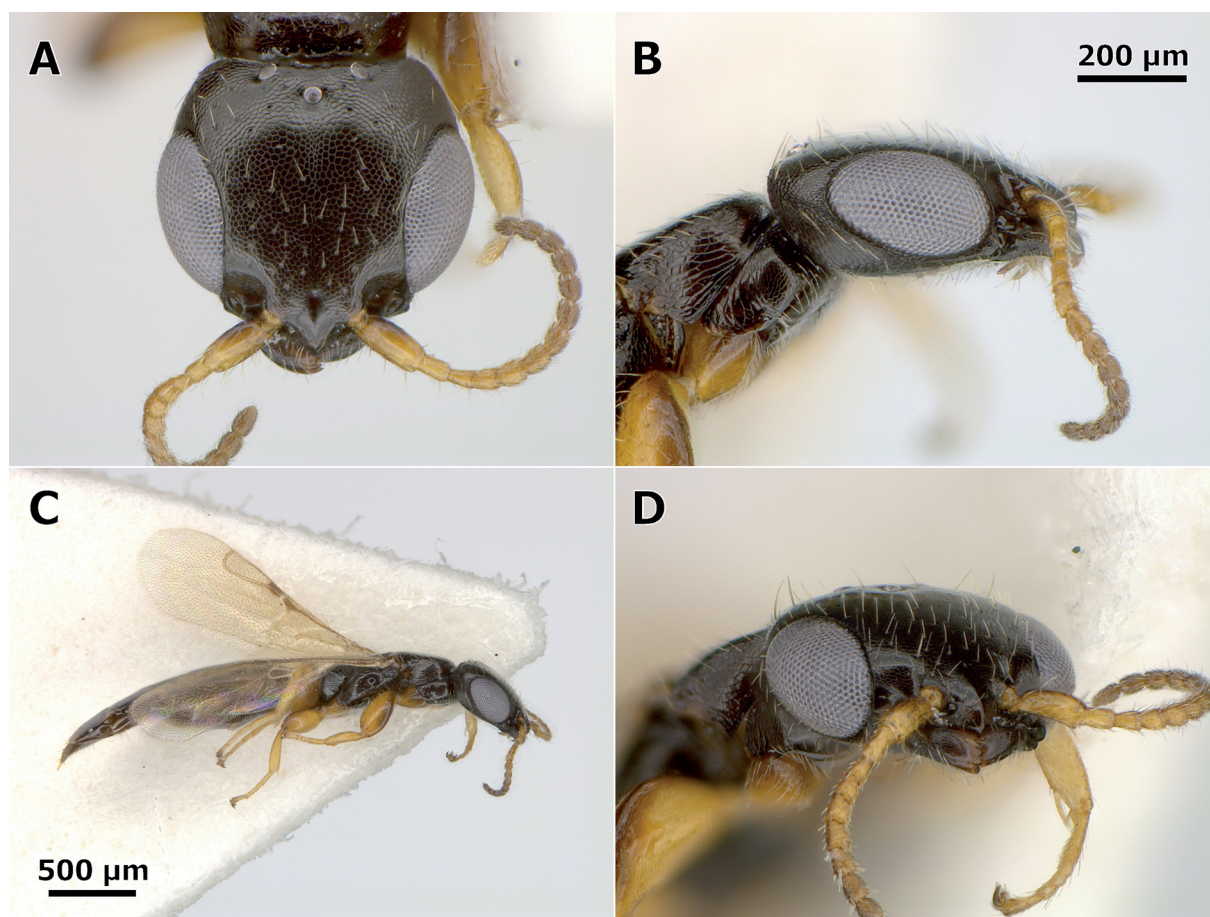


Fig. 77. *Sierola eurycephala* sp. nov., holotype, ♀ (QM T33427). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex weakly pointed; dorsally rounded, convex, lacking a carina or weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute or rounded and recurved at apex. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with moderately close punctures between antennae and midpoint of eyes, 1–3 pit widths apart, sparse posteriorly. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye concave; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–5 each with a pair of moderately long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and basal $\frac{2}{3}$ of femora brownish, legs otherwise yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.65 mm; LM 0.92 mm; WH/LH 1.03; DH/LH 0.48; EV/HE 0.37; EV/WF 0.36; WF/HE 1.05; WH/WF 1.80; OOL/WOT 0.74; DM/LM 0.32; FL/FW 1.71; HFL/HFW 1.92; A3 L/W 1.30; 2R1 L/W 2.35.

Distribution

Queensland; known only from the holotype, collected in the southeast.

Remarks

This species may be related to the *compressa* species group, but is distinctly different in having the head clearly convex dorsally.

Sierola euryops sp. nov.

urn:lsid:zoobank.org:act:BB80DDDA-990C-4EB0-ABD7-825A1F569D37

Figs 67, 78

Diagnosis

A distinctive species, easily recognized by the quadrate head which is more or less flat dorsally and ventrally, large eyes which are distinctly convex medially, thus the frons narrow (WF/HE 0.78–0.81), ocellar triangle strongly acute, lateral ocelli separated from the vertex crest by about their length, and moderately broad mandible with the apex distinctly broader than the base. Cell 2R1 of the fore wing is also unusually short and broad.

Etymology

From the Greek ‘*eury*’, ‘wide’, + ‘*ops*’, ‘eye’, referring to the unusually broad eyes and correspondingly narrow frons. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Victoria • ♀; F[em]. T[ree]. Gully; 13 May 1917; “E. 11–17” [?]; MVMA HYM-86581.

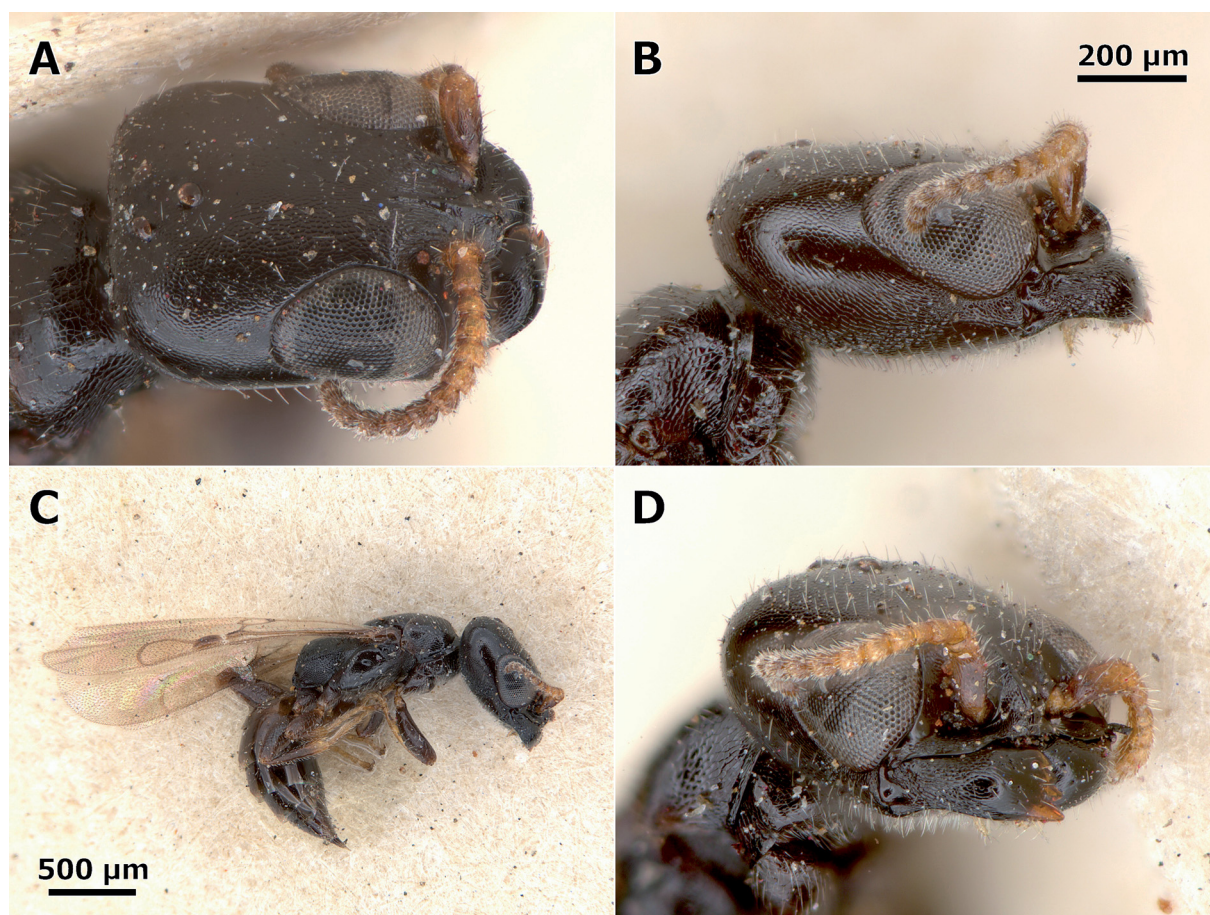


Fig. 78. *Sierola euryops* sp. nov., holotype, ♀ (MVMA HYM-86581). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratypes

AUSTRALIA – **Victoria** • 2 ♀♀, 1 ♂; same data as for holotype; MVMA, HYM-86581 (all mounted on a single card).

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally with a low carina, prolonged posteriorly well beyond antennal sockets to about $\frac{1}{3}$ eye height, or with a sharp carina; in profile steep and short, evenly curved. Mandible broad, ventral margin slightly concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head weakly convex to nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae present posteriorly, fading anteriorly. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.12 mm; LM 1.04 mm (0.98–1.04); WH/LH 0.79 (0.79–0.81); DH/LH 0.52 (0.52–0.53); EV/HE 0.85 (0.81–0.85); EV/WF 1.05 (1.03–1.09); WF/HE 0.81 (0.78–0.81); WH/WF 2.24 (2.24–2.37); OOL/WOT 1.67 (1.65–1.68); DM/LM 0.39; FL/FW 2.48 (2.38–2.48); HFL/HFW 2.68 (2.68–2.73); A3 L/W 1.00 (0.94–1.00); 2R1 L/W 1.87. N = 3.

Male

Similar to female with the following exceptions. *Head.* Generally much more short and compact, not elongate and quadrate. Frons microsculpture finely reticulate. *Mesosoma.* Femora very narrow. *Color.* Antenna nearly all yellow, tinged with brown dorsally. Mandible yellow.

MEASUREMENTS. LFW 1.48 mm; LM 0.75 mm; WH/LH 0.89; DH/LH 0.60; EV/HE 0.63; EV/WF 0.73; WF/HE 0.86; WH/WF 2.07; OOL/WOT 1.05; DM/LM 0.39; FL/FW 2.59; HFL/HFW 2.93; A3 L/W 1.20; 2R1 L/W 1.68.

Distribution

Victoria; known only from the type series, collected in Melbourne.

Remarks

There are four specimens mounted on one card; the bottom right one (as viewed with the pin at the bottom center) is the holotype, the others are paratypes.

Sierola exilis sp. nov.

urn:lsid:zoobank.org:act:147AC6AF-5D05-4D03-8B21-709992356F4B

Figs 67, 79

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely setose. Readily distinguished from all others by the extremely flattened body, with the mesosoma about 4 times as long as deep and head about 3 times as long as deep, and smooth frons microsculpture. Closest to *S. mirabilis* sp. nov., which is even more flattened and has the mandible very narrow including at the base.

Etymology

From the Latin '*exilis*', 'thin', referring to the extremely flattened body.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 19 km NW by N of St Helens; 41°11' S, 148°07' E; 14 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154831.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally weakly carinate or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible flat in lateral view, nearly glabrous. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to

eye convex; sculpture evenly coriaceous. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, tinged with brown dorsally. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

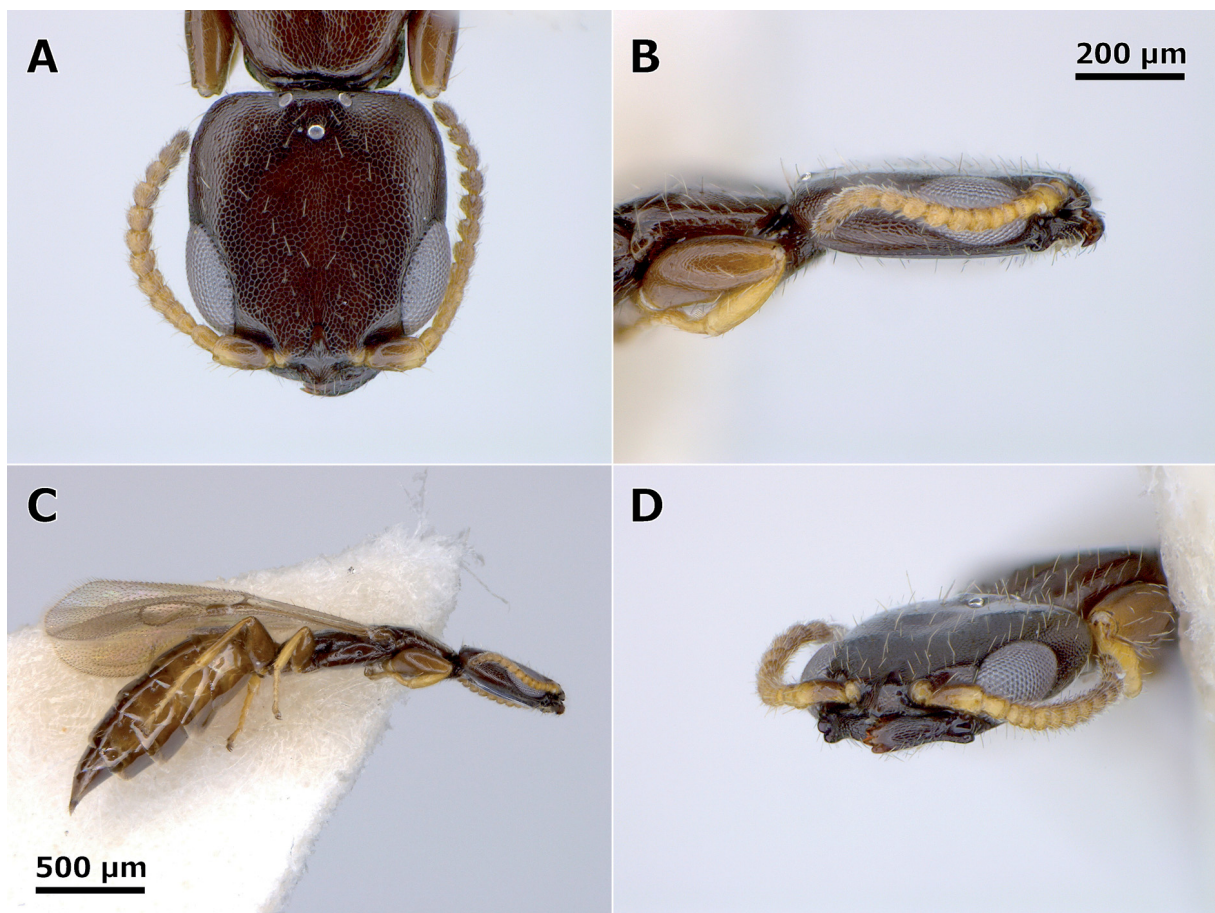


Fig. 79. *Sierola exilis* sp. nov., holotype, ♀ (ANIC 32-154831). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.62 mm; LM 0.83 mm; WH/LH 0.88; DH/LH 0.31; EV/HE 0.94; EV/WF 0.71; WF/HE 1.31; WH/WF 1.60; OOL/WOT 1.89; DM/LM 0.25; FL/FW 2.05; HFL/HFW 2.10; A3 L/W 0.93; 2R1 L/W 2.69.

Distribution

Tasmania; known only from the holotype.

Sierola exleyae sp. nov.

urn:lsid:zoobank.org:act:6BF9F44A-0C30-4F93-A207-FF3A11C9520B

Figs 72, 80

Diagnosis

Among species with the head convex dorsally and ventrally and basal wing cells setose, distinguished from most species by the moderately broad frons, clypeus semi-elliptical with a low carina dorsally, head moderately broad and deep, mandible distinctly concave ventrally, and lateral ocelli distinctly separated from the vertex crest. Closest to *S. lacustris* sp. nov. and *S. ovata* sp. nov.; separated from the former by the coriaceous frons microsculpture, vertex not carinate between the lateral ocelli, narrower frons (WF/HE ~1.10 vs 1.15–1.20), and head slightly deeper (DH/LH ~0.57 vs 0.53–0.54), and from the latter by the sparsely setose basal wing cells, more elongate cell 2R1, and more elongate clypeus in profile. Additionally separated from both by the median polished strip of the propodeum

Etymology

Named for the collector, Dr Elizabeth M. Exley, a noted hymenopterist at the University of Queensland.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Mt Gosford; 7 Nov. 1965; E.M. Exley leg.; *Lophostemon*; QM T262158.

Paratype

AUSTRALIA – Queensland • 1 ♀; Chalamar [= Chelmer?]; 5 Sep. 1979; G. Gordh and C. Dahma leg.; UCRC 556766.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle

weakly to strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina faintly present laterally, obsolete medially; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum narrowly glabrous medially, with moderately dense setae laterally, becoming longer laterad.

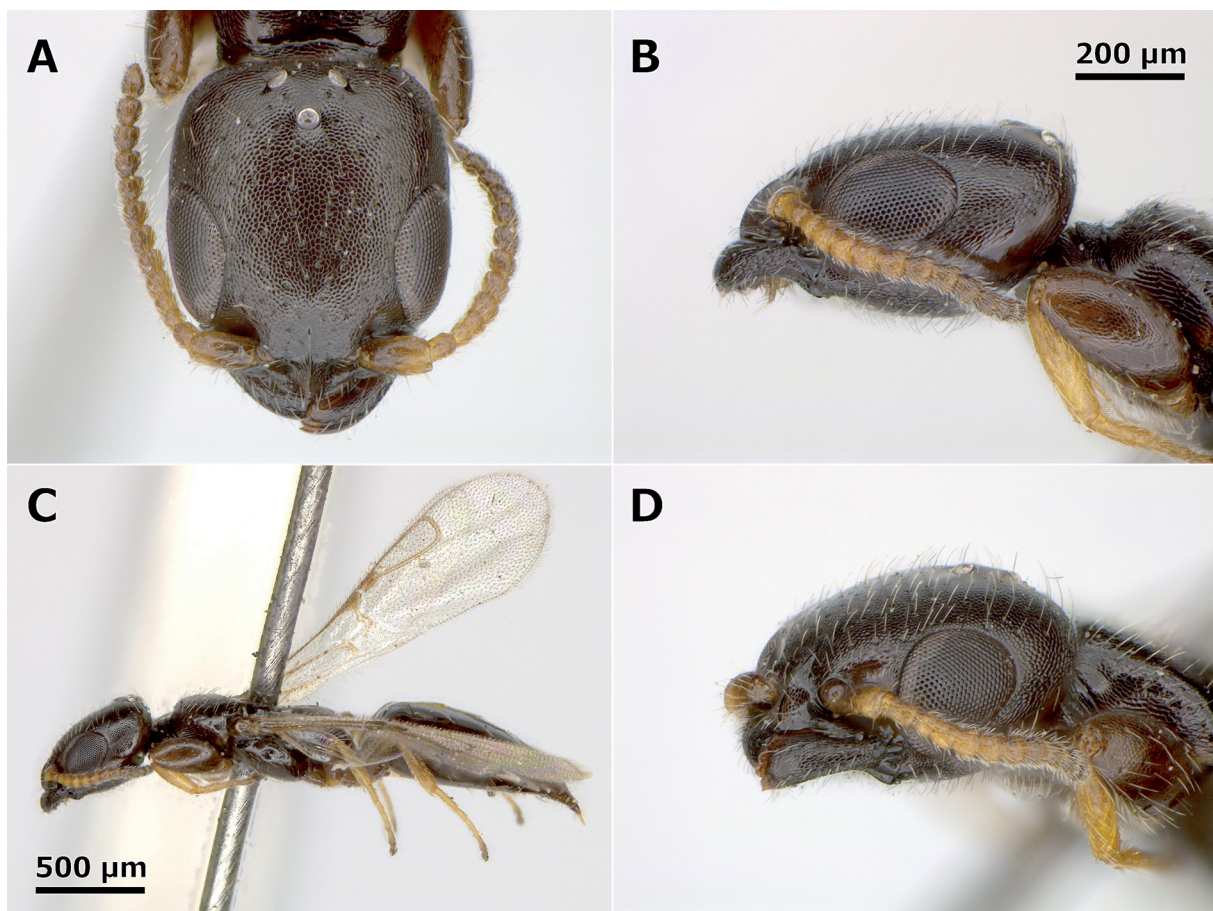


Fig. 80. *Sierola exleyae* sp. nov., holotype, ♀ (QM T262158). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.74 mm; LM 0.91 mm; WH/LH 0.82; DH/LH 0.57; EV/HE 0.79; EV/WF 0.71; WF/HE 1.11; WH/WF 1.71; OOL/WOT 1.55; DM/LM 0.37; FL/FW 2.13; HFL/HFW 2.19; A3 L/W 1.08; 2R1 L/W 2.56.

Distribution

Queensland and New South Wales; known from two specimens, both taken near the coast.

***Sierola ficicola* sp. nov.**

urn:lsid:zoobank.org:act:7E59C56E-8560-4AA8-9871-DFE6D431AA95

Figs 81, 90

Diagnosis

Namesake of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Closest to *S. carruca* sp. nov., joined in having the lateral ocelli somewhat close to the vertex crest which is not carinate posterior of ocelli; separated by the reddish brown mandible and deeper head (DH/LH ~0.52) which is moderately setose ventrally.

Etymology

Named for the collection of the type at the Curtain Fig tree, near Yungaburra.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Curtain Fig, 2 km SSW of Yungaburra; 17°17' S, 145°34' E; 28 Jan. 1988; D.C.F. Rentz leg.; pantraps; ANIC 32-154832.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible broad, not narrowed from base, ventral margin nearly straight; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head nearly flat ventrally, genal angle absent. Side of head posterior to

eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.



Fig. 81. *Sierola ficicola* sp. nov., holotype, ♀ (ANIC 32-154832). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.32 mm; LM 0.69 mm; WH/LH 0.74; DH/LH 0.52; EV/HE 1.04; EV/WF 1.00; WF/HE 1.04; WH/WF 1.76; OOL/WOT 1.99; DM/LM 0.36; FL/FW 1.95; HFL/HFW 2.00; A3 L/W 0.92; 2R1 L/W 2.94.

Distribution

Queensland; known only from the holotype, collected in northern rain forest.

Sierola filicis sp. nov.

urn:lsid:zoobank.org:act:EF41299B-C64C-441A-AFAE-07F5AA61D0E9

Figs 82–83

Diagnosis

Readily distinguished by the glabrous basal wing cells, distinctly infusate wings, entirely microreticulate propodeum, distinct malar space, and mandible strongly convex outwardly. Closest to *S. acta* sp. nov., *S. infecta* sp. nov., and *S. peras* sp. nov., all of which have the wings hyaline and mandible not convex outwardly. In addition, the two former have a polished area on the propodeum, while the latter has the ocellar triangle wider (OOL/WOT ~1.03 vs 1.39 in *S. filicis* sp. nov.) and antenna short (A3 wider than long; distinctly longer than wide in *S. filicis*).

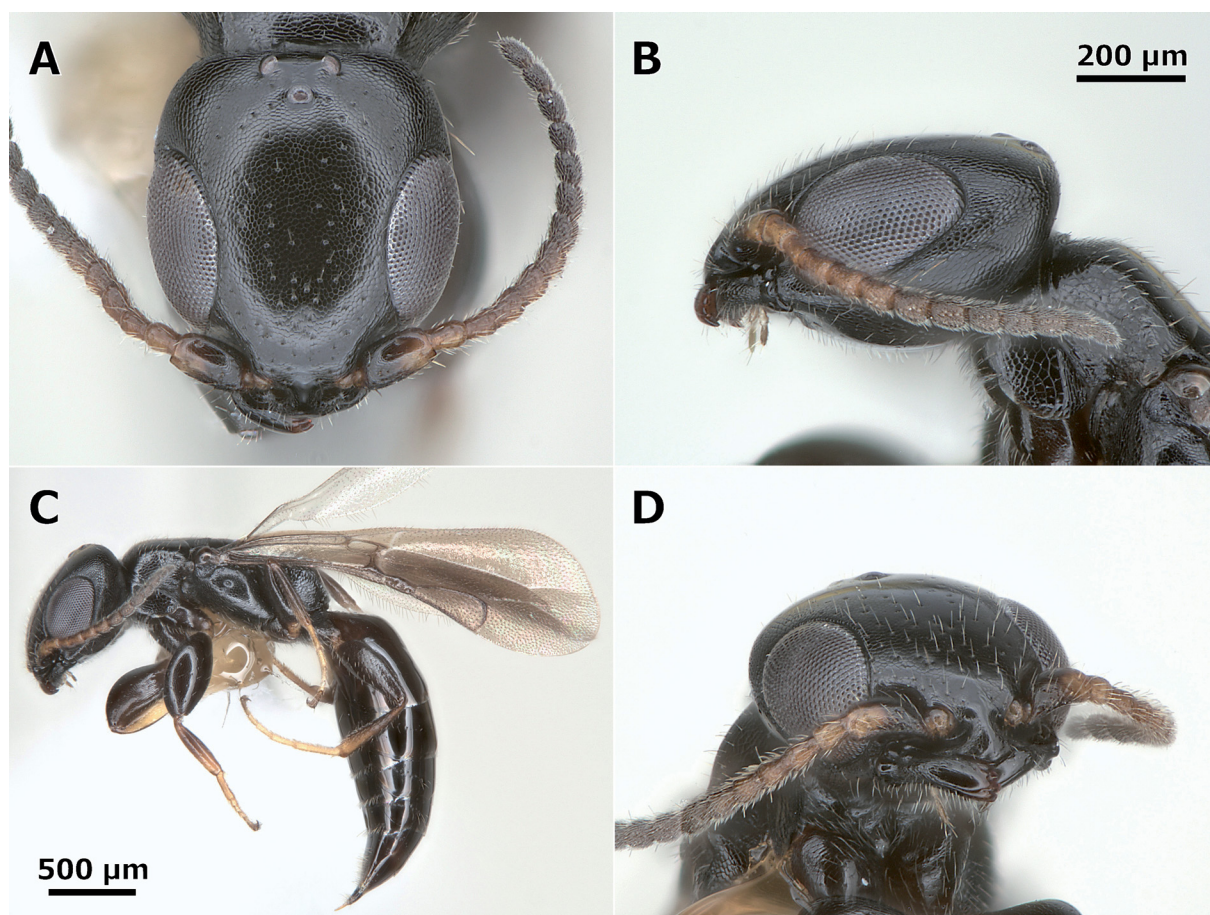


Fig. 82. *Sierola filicis* sp. nov., holotype, ♀ (ANIC 32-154833). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

From the Latin '*filicis*', 'fern', referring to the collection of the holotype. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Kosziuscko; 36.0879° S, 148.183° E; 13 Dec. 2019; K. Magnacca leg.; fern gully, sweeping ferns; ANIC 32-154833.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex broadly rounded; dorsally rounded, convex, lacking a carina; in profile steep and short, evenly curved. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in

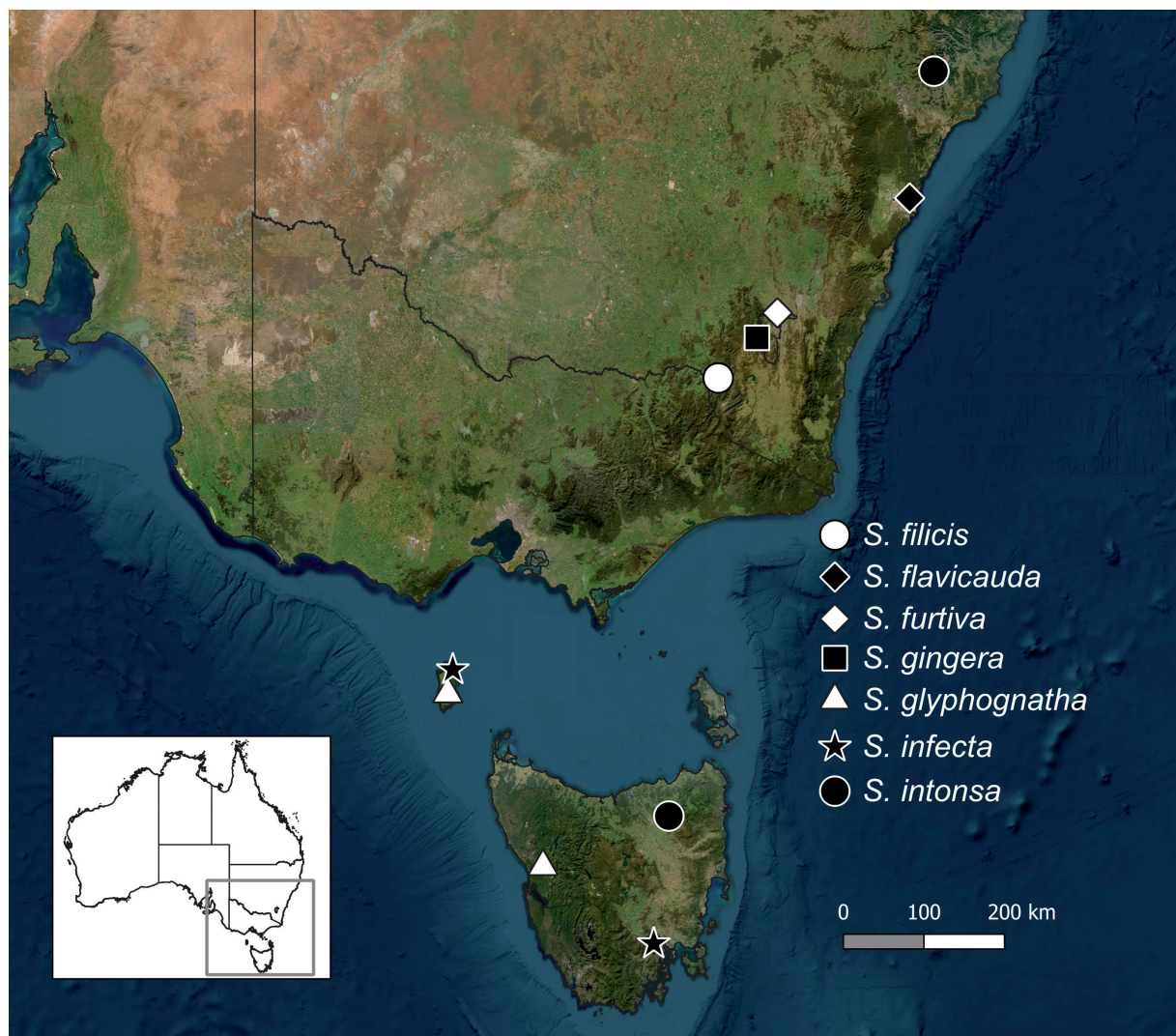


Fig. 83. Map of collection records of *Sierola filicis* sp. nov., *S. flavicauda* sp. nov., *S. furtiva* sp. nov., *S. gingera* sp. nov., *S. glyphognatha* sp. nov., *S. infecta* sp. nov., and *S. intonsa* sp. nov.

ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S2–5 each with a somewhat dense apical row of short setae. Sixth sternum narrowly glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora dark brown to black, basal half of tibiae tinged with brown, legs otherwise yellow.

WINGS. Membrane infusate. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.95 mm; LM 1.02 mm; WH/LH 0.83; DH/LH 0.57; EV/HE 0.52; EV/WF 0.60; WF/HE 0.86; WH/WF 1.93; OOL/WOT 1.39; DM/LM 0.40; FL/FW 1.95; HFL/HFW 2.45; A3 L/W 1.51; 2R1 L/W 2.72.

Distribution

New South Wales; known only from the holotype, collected in montane rainforest near the border with Victoria.

***Sierola flavicauda* sp. nov.**

urn:lsid:zoobank.org:act:2019E601-B457-416F-B486-39D3813EC33D

Figs 83–84

Diagnosis

The bright yellow metasoma makes this species unique in the genus, and the broad, relatively deep head is also distinctive.

Etymology

From the Latin ‘*flavus*’, ‘yellow’, + ‘*caudus*’, ‘tail’, referring to the yellow metasoma.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Sydney; A.M. Lea leg.; SAMA 32-42918.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture minutely colliculate, appearing dull at low magnification but with each cellule shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae absent. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally,

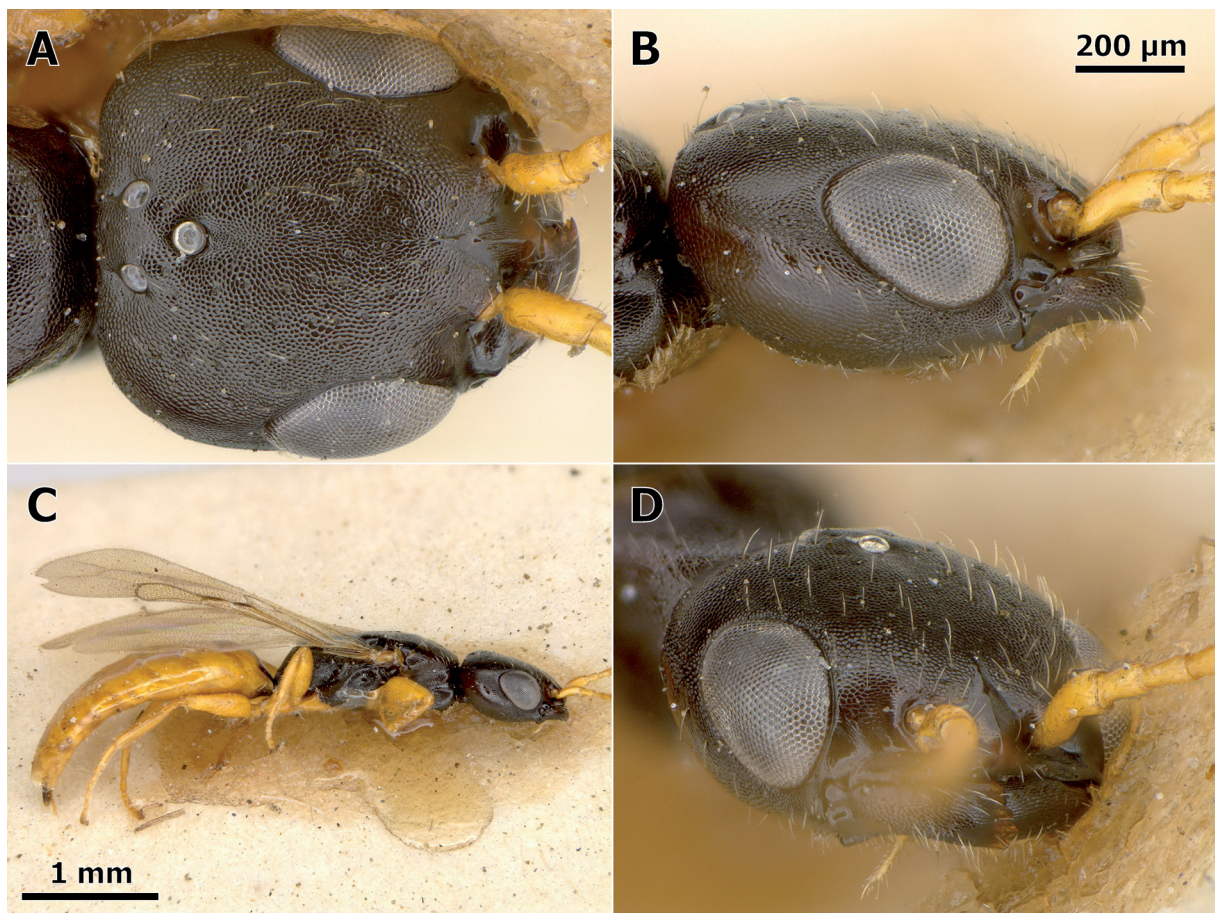


Fig. 84. *Sierola flavicauda* sp. nov., holotype, ♀ (SAMA 32-42918). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to mesoscutum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina faintly present; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Head and mesosoma black, metasoma bright yellow except S1 and base of T1. Antenna yellow, tinged with brown dorsally. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.77 mm; LM 1.39 mm; WH/LH 1.00; DH/LH 0.58; EV/HE 0.74; EV/WF 0.53; WF/HE 1.40; WH/WF 1.66; OOL/WOT 1.53; DM/LM 0.41; FL/FW 2.31; HFL/HFW 2.86; A3 L/W 1.80; 2R1 L/W 2.21.

Distribution

New South Wales; known only from the holotype, collected near Sydney.

Sierola furtiva sp. nov.

urn:lsid:zoobank.org:act:E7857585-D6B3-42E9-9DCB-8E97A1663BD3

Figs 83, 85

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, and basal wing cells sparsely setose; belonging to the subgroup with the ocellar triangle weakly acute to obtuse and head shorter posterior to the eyes. Closest to *S. specularis* sp. nov. in having the mandible strongly convex outwardly and basal wing cells sparsely setose; separated by the weakly acute ocellar triangle with the lateral ocelli slightly removed from the vertex crest, coriaceous frons microsculpture, and posterior margin of cell 1M weakly convex with the distal corner more angulate.

Etymology

From the Latin '*furtivus*', 'concealed' or 'furtive', from the adaptation of this species to sneaking into the concealed hiding places of its prey.

Type material

Holotype

AUSTRALIA – Australian Capital Territory • ♀; Canberra; 2 Jun. 1948; E.F. Riek leg.; ANIC 32-154834.

Paratypes

AUSTRALIA – Australian Capital Territory • 2 ♀♀; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a sharp carina, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broadened toward apex; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular to coriaceous. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally,

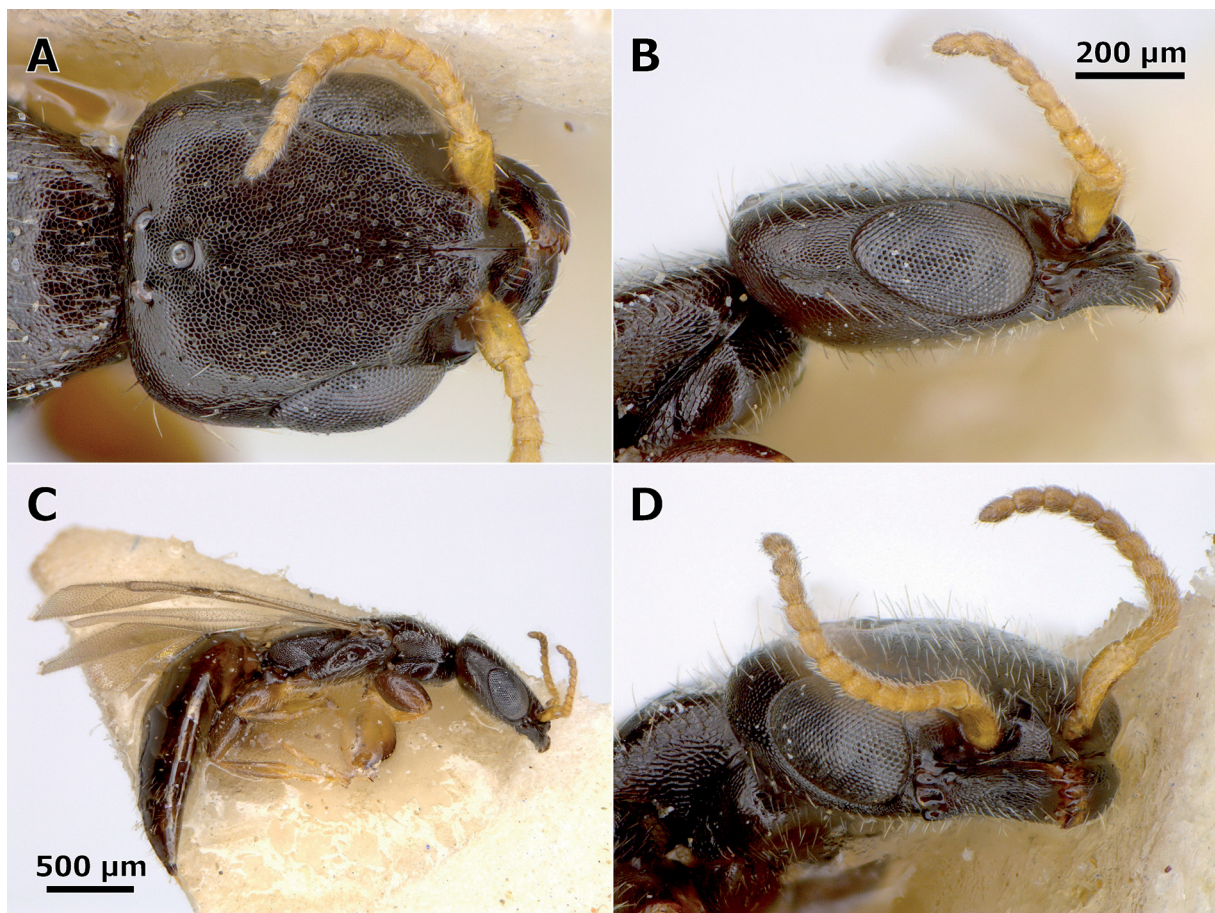


Fig. 85. *Sierola furtiva* sp. nov., holotype, ♀ (ANIC 32-154834). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.11 mm; LM 1.14 mm (0.92–1.14); WH/LH 0.88 (0.88–0.90); DH/LH 0.40 (0.36–0.40); EV/HE 0.68 (0.66–0.71); EV/WF 0.55 (0.55–0.59); WF/HE 1.22 (1.17–1.22); WH/WF 1.59 (1.59–1.65); OOL/WOT 1.64 (1.55–1.70); DM/LM 0.31; FL/FW 1.81 (1.81–2.00); HFL/HFW 1.83 (1.83–1.93); A3 L/W 0.86 (0.77–0.86); 2R1 L/W 2.40. N = 3.

Distribution

Australian Capital Territory; known only from one collection.

Sierola gingera sp. nov.

urn:lsid:zoobank.org:act:8E083C5F-7B97-4A47-825C-8FCD7AA2A816

Figs 83, 86

Diagnosis

Among species with the head convex dorsally and basal wing cells setose, distinguished from most others by the elongate, conspicuous vertex and gena setae and somewhat strongly compressed head (DH/LH ~0.47). Closest to *S. boggomoss* sp. nov., separated by the strongly obtuse ocellar triangle, with the lateral ocelli nearly touching the vertex crest, and more densely setose basal wing cells.

Etymology

Named for the type locality, Mt Gingera. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Australian Capital Territory • ♀; Mt Gingera; 4 Feb. 1965; D.H. Colless leg.; ANIC 32-154835.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a rounded carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate

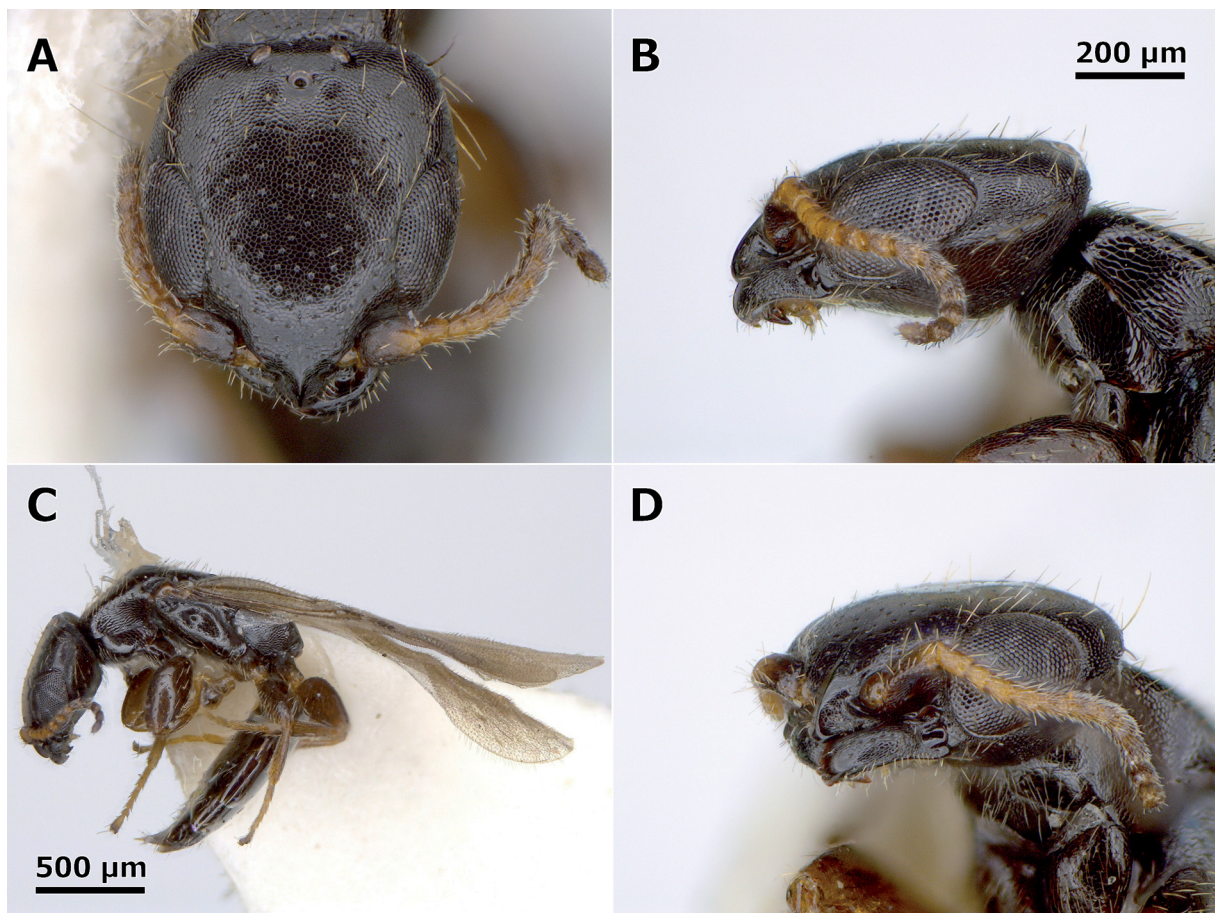


Fig. 86. *Sierola gingera* sp. nov., holotype, ♀ (ANIC 32-154835). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and apex brown, middle flagellomeres brown dorsally and orange ventrally. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.09 mm; LM 1.16 mm; WH/LH 0.87; DH/LH 0.47; EV/HE 0.70; EV/WF 0.63; WF/HE 1.11; WH/WF 1.76; OOL/WOT 1.20; DM/LM 0.32; FL/FW 2.10; HFL/HFW 2.19; A3 L/W 1.00; 2R1 L/W 2.45.

Distribution

Australian Capital Territory; known only from the holotype.

Remarks

This species is somewhat undistinctive, but the combination of characters listed in the diagnosis easily separates it from all others.

Sierola glutinata sp. nov.

urn:lsid:zoobank.org:act:D1527EED-38DE-4C21-8E81-14AB2D61DC38

Figs 72, 87

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Closest to *S. ustulata* sp. nov. in lacking a distinct malar space and having the head strongly convex ventrally; distinguished by the narrow frons, slightly more compressed head, and ventral margin of the mandible less conspicuously concave.

Etymology

From the Latin '*glutinatus*', 'glued', referring to the excess glue on the holotype.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Mt Glorious; 13 Feb.–19 Jul. 1991; A. Hiller leg.; Malaise trap; QM T262159.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly to strongly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band



Fig. 87. *Sierola glutinata* sp. nov., holotype, ♀ (QM T262159). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black, clypeus orange to yellow. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown to orange. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.58 mm; LM 0.78 mm; WH/LH 0.84; DH/LH 0.59; EV/HE 0.58; EV/WF 0.71; WF/HE 0.82; WH/WF 2.06; OOL/WOT 1.51; DM/LM 0.42; FL/FW 2.00; HFL/HFW 2.65; A3 L/W 1.22; 2R1 L/W 2.69.

Distribution

Queensland; known only from the holotype, collected near Brisbane.

Sierola glyphognatha sp. nov.

urn:lsid:zoobank.org:act:89C66012-40BD-4D83-B4DB-2EB814E5E8FF

Figs 83, 88

Diagnosis

A very distinctive species, immediately recognizable by the peculiar mandible which is deeply notched near the base, broadest at the medial bend, and slightly narrowed at the apex. In addition, the clypeus is flat dorsally but sharply carinate anteriorly, basal wing cells very densely setose, and distal portion of vein Rs does not reach the anterior wing margin.

Etymology

From the Greek ‘*glyphis*’, ‘notch’, + ‘*gnathos*’, ‘jaw’, referring to the deep concavity at the base of the mandible. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Ewart Creek; 41°58' S, 145°28' E; 16 Jan.–2 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154836.

Paratypes

AUSTRALIA – **Tasmania** • 2 ♀♀; King Is., Pegarah Nature Reserve; 39.9441° S, 143.9905° E; 19 Nov.–16 Dec. 2023; S.J. Grove, L. Cambra and M. Beattie leg.; Malaise trap series 3; TMAG F152997,

F180574 • 1 ♀; King Is., Pegarah Nature Reserve; 39.9441° S, 143.9905° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series; TMAG F152995.

Description

Female

HEAD. Clypeal process triangular, apex pointed; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile evenly curved from base to apex, apical angle slightly acute. Mandible strongly constricted near base, apical half broadened and club-like; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view distinctly elbowed externally, internal margin nearly straight. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture coriaceous to finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent.

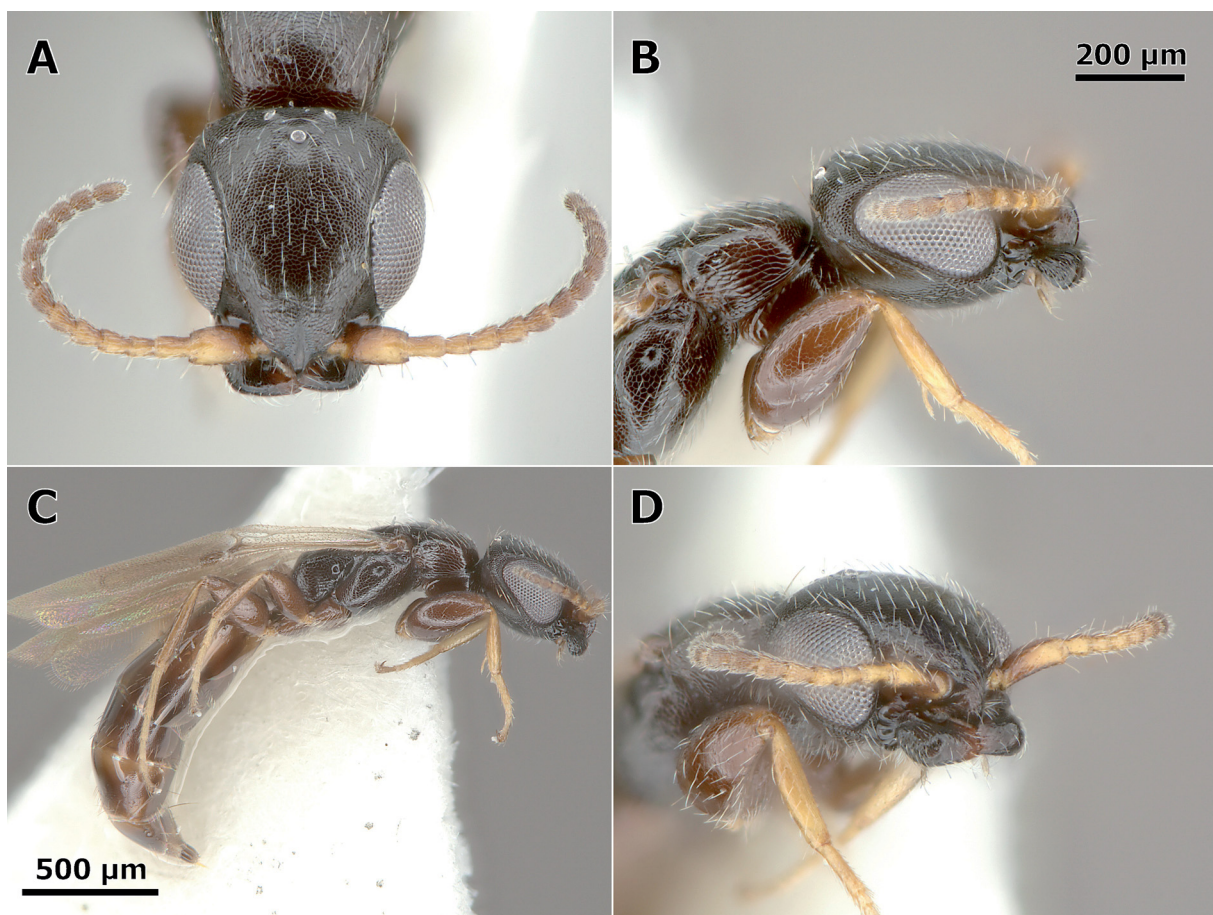


Fig. 88. *Sierola glyphognatha* sp. nov., holotype, ♀ (ANIC 32-154836). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to mesoscutum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with very faint microreticulation over posterior terga. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora dark brown to black, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.62 mm; LM 0.79 mm (0.76–0.85); WH/LH 0.93 (0.92–0.95); DH/LH 0.62 (0.60–0.62); EV/HE 0.33 (0.32–0.36); EV/WF 0.37 (0.35–0.38); WF/HE 0.91 (0.90–0.93); WH/WF 1.81 (1.74–1.84); OOL/WOT 0.96 (0.91–0.98); DM/LM 0.39; FL/FW 2.17 (2.00–2.17); HFL/HFW 2.38 (2.27–2.38); A3 L/W 1.14 (1.14–1.32); 2R1 L/W 3.29. N = 4.

Distribution

Tasmania; known from the holotype and a series of specimens collected on King Island.

Remarks

This striking species appears to have a mix of characters from several seemingly unrelated species groups. The frons and clypeus resemble those of the *contracta* complex, while the mandible is very similar to that of *S. koa* Fullaway, 1920 of Hawaii. Among species treated here it most closely resembles *S. opprimator* sp. nov., but the notched mandible and narrower head, and different clypeus immediately distinguish it.

Sierola gudang sp. nov.

urn:lsid:zoobank.org:act:9B24CB76-4131-4520-A755-E5F5137279D8

Figs 89–90

Diagnosis

United with *S. truncata* sp. nov. by the unusual clypeus, which is high and weakly carinate dorsally, abruptly truncate apically, with a distinct vertical surface visible in lateral view. Separated by having the mandible concave ventrally, narrowed just beyond the base and broadened medially, slightly constricted again near the teeth; basal cells of the fore wing sparsely setose; head shorter posterior of the eyes, EV/HE 0.50–0.75; and frons narrower, WF/HE ~0.90.

Etymology

Named for the Gudang people, the Aboriginal inhabitants of the tip of Cape York. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; 2 km S of Cape York; 10°43' S, 142°32' E; 20 Jun. 1993; I.D. Naumann and P. Zborowski leg.; open forest; ANIC 32-154837.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate, abruptly cut off apically; in profile gently sloping dorsally, distally nearly vertical or slightly angled back. Mandible moderately broad, distinctly narrowed just beyond base and broadened distally, apex slightly narrowed, broadest at apical $\frac{2}{3}$; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons

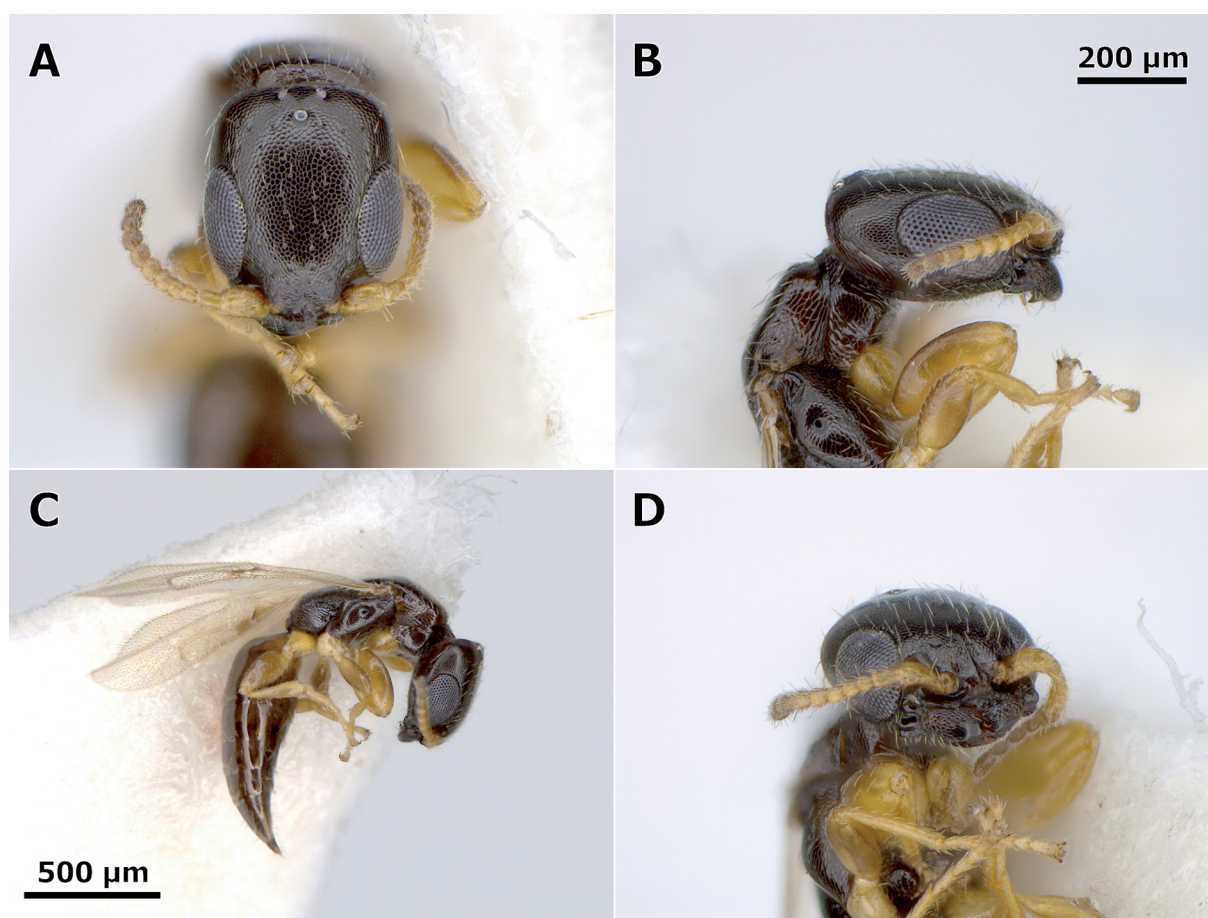


Fig. 89. *Sierola gudang* sp. nov., holotype, ♀ (ANIC 32-154837). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

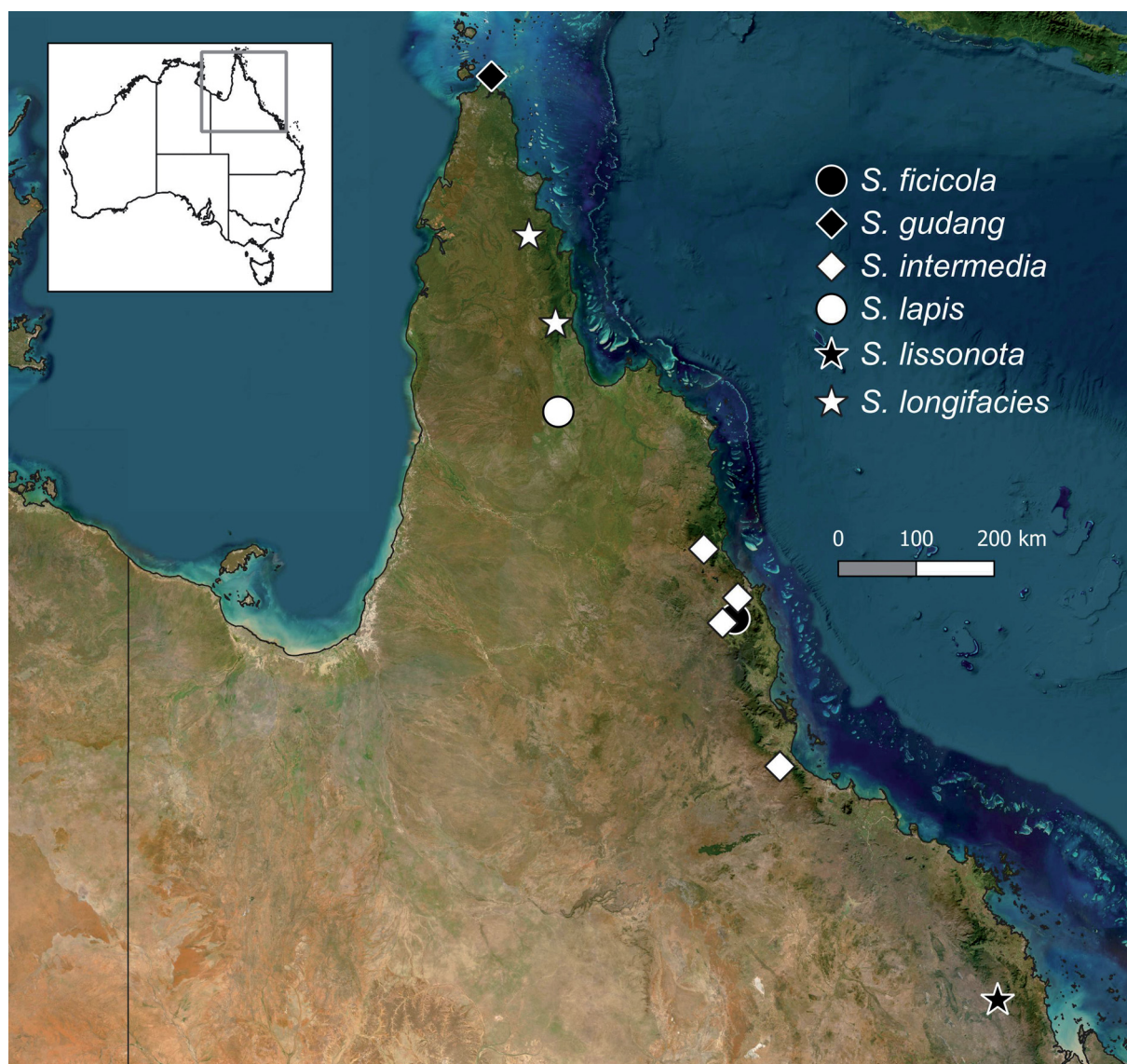


Fig. 90. Map of collection records of *Sierola ficicola* sp. nov., *S. gudang* sp. nov., *S. intermedia* sp. nov., *S. lapis* sp. nov., *S. lissonota* sp. nov., and *S. longifacies* sp. nov.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Procoxa and femur yellow except dorsal margin of femur, meso- and metafemora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.19 mm; LM 0.61 mm; WH/LH 0.84; DH/LH 0.55; EV/HE 0.63; EV/WF 0.70; WF/HE 0.90; WH/WF 1.87; OOL/WOT 1.65; DM/LM 0.38; FL/FW 1.89; HFL/HFW 2.09; A3 L/W 1.00; 2R1 L/W 2.82.

Distribution

Queensland; known only from the holotype, collected near the tip of Cape York.

Remarks

The unusual clypeus is very similar to *S. truncata* sp. nov., but it is different in many other respects, as listed in the diagnosis. The unusual mandible, narrowing at the apex, is especially notable.

Sierola helena sp. nov.

urn:lsid:zoobank.org:act:9CC9FB2D-1D02-4F68-8708-F8230E13017F

Figs 72, 91

Diagnosis

A somewhat nondescript species, identifiable by the combination of the head dorsally convex and compressed in lateral view (DH/LH ~0.53), frons not particularly broad, clypeus rounded and recurved apically, and basal wing cells sparsely setose. Closest to *S. terpsilithus* sp. nov., differing in the distinctly rounded, broader head (WH/LH 0.79, OOL/WOT 1.39), laterally angulate between the posterior eye margin and occiput.

Etymology

From the type locality, St Helena Creek. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; “St. Helena” via Wollomombi; 23 Apr. 1973; I. Naumann leg.; open forest; long grass; QM T262160.

Description**Female**

HEAD. Clypeal process semicircular to semi-elliptical, apex rounded; dorsally with a rounded carina, effaced towards apex; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate

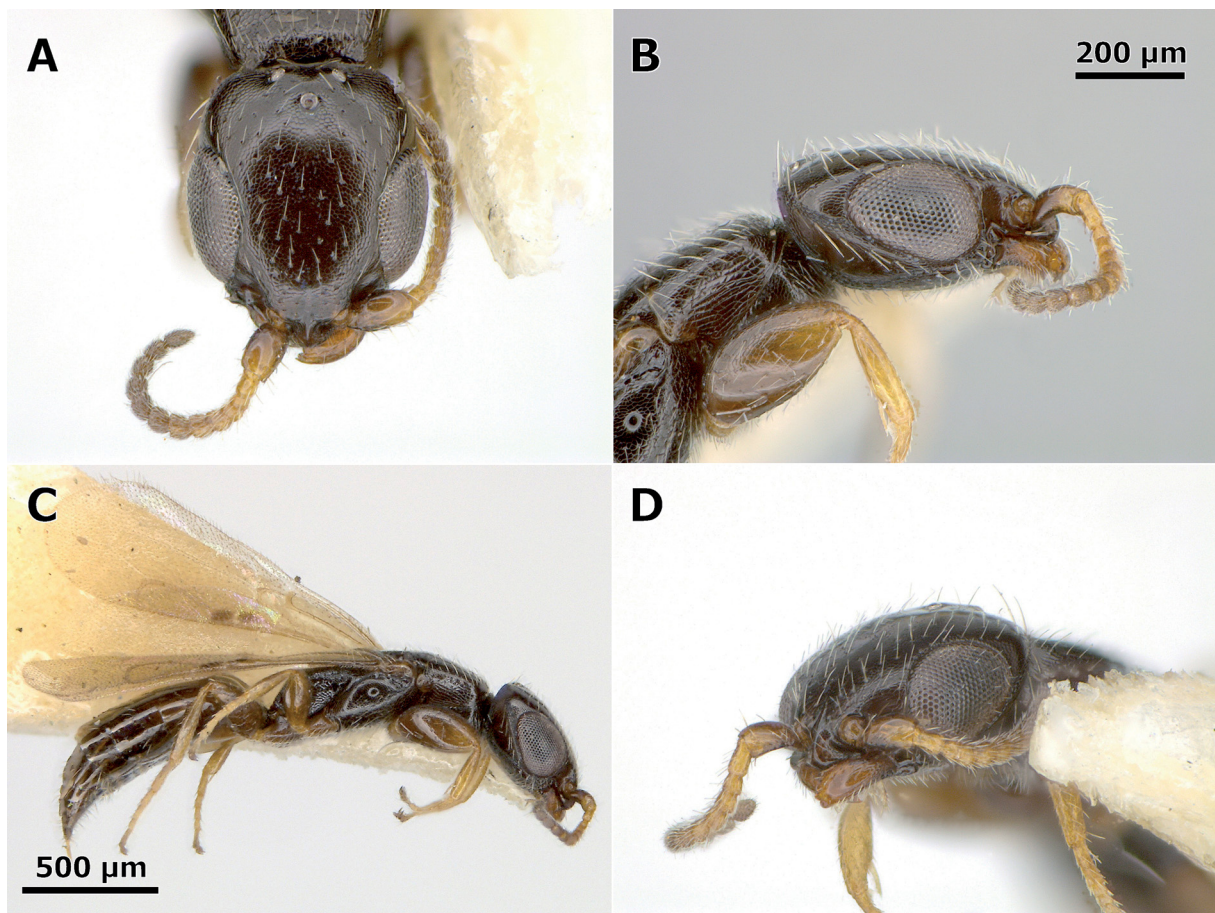


Fig. 91. *Sierola helena* sp. nov., holotype, ♀ (QM T262160). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with a pair of moderately long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell, or cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.46 mm; LM 0.82 mm; WH/LH 0.88; DH/LH 0.53; EV/HE 0.54; EV/WF 0.57; WF/HE 0.95; WH/WF 1.84; OOL/WOT 1.10; DM/LM 0.36; FL/FW 2.00; HFL/HFW 2.00; A3 L/W 1.00; 2R1 L/W 2.94.

Distribution

New South Wales; known only from the holotype, collected in the northeast.

Sierola infecta sp. nov.

urn:lsid:zoobank.org:act:E0A00469-377A-44C8-9C89-D3804C06D413

Figs 83, 92

Diagnosis

Part of a cluster of species with the basal wing cells nearly glabrous, clypeus short and semi-elliptical, and head moderately deep and convex dorsally and ventrally. Separated from similar species by the deep head (DH/LH ~0.61), black mandible which is not twisted or outwardly convex, distinct malar space, and propodeal disc with a triangular polished area on the posterior $\frac{2}{3}$, narrowed anteriorly (in most species with a polished area it is parallel-sided, or triangular and located on the anterior portion). The pale spots on the head are distinctive but not always clearly visible.

Etymology

From the Latin ‘*infectus*’, ‘stained’, referring to the discolored face.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Collinsvale; elev. 300 m; 2 Feb. 1983; M.A. Williams leg.; Malaise trap; SAMA.

Paratypes

AUSTRALIA – **Tasmania** • 2 ♀♀; King Is., Martha Lavinia Road, heathland; 39.6567° S, 144.0678° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series 3; TMAG F180576, F180577.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broadened toward apex; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view distinctly elbowed externally, internal margin nearly straight. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with mostly moderately sparse setae, extending more densely to postgenal depression in a narrow strip. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side

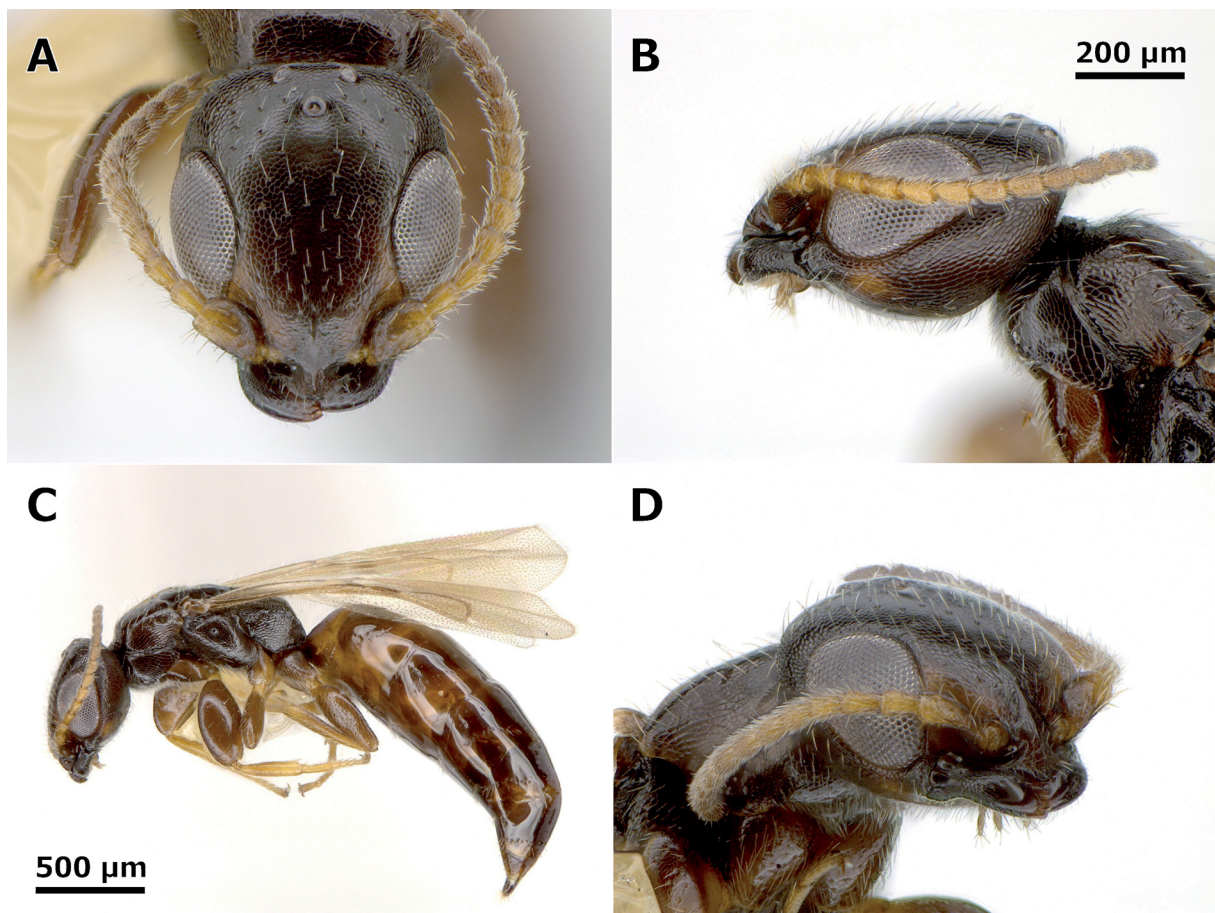


Fig. 92. *Sierola infecta* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent, with a distinct median triangular polished area on posterior $\frac{2}{3}$, broadest posteriorly; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 with very short apical setae. Sixth sternum narrowly glabrous medially, laterally with dense pilose setae.

COLOR. Predominantly black, head with irregular orange-brown coloration between the eye and antenna and on anterior gena, metasoma orange-brown anteriorly, posterior segments darker. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.81 mm; LM 0.88 mm (0.88–1.01); WH/LH 0.88 (0.86–0.88); DH/LH 0.61 (0.59–0.61); EV/HE 0.53 (0.47–0.53); EV/WF 0.61 (0.52–0.61); WF/HE 0.88 (0.88–0.89); WH/WF 1.95 (1.88–1.95); OOL/WOT 1.11 (1.04–1.11); DM/LM 0.42; FL/FW 1.84 (1.84–1.97); HFL/HFW 2.52 (2.38–2.52); A3 L/W 1.42 (1.42–1.43); 2R1 L/W 2.30. N = 3.

Distribution

Tasmania; known from two collections.

Remarks

The holotype has very distinct pale orange-brown marks on the anterodorsal and anteroventral eye margins; in the paratypes these are present but much fainter.

Sierola intermedia sp. nov.

urn:lsid:zoobank.org:act:8B3D6F35-B2F2-4D16-B1E8-8A43C548D39B

Figs 90, 93

Diagnosis

Among species with a strongly compressed body and flat head, separated from the *compressa* group by the relatively long, quadrate head. Distinguished from other similar species by having the ocellar triangle strongly acute, basal wing cells densely setose, and mandible reddish brown.

Etymology

Referring to the type locality on the border between the wet and dry zones of Queensland.

Type material

Holotype

AUSTRALIA – Queensland • ♀; 6 km W by S of Paluma; 11 May 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC 32-154838.

Paratypes

AUSTRALIA – **Queensland** • 2 ♀♀; Davies Creek Road, 20 km SE of Mareeba; elev. 750 m; 17 Dec. 1989; Monteith and Thompson leg.; pyrethrum, logs and trees; QM • 1 ♀; 3 km S of Mt Spurgeon; 16°27' S, 145°11' E; 20–22 Nov. 1997; C.J. Burwell leg.; open forest; QM • 1 ♀; Baldy Mt Road, 3.3 km from S end; 17°20' S, 145°25' E; elev. 1100 m; 30 Nov. 1997; C.J. Burwell leg.; QM.

Description**Female**

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded or truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae

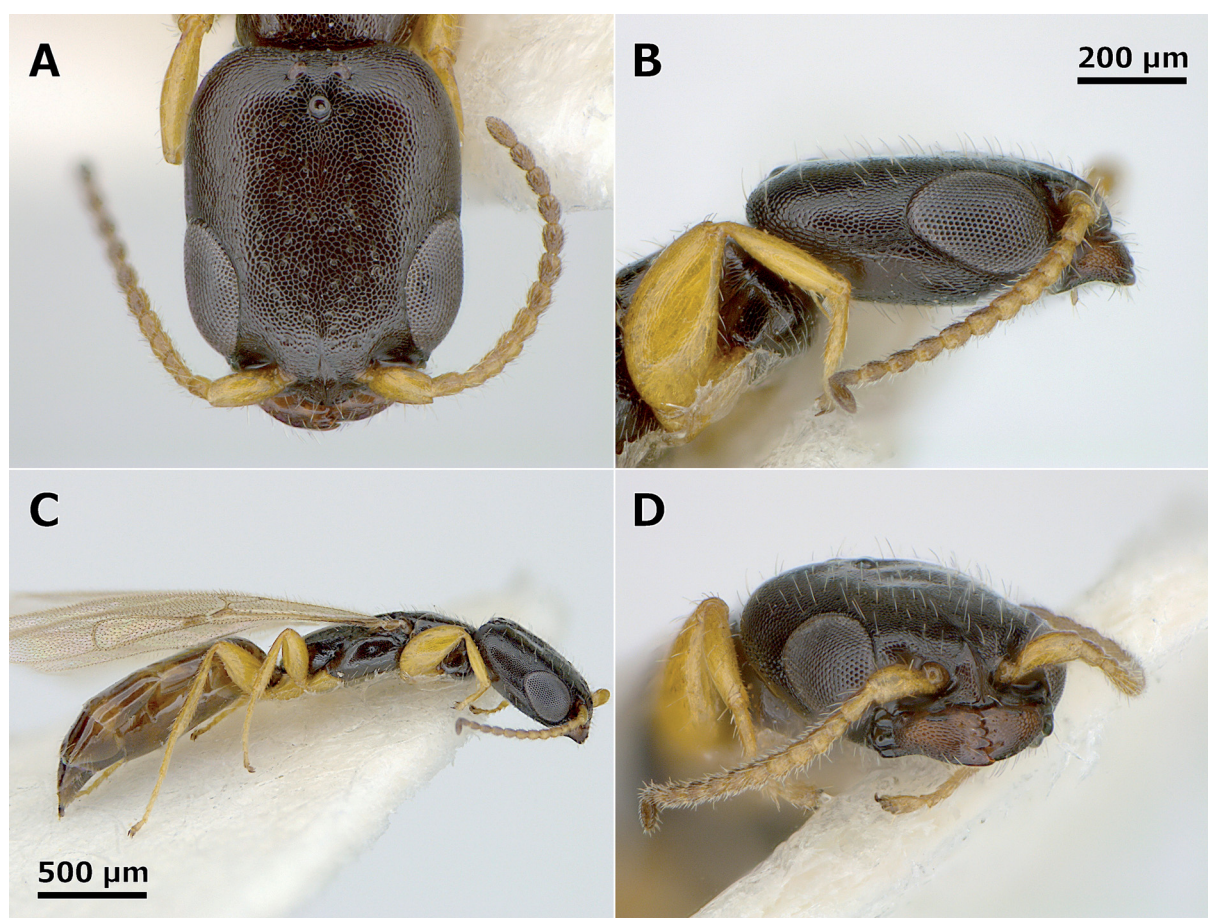


Fig. 93. *Sierola intermedia* sp. nov., holotype, ♀ (ANIC 32-154838). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.99 mm; LM 0.97 mm (0.86–0.98); WH/LH 0.77 (0.75–0.79); DH/LH 0.42 (0.42–0.44); EV/HE 1.13 (1.09–1.14); EV/WF 1.04 (1.00–1.07); WF/HE 1.09 (1.05–1.09); WH/WF 1.71 (1.71–1.81); OOL/WOT 2.53 (2.38–2.63); DM/LM 0.29; FL/FW 2.13 (2.13–2.27); HFL/HFW 2.32 (2.32–2.58); A3 L/W 1.11 (1.10–1.22); 2R1 L/W 3.05. N = 5.

Distribution

North Queensland. Collected at several localities in rain forest between Townsville and Port Douglas.

Sierola intonsa sp. nov.

urn:lsid:zoobank.org:act:2B4819BD-59F8-42B9-BBB9-F57C75E6276C

Figs 83, 94

Diagnosis

Part of a cluster of species with the head moderately deep (DH/LH ~0.57) and convex dorsally; lateral ocelli nearly touching the vertex crest; and basal wing cells densely setose. Very similar to *S. nitidigena* sp. nov. and *S. pelion* sp. nov., sharing the moderately narrow mandible which is distinctly concave ventrally and strongly convex outwardly, distinct malar space, and clypeus lacking a sharp carina. Separated from the former by the narrow metafemur, gena reticulate posterolaterally, and S6 glabrous medially; and from the latter by the narrower frons with smoother sculpture, and narrow, parallel-sided cell 1M. Also close to *S. nesomeson* sp. nov. and *S. paraglutinata* sp. nov., as the mandible may be slightly reddish brown; separated from those species by the generally darker color and lack of a short carina between the lateral ocelli. The head is also more flattened dorsally and ventrally, giving it a distinctly different appearance from all the above species.

Etymology

From the Latin ‘*intonsus*’, ‘unshaved’, referring to the coarse appearance of the gena.

Type material**Holotype**

AUSTRALIA – New South Wales • ♀; Upper Williams River; Oct. 1926; Lea and Wilson leg.; SAMA 32-42927.

Paratypes

AUSTRALIA – Tasmania • 2 ♀♀; Mt Barrow 11 km E by N of Nunamara; 41°23' S, 147°25' E; 30 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description**Female**

HEAD. Clypeal process semicircular to semi-elliptical, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous.

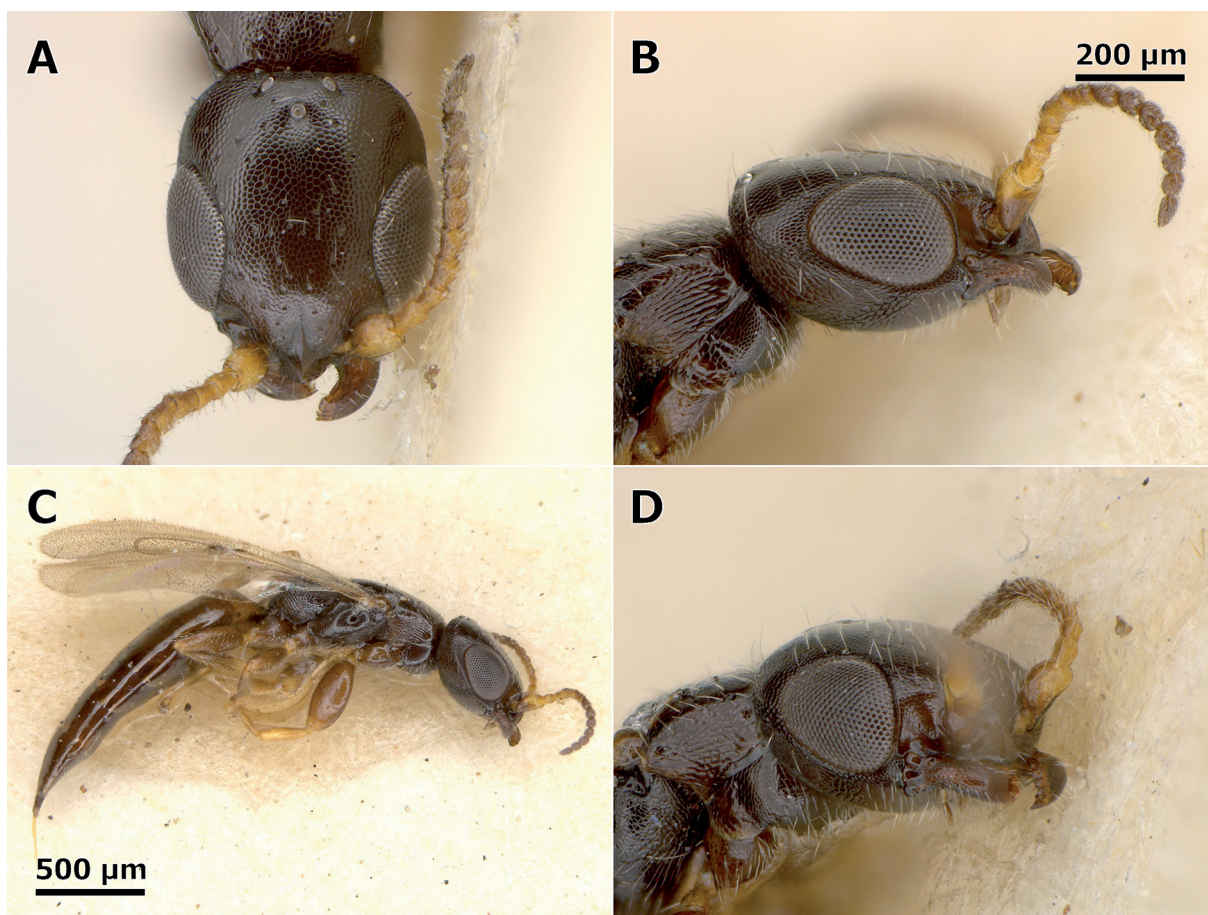


Fig. 94. *Sierola intonsa* sp. nov., holotype, ♀ (SAMA 32-42927). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 with very short apical setae. Sixth sternum broadly glabrous medially, with moderately dense setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.65 mm; LM 0.83 mm (0.80–0.91); WH/LH 0.86 (0.83–0.86); DH/LH 0.57 (0.57–0.59); EV/HE 0.54 (0.54–0.58); EV/WF 0.58 (0.58–0.62); WF/HE 0.92 (0.92–0.94); WH/WF 1.89 (1.82–1.89); OOL/WOT 1.25 (1.19–1.25); DM/LM 0.42; FL/FW 2.00; HFL/HFW 2.45 (2.45–2.70); A3 L/W 1.30 (1.30–1.37); 2R1 L/W 2.81. N = 3.

Distribution

New South Wales and Tasmania; known only from two collections.

Remarks

This species is very similar to *S. pelion* sp. nov. and was initially thought to be conspecific with it, but the features separating them are very consistent in the long series of the latter. The overall appearance of the head in both dorsal and lateral view is also different as shown in the figures. The two Tasmania specimens, taken alongside one of *S. pelion*, have slightly finer sculpture than the type but clearly have the characters of the frons width, femur width, and cell 1M shape of *S. intonsa* sp. nov.

Sierola isolata sp. nov.

urn:lsid:zoobank.org:act:063C3171-DC94-4E3B-98AE-15B554561FF1

Figs 26, 95

Diagnosis

Differing from most other species by the combination of basal wing cells sparsely setose, mandible moderately broad and distinctly concave ventrally, and clypeus semicircular. Forming a species pair

with *S. ambitiosa* sp. nov., united in having the head moderately compressed (DH/LH ~0.50), vertex slightly bulging and carinate between the lateral ocelli, and the mandible broadest at about $\frac{2}{3}$ its length and slightly narrowed at the apex. Separated by having the coxae and femora entirely brown and OOL/WOT lower, ~1.43 vs 1.60–1.70.

Etymology

From the Latin '*isolatus*', 'isolated', referring to the unique type from Augustus Island.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Augustus Island CALM Site 26/1; 15°25' S, 124°38' E; 11–16 Jun. 1988; I.D. Naumann leg.; Malaise, trough, and pan traps, closed forest and margins; ANIC 32-154839.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed just beyond base and broadened distally,

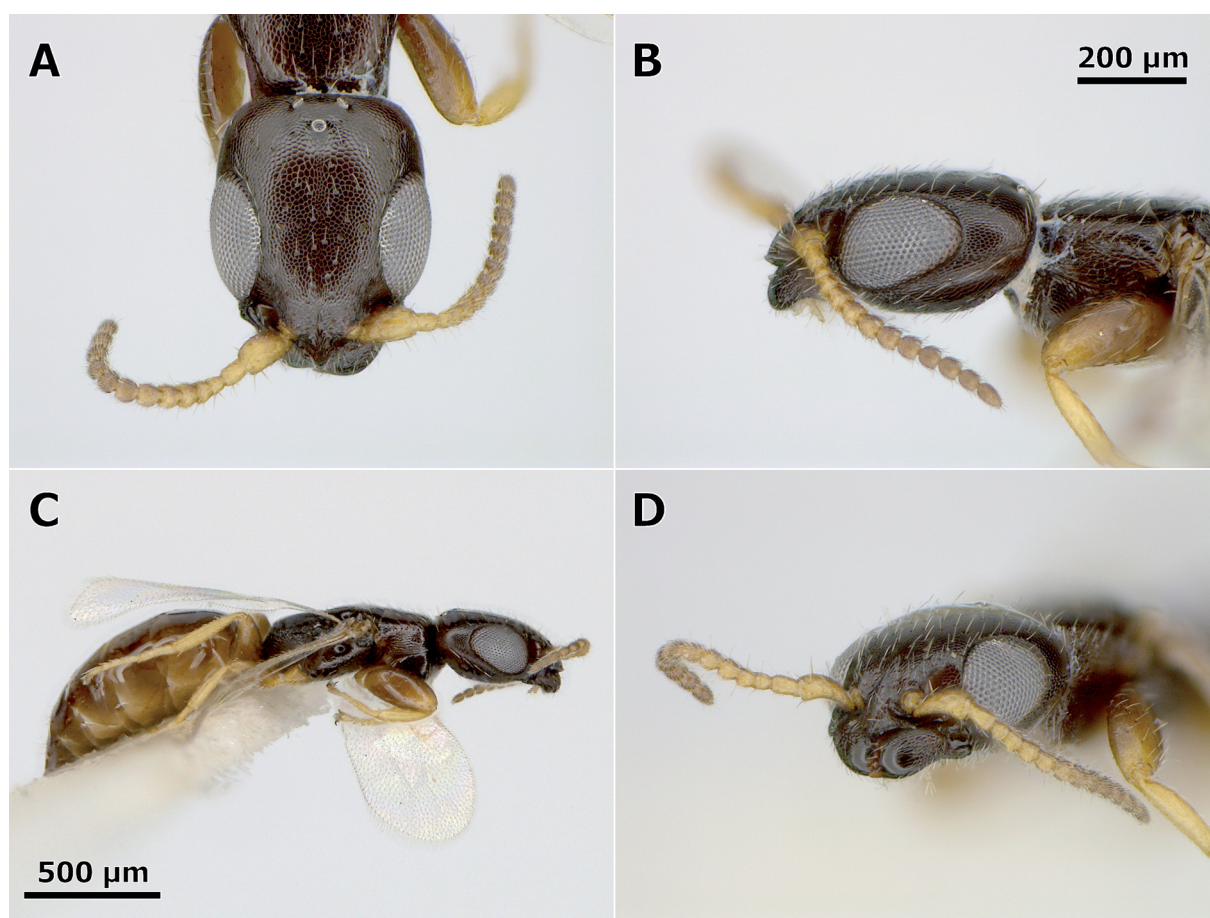


Fig. 95. *Sierola isolata* sp. nov., holotype, ♀ (ANIC 32-154839). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

apex slightly narrowed, broadest at apical $2/3$; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.23 mm; LM 0.70 mm; WH/LH 0.80; DH/LH 0.50; EV/HE 0.64; EV/WF 0.72; WF/HE 0.88; WH/WF 1.93; OOL/WOT 1.43; DM/LM 0.35; FL/FW 2.00; HFL/HFW 2.06; A3 L/W 0.87; 2R1 L/W 2.82.

Distribution

Western Australia; known only from the holotype, collected in the Kimberley region.

Remarks

See Remarks under *S. ambitiosa* sp. nov.

Sierola jubaris sp. nov.

urn:lsid:zoobank.org:act:03F61171-5E65-44B5-AB79-4C17C9013FDB

Figs 96–97

Diagnosis

Part of a complex of species with the head compressed and weakly convex dorsally and ventrally, frons moderately broad, mandible reddish brown to black and distinctly concave ventrally, and lateral ocelli separated from the vertex crest. Distinguished from similar species by the very short clypeus which is steep and nearly straight in profile. Closest to *S. leptadelpha* sp. nov., which has the mandible distinctly broader, metafemur broader ($HFL/HFW \leq 2.40$), frons broader ($WF/HE \geq 1.20$), and $OOL/WOT \leq 2.00$.

Etymology

From the Latin '*iubaris*', 'sunshine', from the type locality in the area of the Sunshine Coast. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **Queensland** • ♀; Woombye, near Nambour; 11–16 Oct. 1965; D.H. Colless leg.; ANIC 32-154840.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; Binna Burra, Lamington National Park; 27 May 1966; Z. Liepa leg.; ANIC.

Description**Female**

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and

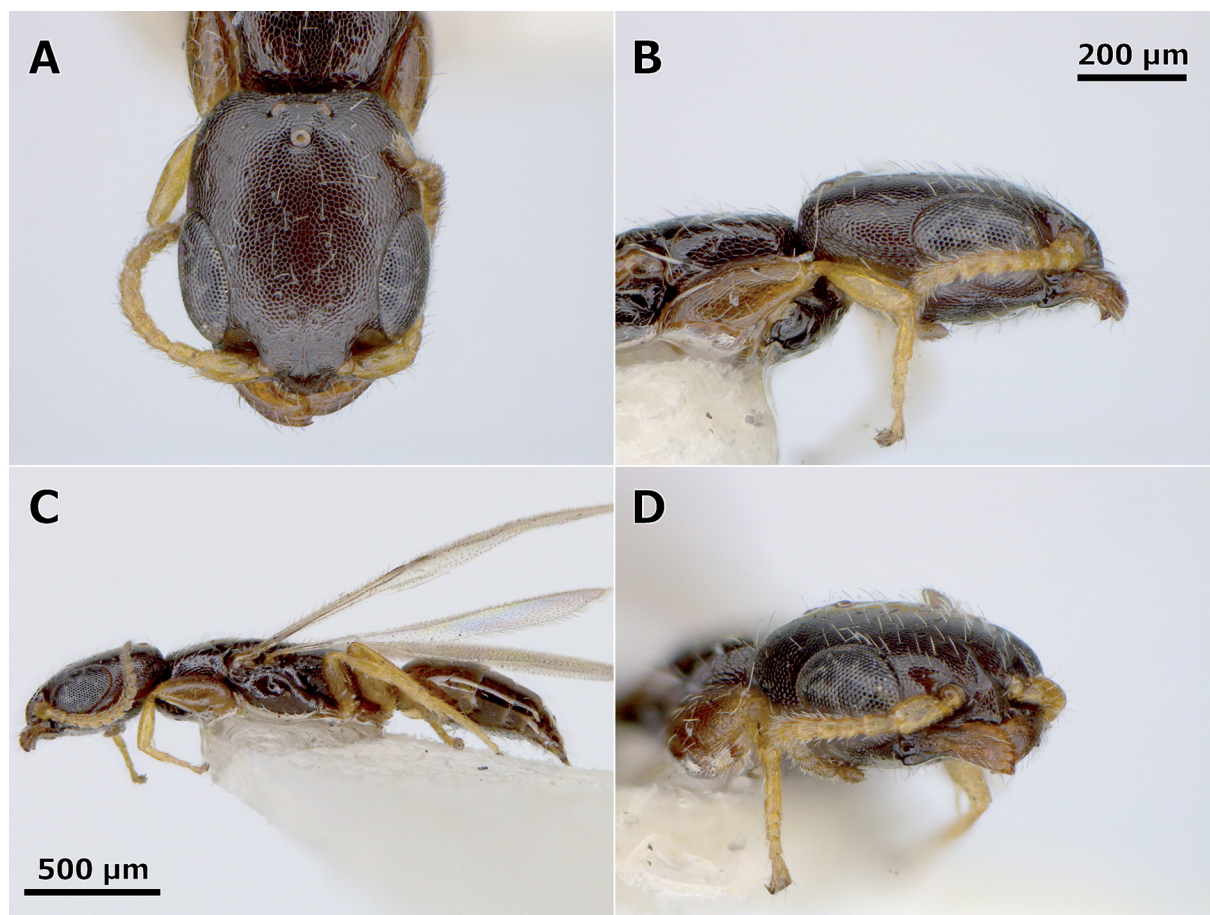


Fig. 96. *Sierola jubaris* sp. nov., holotype, ♀ (ANIC 32-154840). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

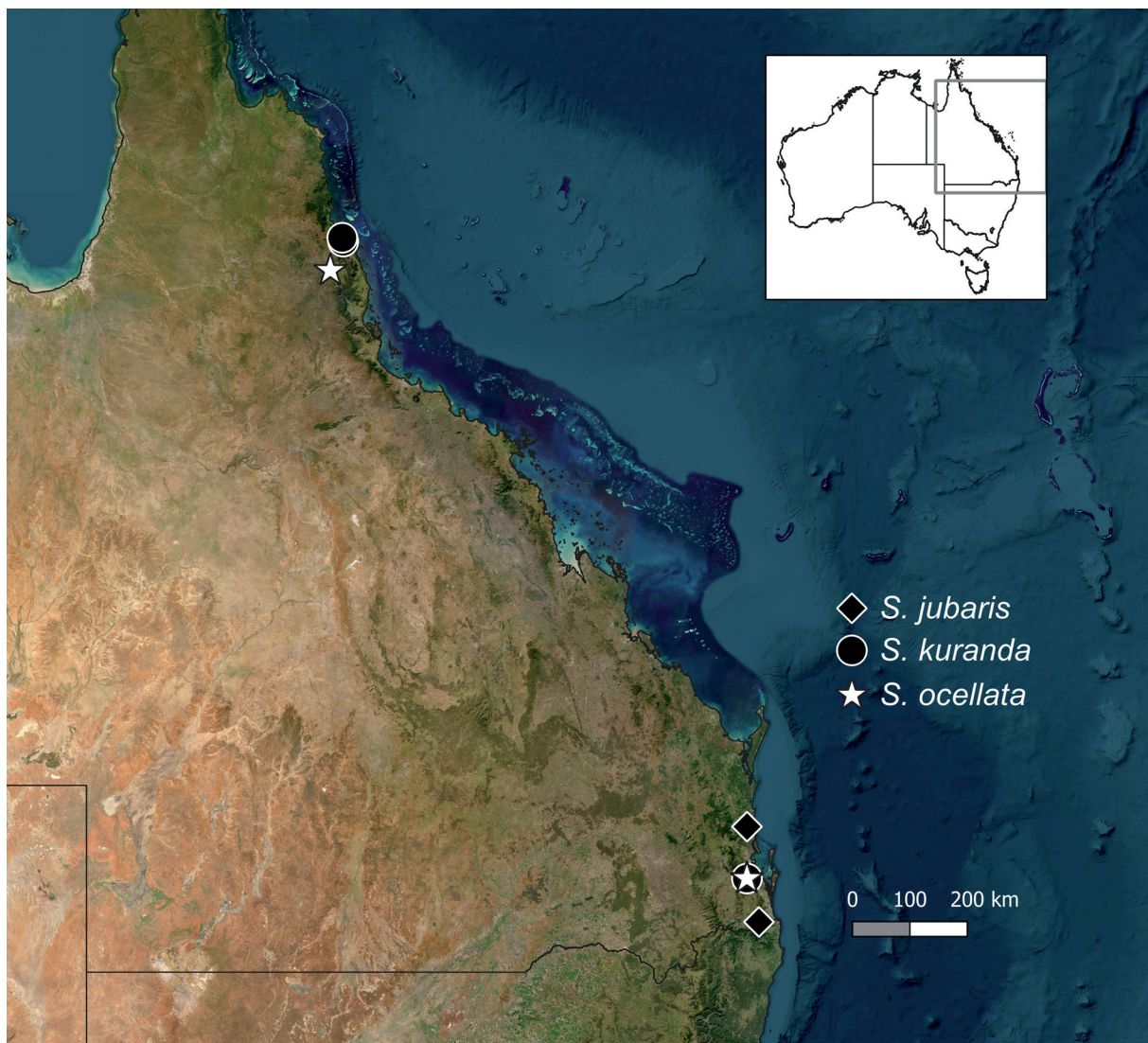


Fig. 97. Map of collection records of *Sierola jubaris* sp. nov., *S. kuranda* sp. nov., and *S. ocellata*.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely or sparsely setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.61 mm; LM 0.82 mm; WH/LH 0.82; DH/LH 0.49; EV/HE 0.88; EV/WF 0.76; WF/HE 1.09; WH/WF 1.73; OOL/WOT 1.82; DM/LM 0.36; FL/FW 2.25; HFL/HFW 2.28; A3 L/W 1.17; 2R1 L/W 2.47.

Distribution

Queensland; known from two specimens, both taken on the southeast coast.

Sierola kalarku sp. nov.

urn:lsid:zoobank.org:act:5BEB8F22-ADE0-465C-8859-7AB69A48D7C5

Figs 98, 110

Diagnosis

Namesake of the *kalarku* species group, with the mandible strongly twisted and shiny, head more or less triangular in dorsal view, vertex slightly concave, frons microsculpture smooth, clypeus without any trace of a carina, and basal wing cells nearly glabrous. Distinguished from related species by the combination of the head ventrally weakly convex (without a distinct genal angle), malar space distinct, propodeum with a polished basal triangle extending only $\frac{1}{3}$ distance to the declivity, and vein Rs joining the anterior wing margin.

Etymology

Named for the Kalarku people (alt. Kalaako, Galaagu), the Aboriginal inhabitants of the area where the type was collected. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Moir's Rock, 42 km NNW of Salmon Gums; 32°39' S, 121°25' E; 3 Jan. 1987; G. and A. Daniels leg.; QM T262161.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally flat, not carinate, slightly convex only laterally (basally somewhat convex); in profile evenly sloping, nearly straight. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; strongly twisted, outwardly shining but with

distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or slightly shorter. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture smooth and polished posterolaterally, finely microreticulate ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina absent, brow of declivity broadly

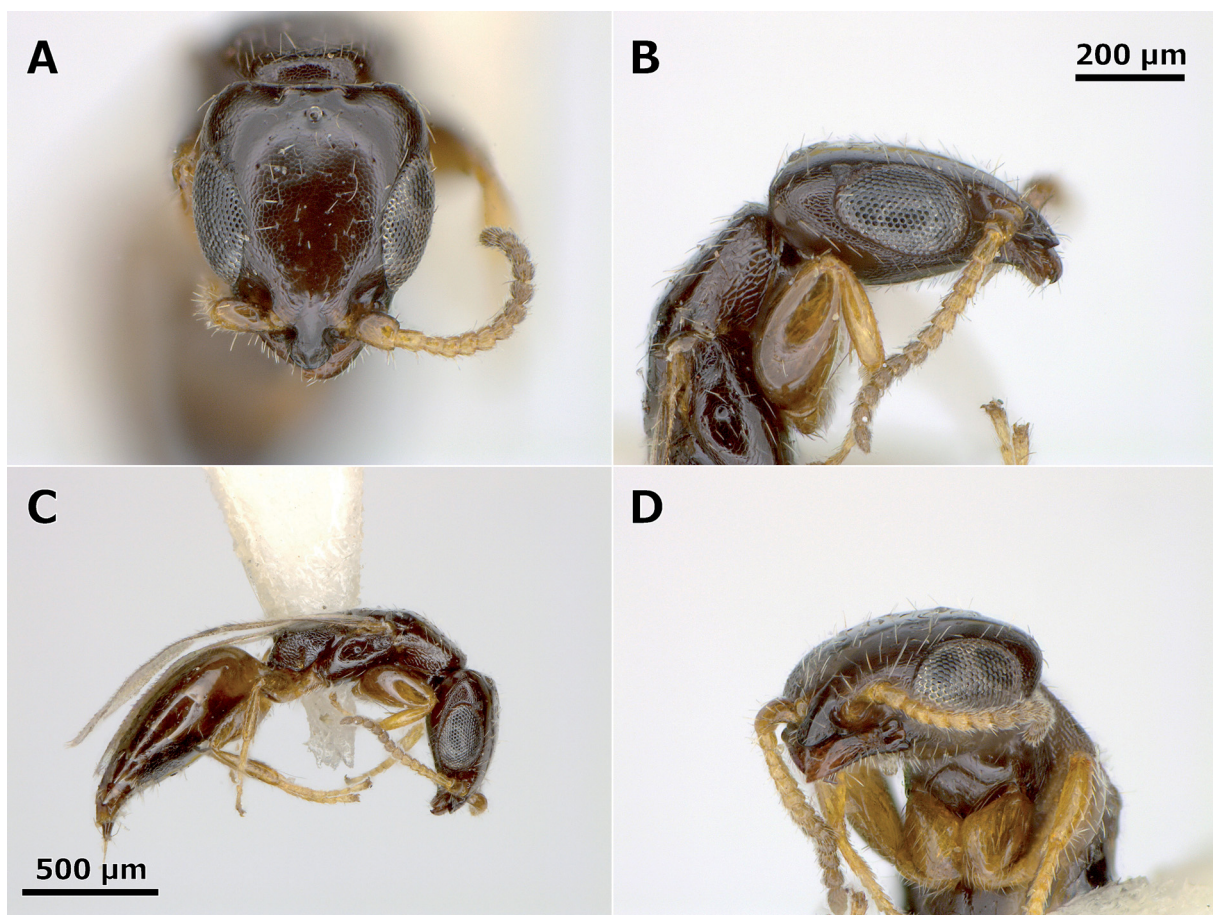


Fig. 98. *Sierola kalarku* sp. nov., holotype, ♀ (QM T262161). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.26 mm; LM 0.75 mm; WH/LH 0.83; DH/LH 0.49; EV/HE 0.46; EV/WF 0.48; WF/HE 0.95; WH/WF 1.84; OOL/WOT 1.38; DM/LM 0.35; FL/FW 2.00; HFL/HFW 2.06; A3 L/W 1.00; 2R1 L/W 2.92.

Distribution

Western Australia; known only from the holotype, collected in the semi-arid zone.

Sierola kimseyana sp. nov.

urn:lsid:zoobank.org:act:794D9B08-BE5D-43E7-803C-E26CA5DDBD5F

Figs 99, 101

Diagnosis

Forming a species pair with *S. badiorostris* sp. nov. in having the the basal wing cells nearly glabrous, head somewhat compressed (DH/LH ~0.50), transverse propodeal carina present, and occipital margin narrowly carinate between the lateral ocelli. Differing in having the clypeus dorsally with a low sharp carina rather than angulate or rounded, smaller OOL/WOT (1.14 vs 1.44), and broader profemur.

Etymology

Named for the collectors, Robert and Lynn Kimsey of the University of California, Davis.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Eyre Peninsula, 5 km NE of Coffin Bay; 14 Nov. 1992; R.B. and L.S. Kimsey leg.; ex. bottlebrush; UCDC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex weakly pointed; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate or distinct but smooth, more or less shining. Vertex in dorsal view

very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

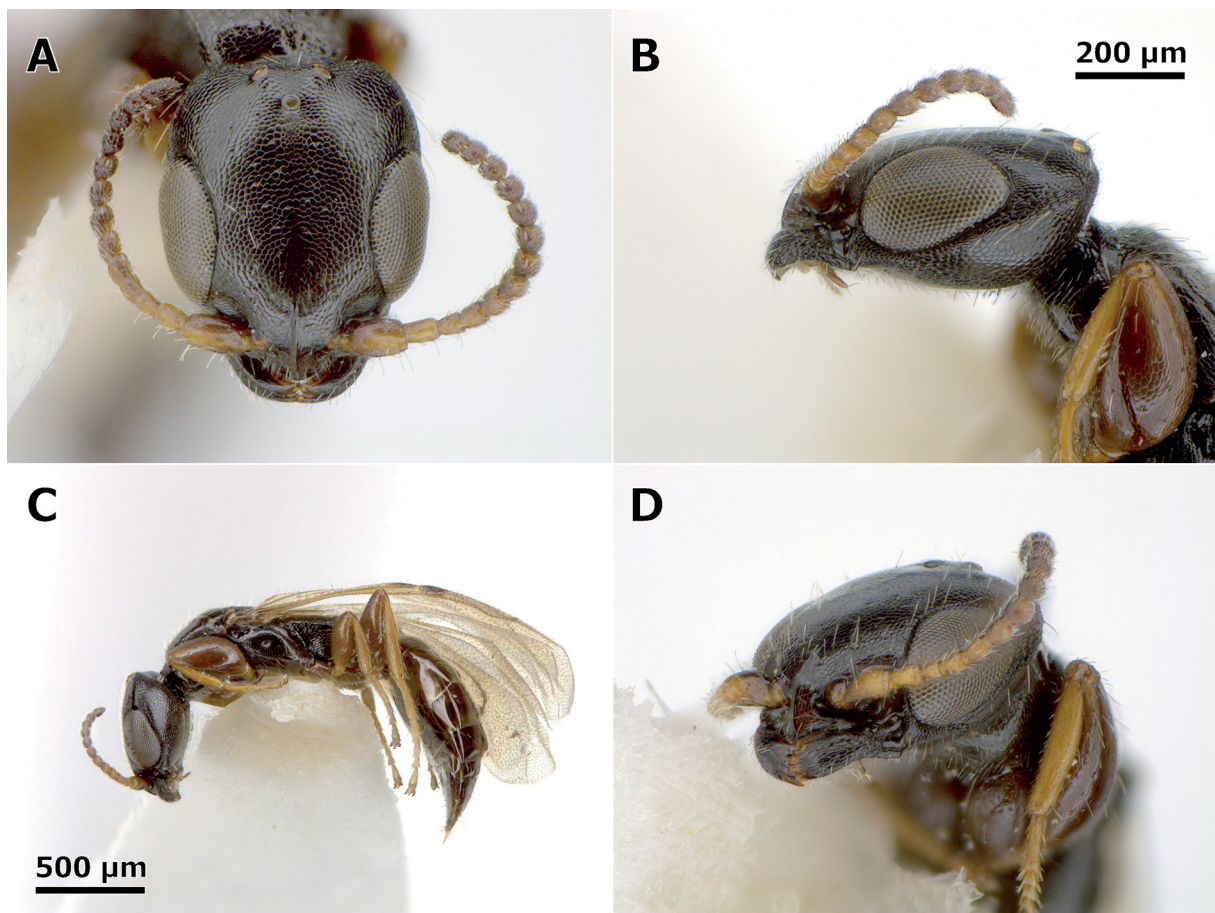


Fig. 99. *Sierola kimseyana* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.86 mm; LM 0.92 mm; WH/LH 0.84; DH/LH 0.51; EV/HE 0.55; EV/WF 0.58; WF/HE 0.95; WH/WF 1.82; OOL/WOT 1.14; DM/LM 0.35; FL/FW 1.96; HFL/HFW 2.21; A3 L/W 1.32; 2R1 L/W 2.53.

Distribution

South Australia; known only from the holotype, collected near the tip of the Eyre Peninsula.

Sierola koala sp. nov.

urn:lsid:zoobank.org:act:45E30C3F-ED4B-4FCB-9486-D118F59E9D3C

Figs 100–101

Diagnosis

Part of a species complex with *S. platyrhyncha* sp. nov. and *S. samiata* sp. nov., characterized by the broad, flat clypeus which is curved in profile, highly polished, and largely impunctate; head broad and compressed; and vertex concave in dorsal view. Separated from the other two by having the basal wing cells sparsely setose rather than glabrous, frons distinctly broader than an eye length, ocellar triangle anterior angle right to weakly acute rather than strongly obtuse, and propodeum with a narrow polished strip.

Etymology

Named for the resemblance of the large polished clypeus to the prominent black nose of the iconic Australian mammal. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; The Grampians, Rose's Gap; 3–5 Mar. 1990; R. Wharton leg.; SAMA.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded; dorsally flat, margins dropping off vertically; in profile elongate, evenly curved, apex acute. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible strongly oblique, with ventral tooth largest, three dorsal teeth equal. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave, corners strongly rounded off; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse setae. Head nearly flat ventrally,

genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

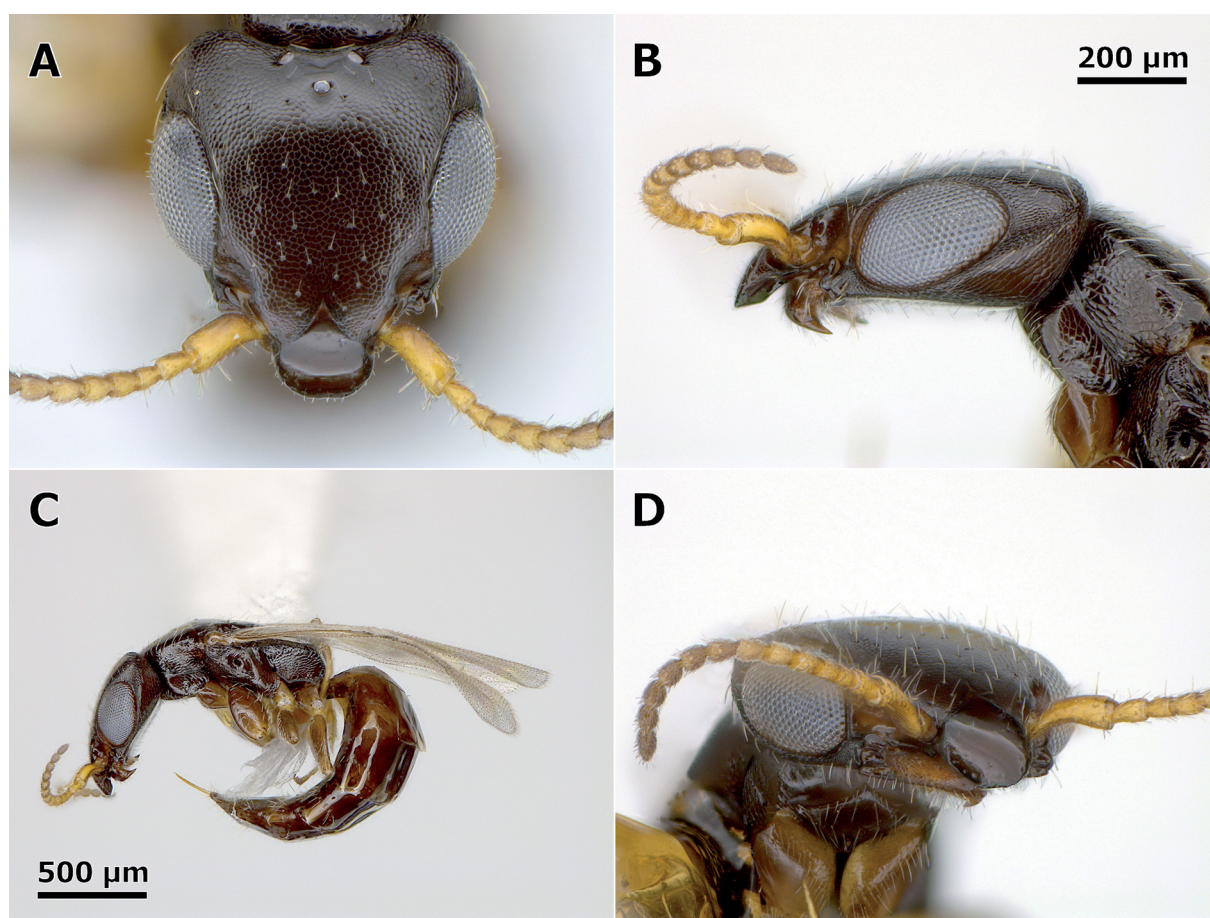


Fig. 100. *Sierola koala* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.55 mm; LM 0.88 mm; WH/LH 0.93; DH/LH 0.41; EV/HE 0.45; EV/WF 0.36; WF/HE 1.26; WH/WF 1.66; OOL/WOT 1.13; DM/LM 0.38; FL/FW 1.80; HFL/HFW 2.24; A3 L/W 1.30; 2R1 L/W 2.67.

Distribution

Victoria; known only from the holotype collected in the Grampian range.

Sierola kuranda sp. nov.

urn:lsid:zoobank.org:act:0E3DC5CB-22E7-49A0-A76D-F6776471B2C1

Figs 97, 102

Diagnosis

Part of the large group of species with the head convex dorsally and ventrally and basal wing cells setose. Easily recognized by the unusual mandible, abruptly constricted at the basal $\frac{1}{6}$ and then gradually broadened apically. The frons microsculpture is also heterogeneous, granular and dull between the eyes and distinctly smoother posteriorly. Superficially similar to *S. ambitiosa* sp. nov., including in the intermediate setation of the basal wing cells, but the mandibles are distinctly different and the clypeus is more clearly carinate.

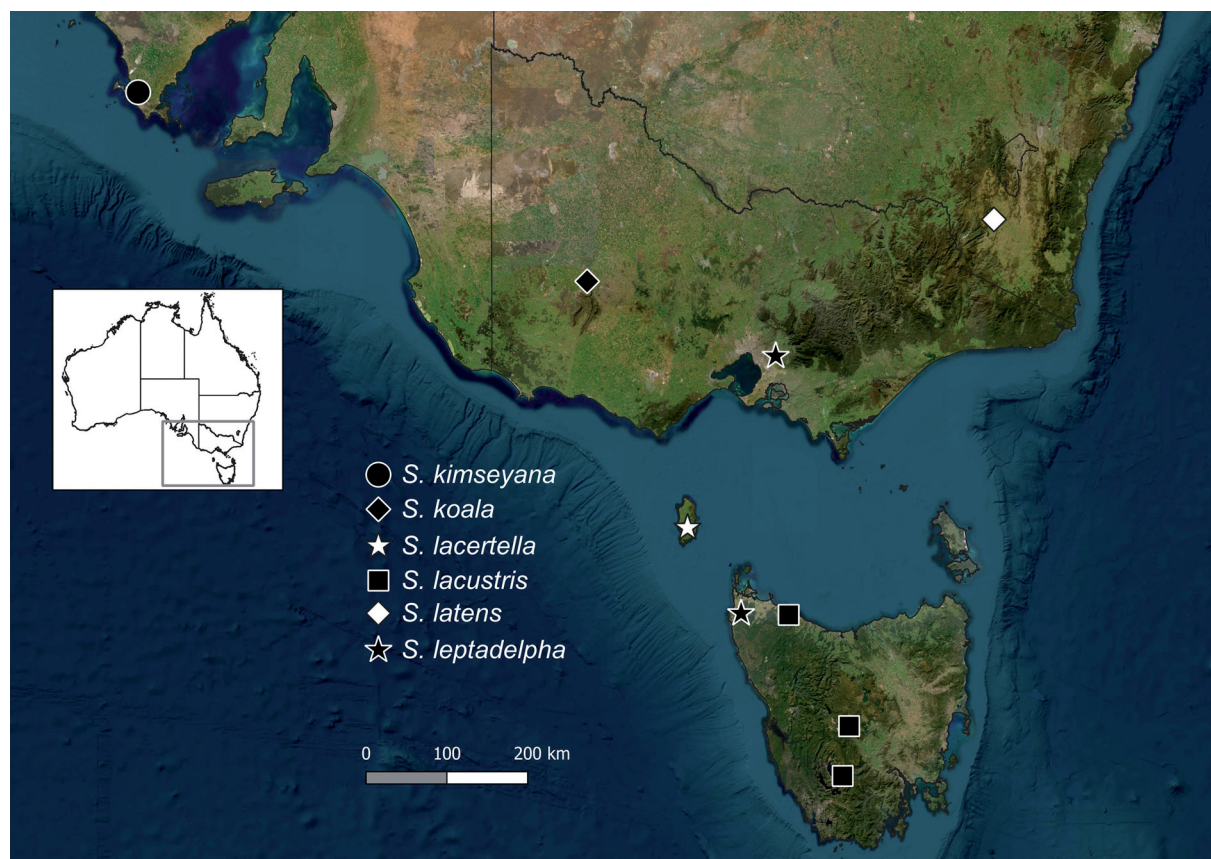


Fig. 101. Map of collection records of *Sierola kimseyana* sp. nov., *S. koala* sp. nov., *S. lacertella* sp. nov., *S. lacustris* sp. nov., *S. latens* sp. nov., and *S. leptadelpha* sp. nov.

Etymology

Named for the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; 1.5 km SE of Kuranda; 16–17 May 1980; I.D. Naumann and J.C. Cardale leg.; ex alcohol collection; ANIC 32-154841.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Kuranda Range State Forest; 20 Apr. 1967; D.H. Colless leg.; ANIC • 1 ♀; Brisbane, Indooroopilly, Univ. of Qld. Expt. Mine; 3 Nov. 1979; J.B. Woolley and J. LaSalle leg.; UCRC 537460.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a sharp carina, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, constricted just past articulation, gradually broadened towards apex; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with

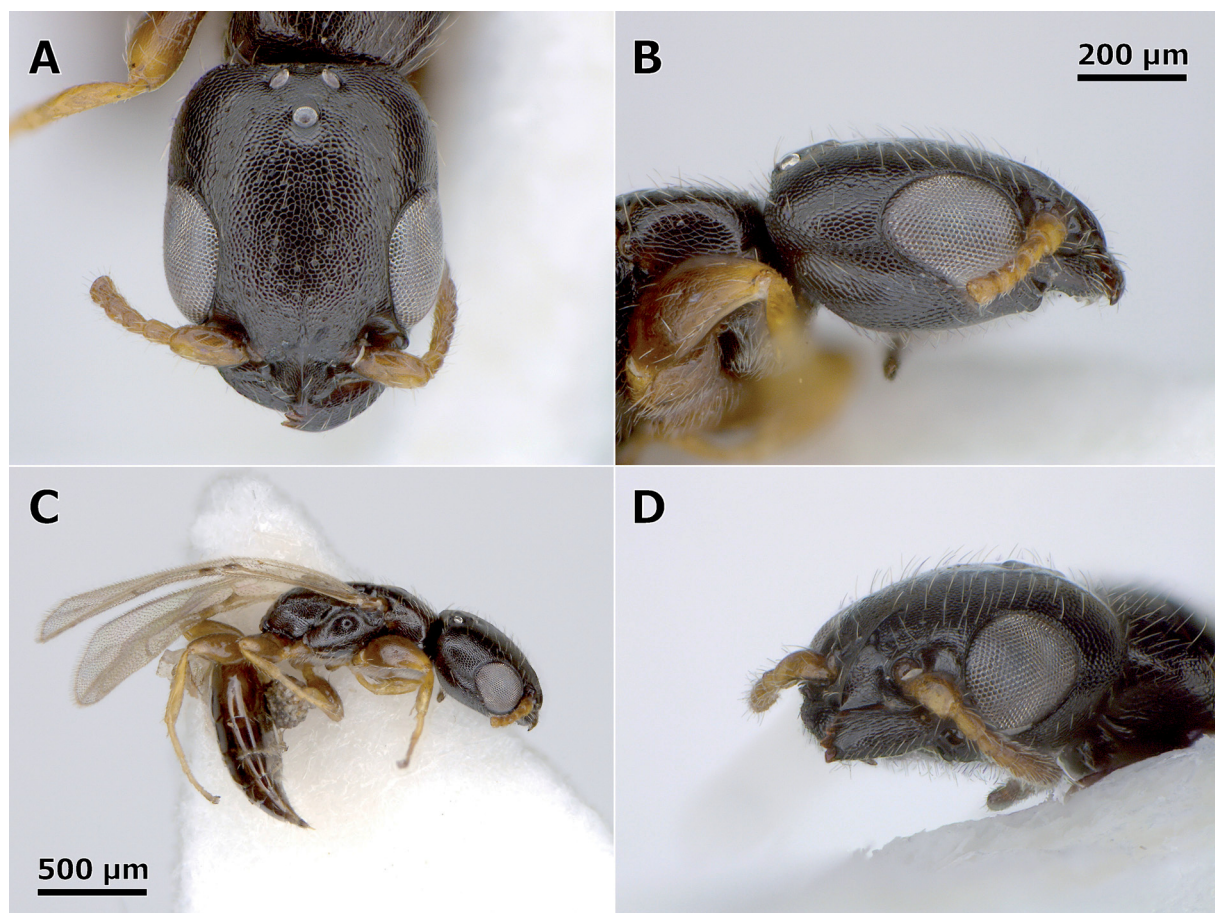


Fig. 102. *Sierola kuranda* sp. nov., holotype, ♀ (ANIC 32-154841). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture microreticulate and dull between eyes and antennae, distinctly smoother between eyes and ocelli. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.68 mm; LM 0.85 mm (1.00–1.14); WH/LH 0.82 (0.80–0.84); DH/LH 0.56 (0.55–0.56); EV/HE 0.76 (0.72–0.77); EV/WF 0.69 (0.62–0.70); WF/HE 1.11 (1.11–1.17); WH/WF 1.71 (1.69–1.71); OOL/WOT 1.60 (1.58–1.65); DM/LM 0.43; FL/FW 2.00 (2.00–2.14); HFL/HFW 2.10 (2.10–2.15); A3 L/W 1.10 (1.00–1.11); 2R1 L/W 2.60. N = 3.

Distribution

Queensland; known only from three collections, but widely distributed from Cairns to Brisbane.

Remarks

The deep basal notch of the mandible is almost unique; a few other species have it deeply incised at the base but with the apical portion somewhat clubbed, rather than otherwise normal and elongate as here.

Sierola lacertella sp. nov.

urn:lsid:zoobank.org:act:85852E85-7E41-426A-AE84-0F6EBC4ED886

Figs 101, 103

Diagnosis

Resembling species of the *ficicola* species group in having the head compressed and flat dorsally and ventrally and frons only moderately broad, but the head is wider than any of the other species (WH/LH 0.80–0.84) and the antenna is much longer, extending well beyond the posterior margin of the head.

These characters combined with the narrow profemur (FL/FW ~2.5) and curved clypeus separate it from all others.

Etymology

From the diminutive of the Latin '*lacertus*', 'upper arm', referring to the thin profemur. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; King Is., Pegarah Nature Reserve; 39.9441° S, 143.9905° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series 3; TMAG F180565.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; same data as for holotype; 19 Nov.–16 Dec. 2023; S.J. Grove, L. Cambra and M. Beattie leg.; Malaise trap series 3; TMAG F152996.

Description

Female

HEAD. Clypeal process trapezoidal, apex truncate; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral

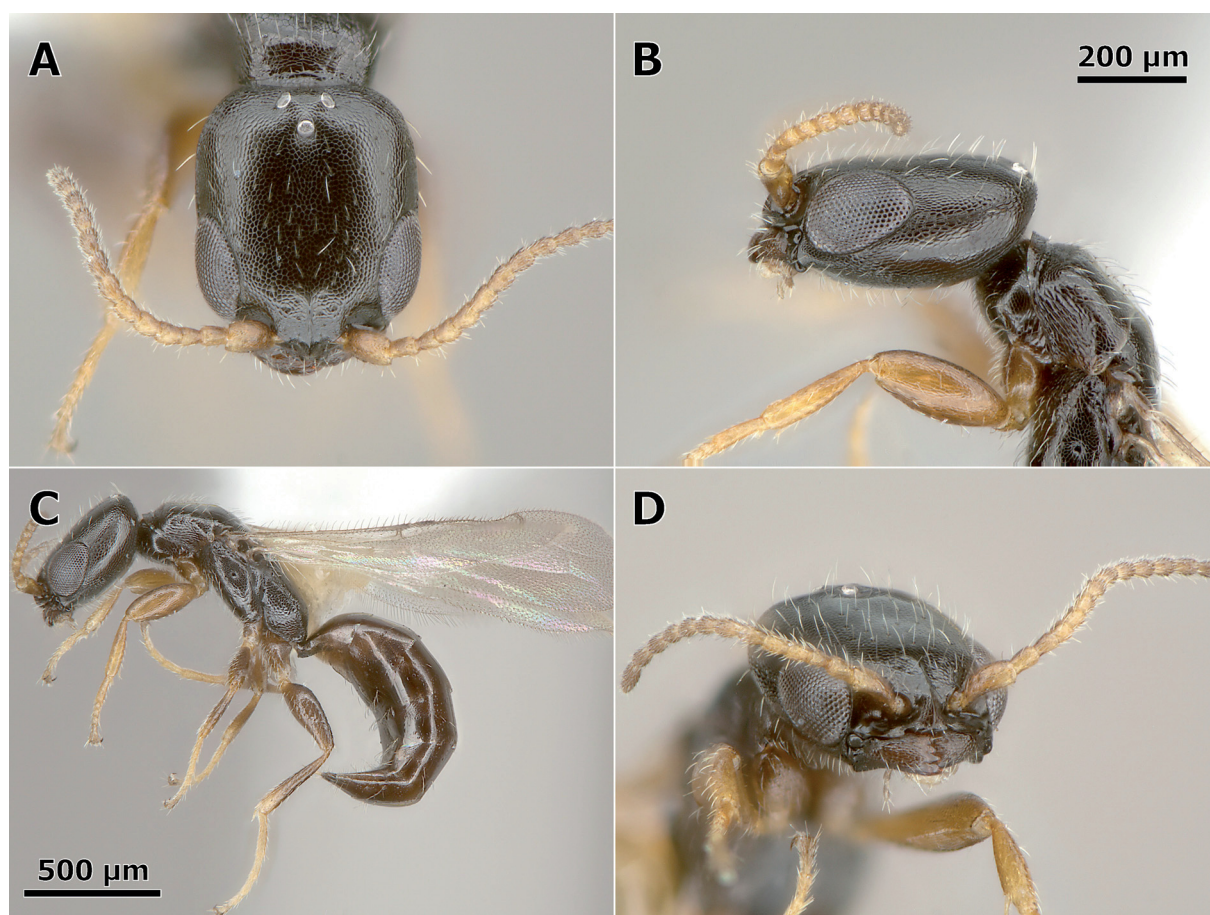


Fig. 103. *Sierola lacertella* sp. nov., holotype, ♀ (TMAG F180565). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

margin concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart (sparser posteriorly). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly to strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose anterolaterally, otherwise smoothly reticulate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur narrow, over 2.5 times as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and meso- and metafemora dark brown to black, profemur light brown to yellow, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.64 mm; LM 0.77 mm; WH/LH 0.84; DH/LH 0.48; EV/HE 1.10; EV/WF 0.94; WF/HE 1.16; WH/WF 1.72; OOL/WOT 2.13; DM/LM 0.32; FL/FW 2.53; HFL/HFW 2.57; A3 L/W 1.30; 2R1 L/W 2.82.

Distribution

Tasmania; known from two specimens collected on King Island.

Sierola lacustris sp. nov.

urn:lsid:zoobank.org:act:C06D5AA4-810E-48C0-B88E-6C57CA24F8D6

Figs 101, 104

Diagnosis

Among species with the head convex dorsally and ventrally and basal wing cells setose, distinguished from most species by the moderately broad frons (WF/HE 1.15–1.20), clypeus semi-elliptical with a low carina dorsally, head moderately broad and deep, mandible distinctly concave ventrally, and lateral ocelli

distinctly separated from the vertex crest. Closest to *S. exleyae* sp. nov. and *S. ovata* sp. nov.; separated from both by the colliculate frons microsculpture, vertex narrowly carinate between the lateral ocelli, and head slightly more compressed (DH/LH 0.53–0.54 vs 0.57–0.58).

Etymology

From the Latin ‘*lacus*’, ‘lake’, referring to the numerous artificial lakes in the area of the type collection.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 14 km S of Bronte Park; 42°15′ S, 146°29′ E; 15 Jan.–3 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154842.

Paratypes

AUSTRALIA – **Tasmania** • 1 ♀; same data as for holotype; ANIC • 1 ♀; 3 km E by S of Montumana; 40°58′ S, 145°33′ E; 19 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; Frodshams Pass; 42°49′ S, 146°23′ E; 24–25 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

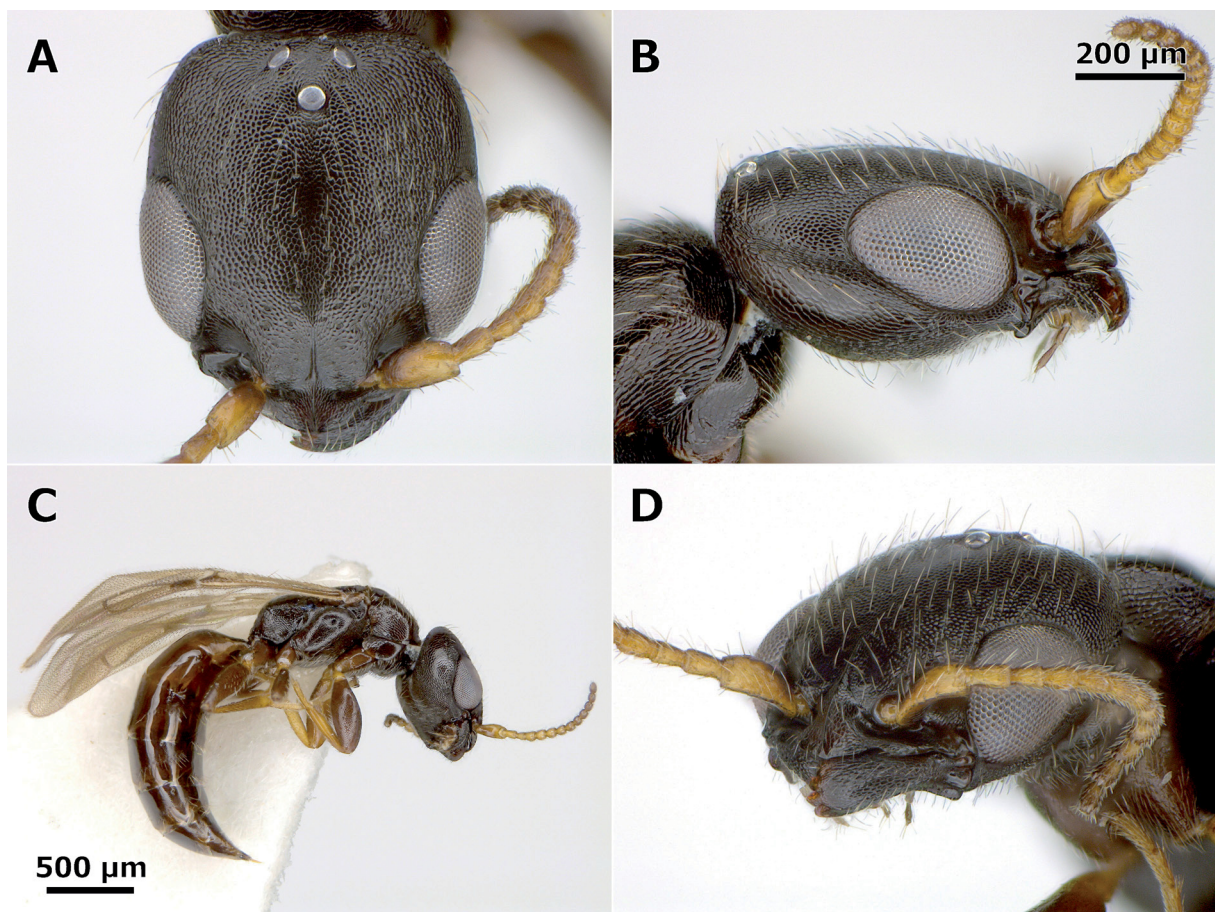


Fig. 104. *Sierola lacustris* sp. nov., holotype, ♀ (ANIC 32-154842). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a sharp carina, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture minutely colliculate, appearing dull at low magnification but with each cellule shining. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.11 mm; LM 1.00 mm (0.93–1.02); WH/LH 0.86 (0.82–0.86); DH/LH 0.53 (0.53–0.54); EV/HE 0.80 (0.74–0.82); EV/WF 0.66 (0.64–0.69); WF/HE 1.20 (1.15–1.20); WH/WF 1.66 (1.63–1.71); OOL/WOT 1.65 (1.62–1.76); DM/LM 0.41; FL/FW 2.40 (2.32–2.40); HFL/HFW 2.50 (2.45–2.56); A3 L/W 1.37 (1.21–1.37); 2R1 L/W 2.62. N = 4.

Distribution

Tasmania; known from four specimens collected across the western half of the island.

Sierola lapis sp. nov.

urn:lsid:zoobank.org:act:4DBCDA8C-1228-4BBD-BE6B-8D278527CC4A

Figs 90, 105

Diagnosis

An aberrant member of the *compressa* species group, with the head flattened and frons broad but mesosoma not compressed. Closest to *S. medialis* sp. nov. and *S. planifrons* sp. nov., separated by having the head rather narrow (WH/LH ~0.79), clypeus elongate in profile and semi-elliptical but very broad, and mandible yellow.

Etymology

From the Latin ‘*lapis*’, ‘stone’, referring to the resemblance of the head to a skipping stone. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Coleman River; 14°48' S, 143°22' E; 26 Jun. 1993; I.D. Naumann and P. Zborowski leg.; ANIC 32-154843.

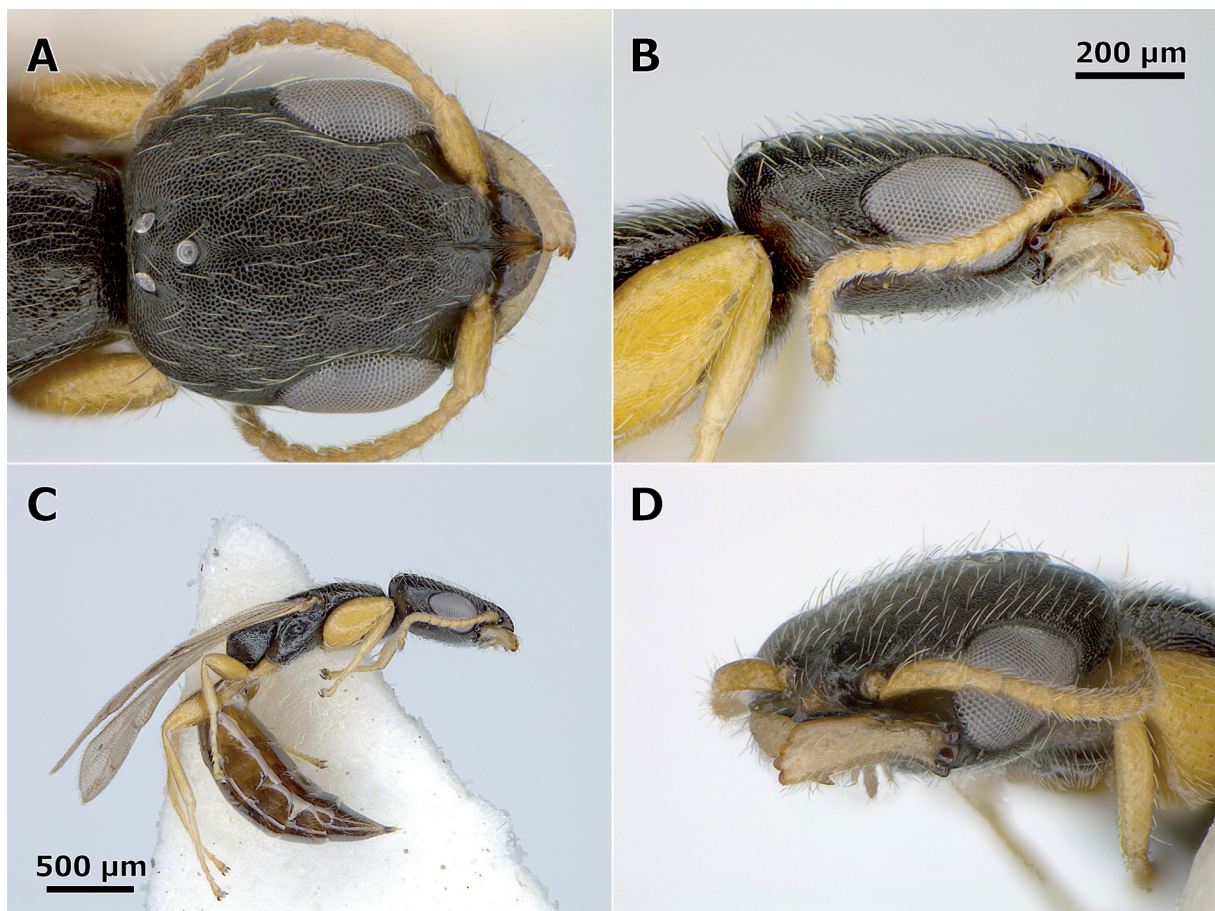


Fig. 105. *Sierola lapis* sp. nov., holotype, ♀ (ANIC 32-154843). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratype

AUSTRALIA – Queensland • 1 ♀; same data as for holotype; ANIC.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile elongate, evenly curved, apex acute. Mandible moderately broad, constricted just past articulation, gradually broadened towards apex; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with shallow punctures, dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible yellow. Coxae and metafemur brown, other femora brown dorsally, legs otherwise yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.92 mm; LM 1.02 mm; WH/LH 0.79; DH/LH 0.43; EV/HE 0.80; EV/WF 0.67; WF/HE 1.18; WH/WF 1.63; OOL/WOT 1.86; DM/LM 0.36; FL/FW 2.10; HFL/HFW 2.38; A3 L/W 1.30; 2R1 L/W 2.47.

Distribution

Queensland; known only from the holotype, collected far north.

Remarks

This unusual species is probably related to *S. planifrons* sp. nov., sharing the robust mesosoma which is unlike the defining character of the *compressa* species group. However, the head is of the typical elongate, flattened shape, very similar to *S. medialis* sp. nov.

Sierola latens sp. nov.

urn:lsid:zoobank.org:act:30954D4F-FD78-49DA-9AA3-69B886DA174C

Figs 101, 106

Diagnosis

Part of a complex of species with the head flat dorsally and ventrally, and elongate posterior of the eyes but frons not particularly broad. Closest in general appearance to *S. adelaidensis* sp. nov. and *S. comparata* sp. nov., sharing the slightly carinate vertex posterior of the ocelli; distinctly different from those and all other similar species by the distinctly elongate clypeus, especially prominent in lateral view. The setation of the basal wing cells is also unusual, mostly glabrous with cell R densely setose distally.

Etymology

From the Latin ‘*latens*’, ‘concealed’ or ‘hidden’, referring to the single specimen of this species found among a long series of *S. disjuncta* sp. nov. from the same locality.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Dainers Gap; 36°12' S, 148°43' E; elev. 1585 m; 13 Dec. 1973; P. Morrow leg.; ex *Eucalyptus pauciflora*; ANIC 32-154844.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate or with a sharp carina; in profile elongate, evenly curved, apex acute. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded;

metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with moderately dense setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing mostly glabrous, cell R densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.70 mm; LM 0.83 mm; WH/LH 0.72; DH/LH 0.47; EV/HE 0.97; EV/WF 1.00; WF/HE 0.97; WH/WF 1.84; OOL/WOT 1.77; DM/LM 0.35; FL/FW 2.20; HFL/HFW 2.42; A3 L/W 1.00; 2R1 L/W 2.53.

Distribution

New South Wales; known only from the holotype.

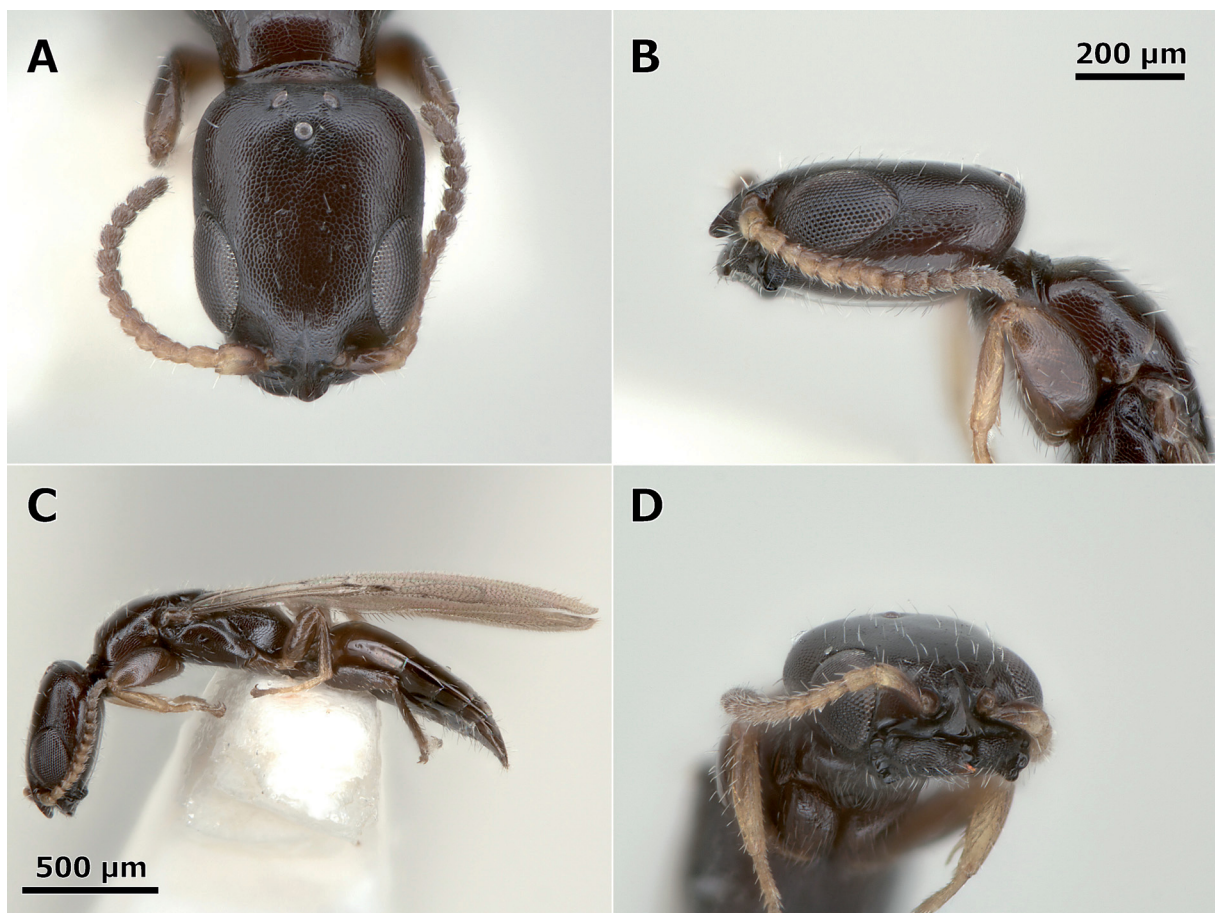


Fig. 106. *Sierola latens* sp. nov., holotype, ♀ (ANIC 32-154844). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Sierola latifrons sp. nov.

urn:lsid:zoobank.org:act:1FA1FAB8-492E-4095-BE4D-1A7937C7F525

Figs 107–108

Diagnosis

Superficially similar to other species with the head compressed and flat dorsally and ventrally, mandible reddish brown and distinctly concave ventrally, and lateral ocelli separated from the vertex crest. Closest to *S. leptadelpha* sp. nov., sharing the broad frons and densely setose basal wing cells; separated by the distinctly curved clypeus in profile, mandible not twisted, flat dorsum of the head, and broader femora.

Etymology

From the Latin ‘*latus*’, ‘broad’, + ‘*frons*’, ‘front’, referring to the wide frons.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Acacia Ridge near Brisbane; 30 Dec. 1979; G. Gordh leg.; UCRC 556777.

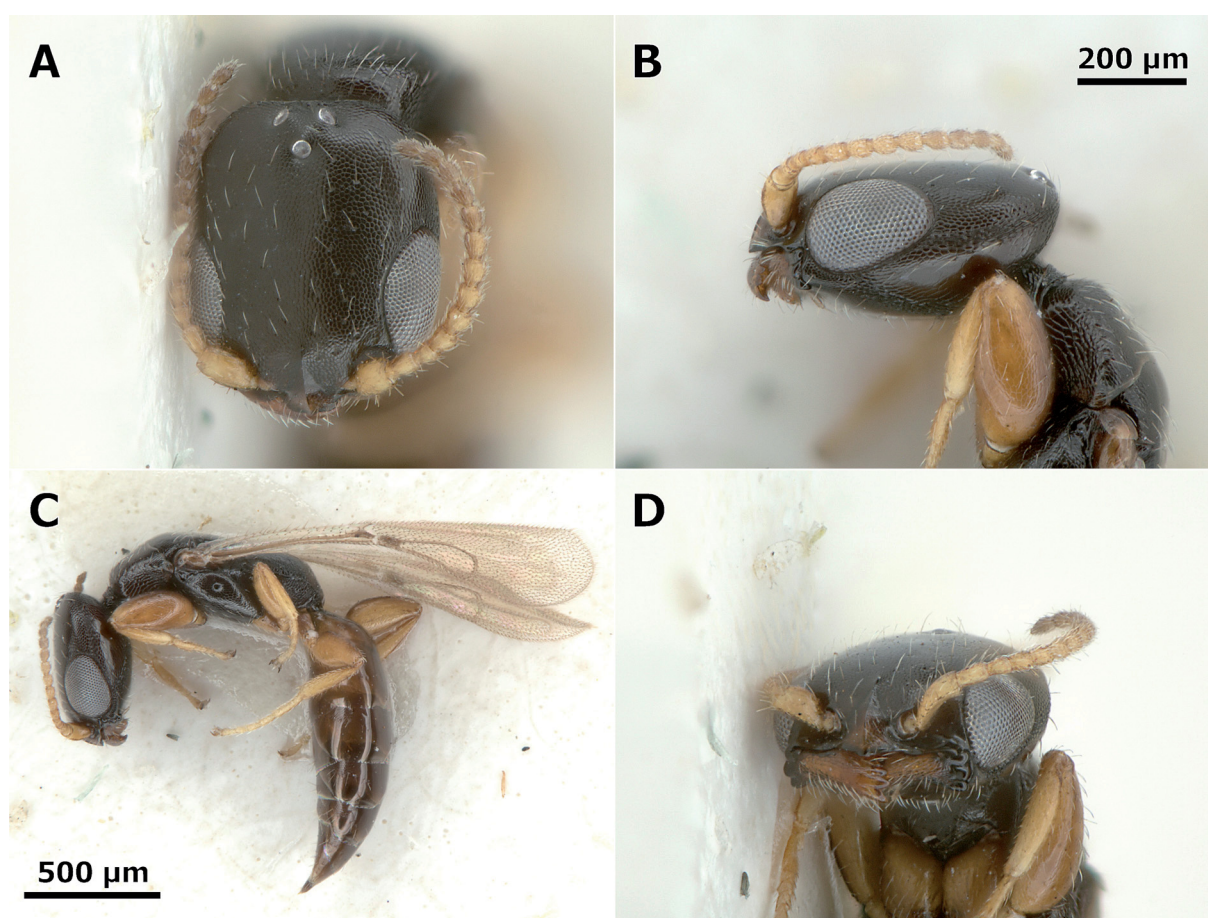


Fig. 107. *Sierola latifrons* sp. nov., holotype, ♀ (UCRC 556777). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally weakly carinate or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex to nearly flat ventrally,

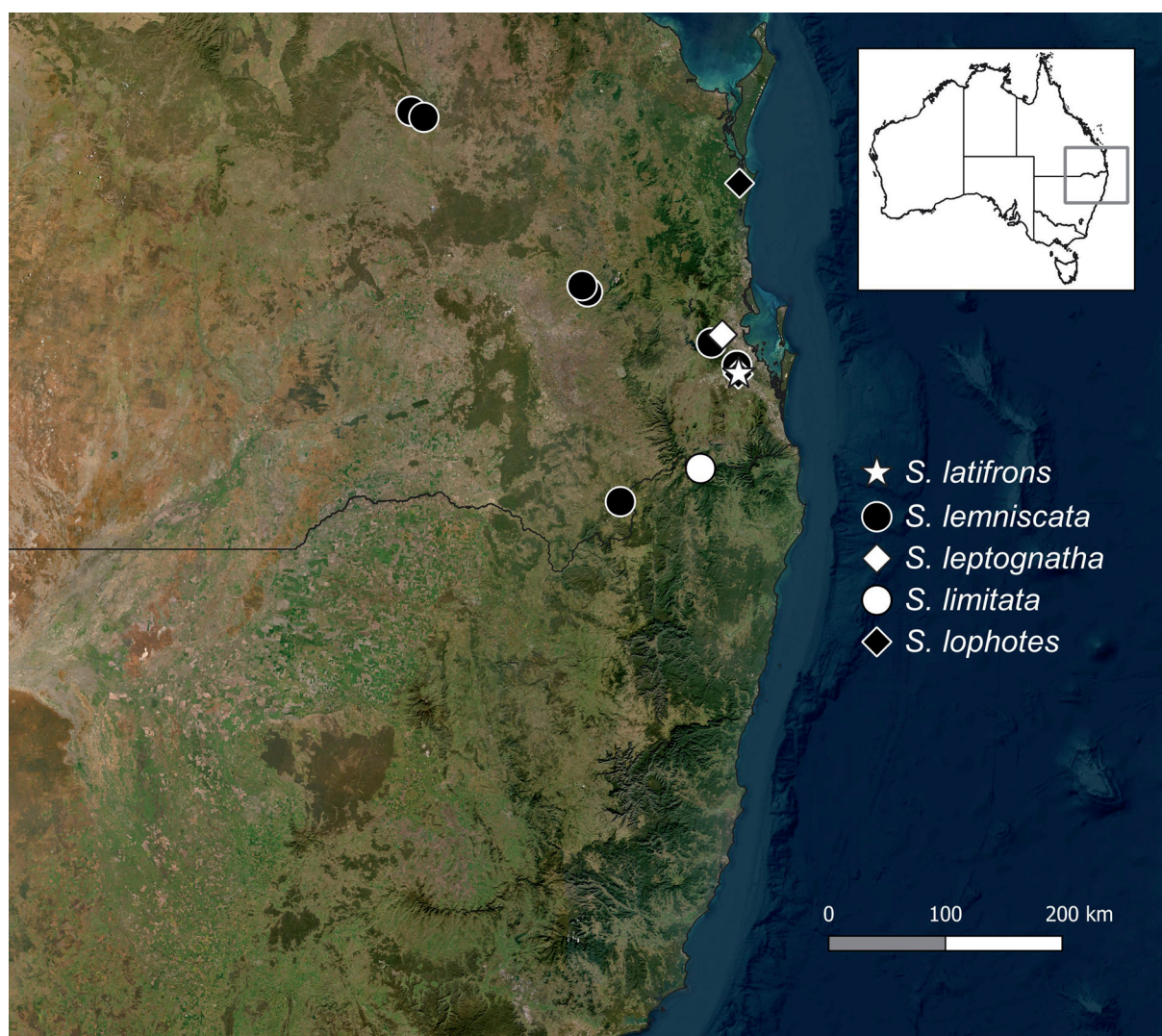


Fig. 108. Map of collection records of *Sierola latifrons* sp. nov., *S. lemniscata* sp. nov., *S. leptognatha* sp. nov., *S. limitata* sp. nov., and *S. lophotes* sp. nov.

genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black, clypeus orange to yellow. Antenna yellow, apical flagellomeres tinged with brown. Mandible reddish brown. Coxae brown basally and yellow apically, femora tinged with brown, legs otherwise yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.61 mm; LM 0.84 mm; WH/LH 0.84; DH/LH 0.48; EV/HE 1.00; EV/WF 0.82; WF/HE 1.22; WH/WF 1.68; OOL/WOT 1.97; DM/LM 0.38; FL/FW 2.07; HFL/HFW 2.24; A3 L/W 1.00; 2R1 L/W 3.11.

Distribution

Queensland; known only from the holotype, collected in Brisbane.

Sierola leeuwinensis Turner, 1915
Figs 109–110

Sierola leeuwinensis Turner, 1915: 68.

Diagnosis

A member of the *megacephala* group, with the head large and flat dorsally and ventrally, frons very broad, clypeus short with a low carina, and ocelli well removed from the vertex crest. Closely related to *S. capitata* sp. nov. and *S. stipulata* sp. nov. with the femora dark, head posterior of the eyes convex, and ocelli separated from the vertex by 2–3 ocellus lengths. Distinguished by the head shape, dorsally slightly concave in lateral view between the eyes and ocelli and vertex slightly but distinctly concave, and lacking dense ventral setation.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; SW Australia, Yallingup; 1–12 Dec. 1913; R.E. Turner leg.; NHMUK.

Other material examined

AUSTRALIA – **Western Australia** • 3 ♀♀; same data as for holotype; NHMUK • 2 ♀♀; Dongarra; 6–19 May 1935; R.E. Turner leg.; NHMUK • 4 ♀♀; Dongarra; 13–22 Aug. 1935; R.E. Turner leg.;

NHMUK • 10 ♀♀; Dongarra; 23 Aug.–5 Sep. 1935; R.E. Turner leg.; NHMUK • 1 ♀; Dongarra; 11–28 Oct. 1935; R.E. Turner leg.; NHMUK • 1 ♀; Dongarra; 22 Aug.–5 Sep. 1936 [possible misprinted label for 23 Aug.–5 Sep. 1935]; R.E. Turner leg.; NHMUK.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally weakly carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view broadly, shallowly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly concave between eyes and ocelli, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence.



Fig. 109. *Sierola leeuwinensis* Turner, 1915, holotype, ♀ (NHMUK). **A.** Head, dorsal. **B.** Head, lateral. **C.** Head, frontal.

Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina faintly present, curving on each side; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely yellow except the two terminal flagellomeres brown. Mandible black. Legs yellowish brown.

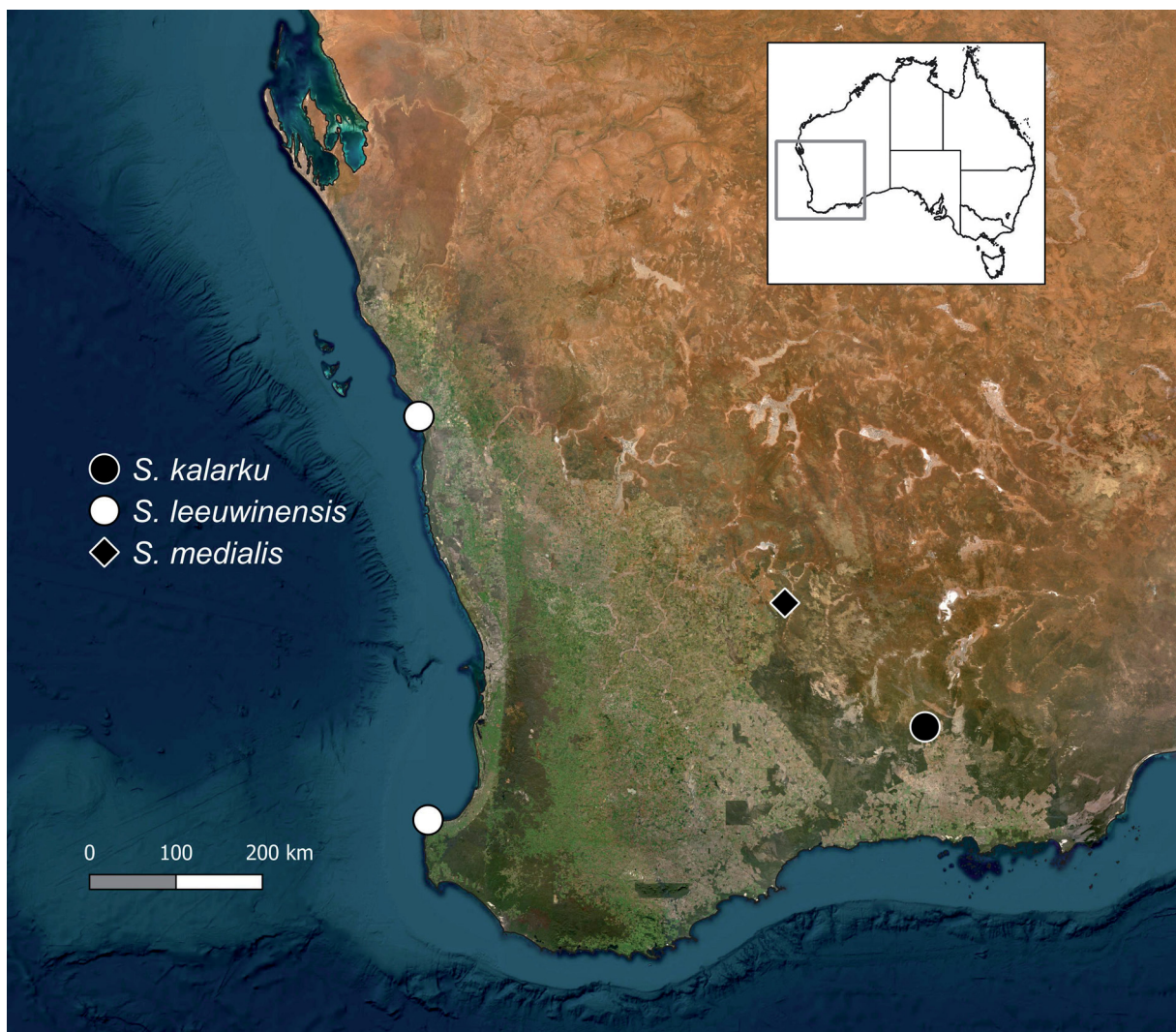


Fig. 110. Map of collection records of *Sierola kalarku* sp. nov., *S. leeuwinensis* Turner, 1915 and *S. medialis* sp. nov.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell.

MEASUREMENTS. LFW 2.18 mm; LM 1.17 mm; WH/LH 0.80; DH/LH 0.51; EV/HE 1.25; EV/WF 0.94; WF/HE 1.33; WH/WF 1.58; OOL/WOT 2.35; DM/LM 0.42; FL/FW 2.18.

Distribution

Western Australia; known from several collections at two localities on the southwestern coast.

Remarks

Although numerous specimens were obtained in the original series, this species has not been collected since 1935. *Sierola gilbertae* Ward, 2013 of New Zealand fits in between *S. leeuwinensis* and *S. capitata* sp. nov. in having the basal wing cells nearly glabrous and vertex nearly straight like the latter, but the mandible broad and only weakly concave like the former; it differs from both in having the clypeus evenly sloping rather than curved.

Sierola lemniscata sp. nov.

urn:lsid:zoobank.org:act:BB3F86CA-DF55-4C05-8F7E-8CA3557E504A

Figs 108, 111

Diagnosis

Among species with the basal wing cells glabrous, head convex dorsally, and clypeus evenly curved in profile, distinguished by the moderately deep head (DH/LH 0.55–0.60), mostly dark mandible, and lack of a carina between the lateral ocelli. Closest to *S. peras* sp. nov., separated by having the mandible broader, frons narrower than the eye height, and head shorter posterior of the eye.

Etymology

From the Latin '*lemniscatus*', 'banded', referring to the alternating sculpture of the mandibles.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Horse Gully, foot of Bunya Mts; 7 Oct. 1984; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154845.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Applethorpe; 19 Oct.–13 Dec. 1982; B.F. Ingram leg.; Malaise trap; QM • 1 ♀; Mt Glorious; 26 Oct.–5 Dec. 1989; A. Hiller leg.; Malaise trap; QM • 2 ♀♀; Brisbane, Long Pocket; 27°31' S, 153°00' E; 10 Jun. 1991; C.J. Burwell leg.; QM • 1 ♀; Boggomoss 3 via Taroom; 25°26' S, 150°01' E; 12 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; Pitfall traps 042; QM T33422 • 1 ♀; Boggomoss 30 via Taroom; 25°29' S, 150°08' E; 14 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; baited flight intercept 057; QM T33424 • 1 ♀; Bunya Mts, Paradise, top track; 26°52' S, 151°35' E; 24 Oct. 1997; G. Thompson leg.; pyrethrum logs + bunya trunks, 5029; QM.

Description

Female

HEAD. Clypeal process semicircular or semi-elliptical, apex rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly,

outwardly polished and shining at base and apex, coriaceous medially; in ventral view strongly elbowed. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely rugulose; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity (sometimes extended narrowly to declivity); transverse carina faintly present laterally, obsolete medially; metapleural carinae

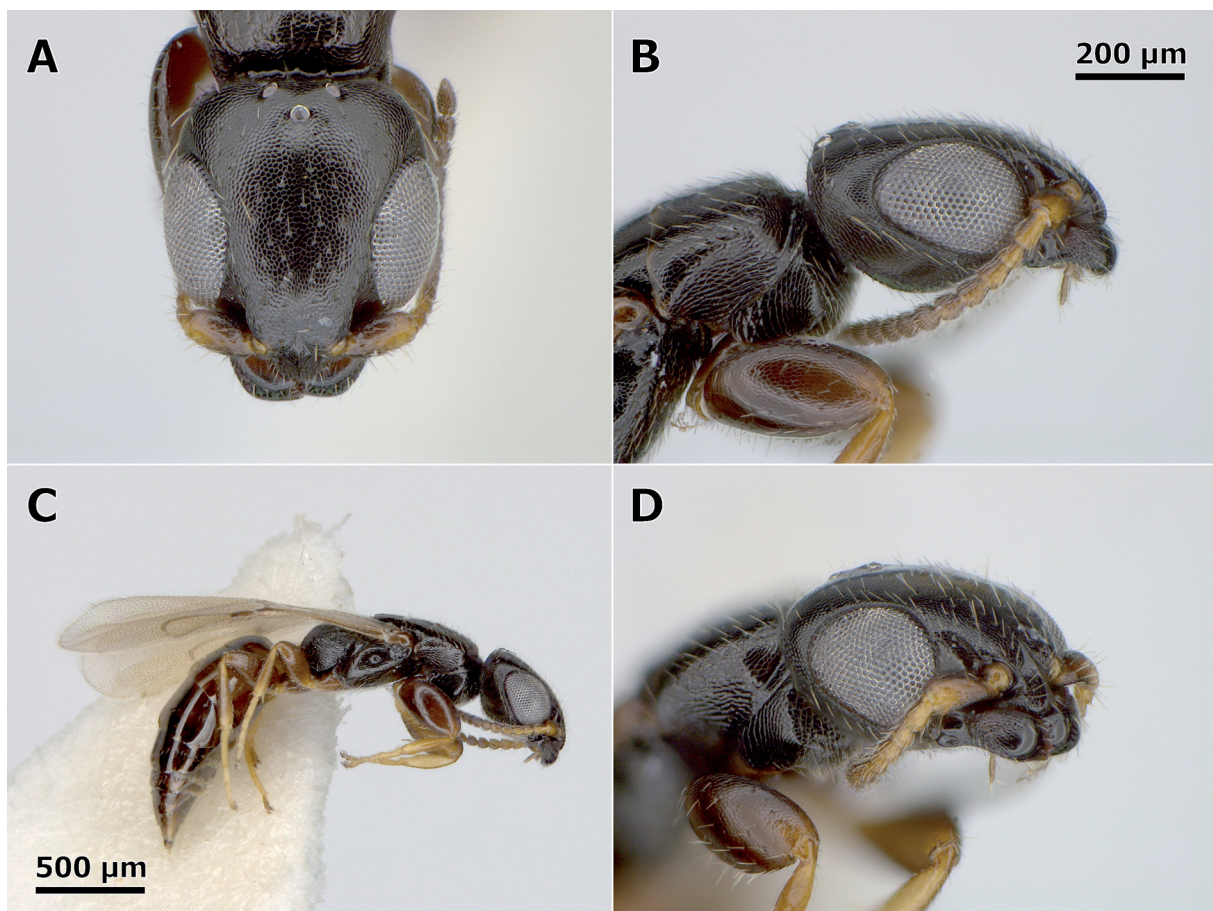


Fig. 111. *Sierola lemniscata* sp. nov., holotype, ♀ (ANIC 32-154845). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black, or mostly black and orange-brown medially. Legs all yellow except dorsal margins of femora tinged with brown, or coxae and femora dark brown to black, tibiae dark brown, trochanters, tarsi, and bands at bases and apices of tibiae orange.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical, or distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.67 mm; LM 0.89 mm (0.67–0.89); WH/LH 0.91 (0.87–0.91); DH/LH 0.57 (0.54–0.58); EV/HE 0.43 (0.40–0.47); EV/WF 0.51 (0.46–0.53); WF/HE 0.83 (0.81–0.88); WH/WF 1.97 (1.90–2.04); OOL/WOT 1.07 (1.05–1.20); DM/LM 0.38; FL/FW 1.88 (1.82–2.00); HFL/HFW 2.19 (2.00–2.19); A3 L/W 1.08 (0.91–1.09); 2R1 L/W 2.59. N = 8.

Distribution

Queensland; known from several collections in the southeast, probably also extending into New South Wales.

Remarks

This species is somewhat variable in the mandible and leg color, form of the propodeum, and shape of cell 1M. However, the characters do not co-vary, and the specimens on hand are unusually similar morphometrically.

Sierola leptadelpha sp. nov.

urn:lsid:zoobank.org:act:1FDAF29E-3A03-40C6-8AF6-D3AB7979BD8F

Figs 101, 112

Diagnosis

Part of a complex of species with the head compressed and flat to weakly convex dorsally and ventrally, frons broad, mandible reddish brown to black and distinctly concave ventrally, and lateral ocelli separated from the vertex crest. Distinguished from similar species by the very short clypeus which is steep and nearly straight in profile, and densely setose basal wing cells. Closest to *S. jubaris* sp. nov., which has the mandible distinctly narrower, metafemur broader ($HFL/HFW \geq 2.40$), frons narrower ($WF/HE \leq 1.20$), and $OOL/WOT \geq 2.00$.

Etymology

From the Greek ‘*leptos*’, ‘small’, + ‘*adelphē*’, ‘sister’, referring to the similarity of this species to *S. geminata* sp. nov. and *S. stipulata* sp. nov., and its smaller size. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 5 km SE by S of Redpa; 40°57' S, 144°49' E; 18 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154846.

Paratype

AUSTRALIA – **Victoria** • 1 ♀; Sherbrooke; 7 Dec. 1916; [illegible] leg.; MVMA HYM-86589.

Description

Female

HEAD. Clypeal process semi-elliptical or very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous or finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex or nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively

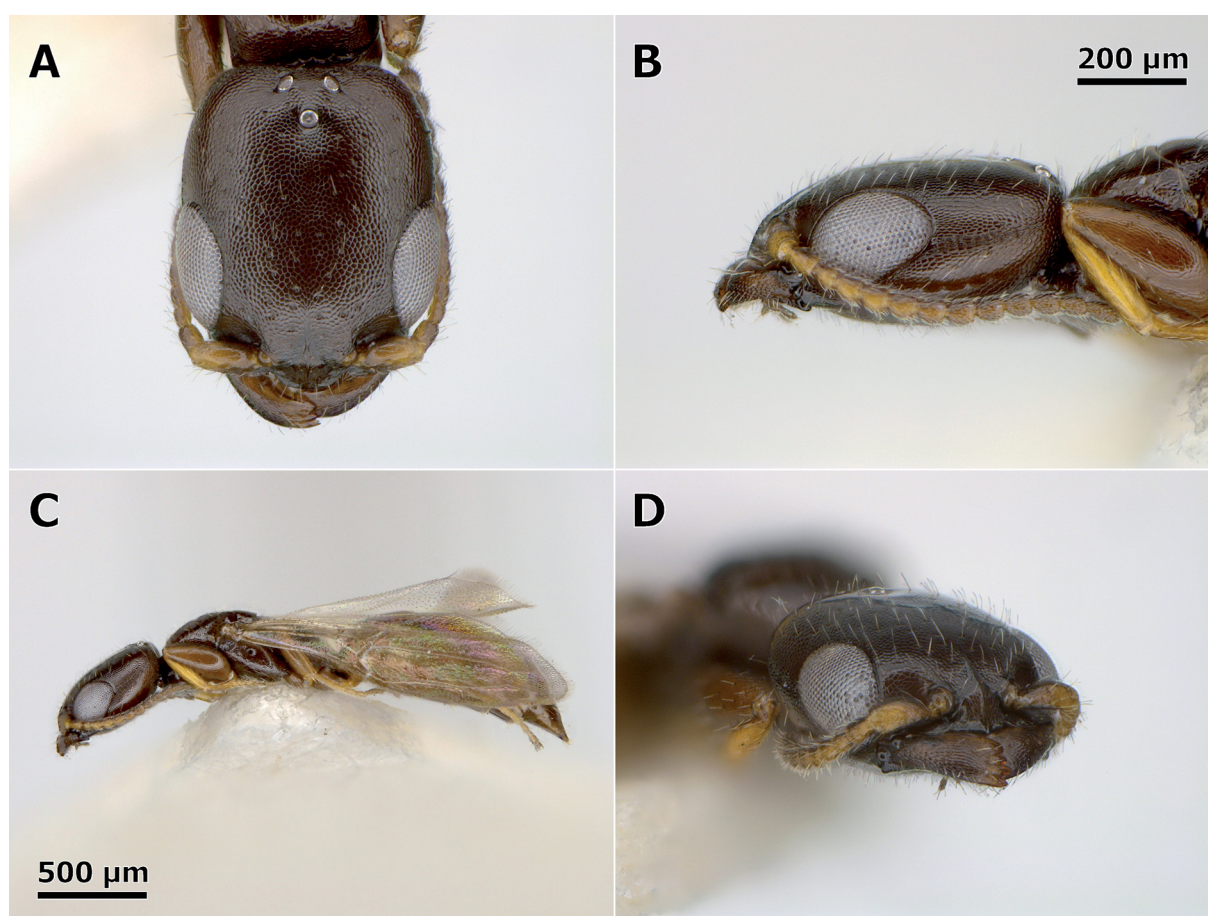


Fig. 112. *Sierola leptadelpha* sp. nov., holotype, ♀ (ANIC 32-154846). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sparse setae. Head weakly convex to nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown to black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.65 mm; LM 0.80 mm; WH/LH 0.80; DH/LH 0.49; EV/HE 0.97; EV/WF 0.80; WF/HE 1.21; WH/WF 1.63; OOL/WOT 2.17; DM/LM 0.42; FL/FW 2.42; HFL/HFW 2.59; A3 L/W 1.20; 2R1 L/W 3.47.

Distribution

Tasmania and Victoria; known from one specimen each.

Remarks

The specimens from Victoria and Tasmania are slightly different and may prove to be cryptic species. Compared to the Tasmanian holotype, the former has the head more narrowed anteriorly in lateral view, with the clypeus appearing more elongate despite still being quite short. However, they are not strongly distinct and may be in the range of variation of a single species.

***Sierola leptognatha* sp. nov.**

urn:lsid:zoobank.org:act:FDCD63F8-F33F-4E4B-8C51-CAEDA6FCBD5E

Figs 108, 113

Diagnosis

Part of the large complex of species with the head convex dorsally, basal wing cells setose, and mandible reddish brown. Distinguished from all others by the compressed head, distinctly obtuse ocellar triangle, and mandible convex outwardly with the ventral tooth slightly posterior of the second.

Etymology

From the Greek ‘*leptos*’, ‘small’, + ‘*gnathos*’, ‘jaw’, referring to the narrow mandibles. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Samsonvale Cemetery, 8.5 km SSE of Dayboro; 27°16' S, 152°52' E; 2 Nov. 1997; C.J. Burwell leg.; QM T262162.

Paratypes

AUSTRALIA – **Queensland** • 2 ♀♀; same data as for holotype; QM.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; slightly twisted, outwardly slightly curved so that ventral tooth slightly posterior of second, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less

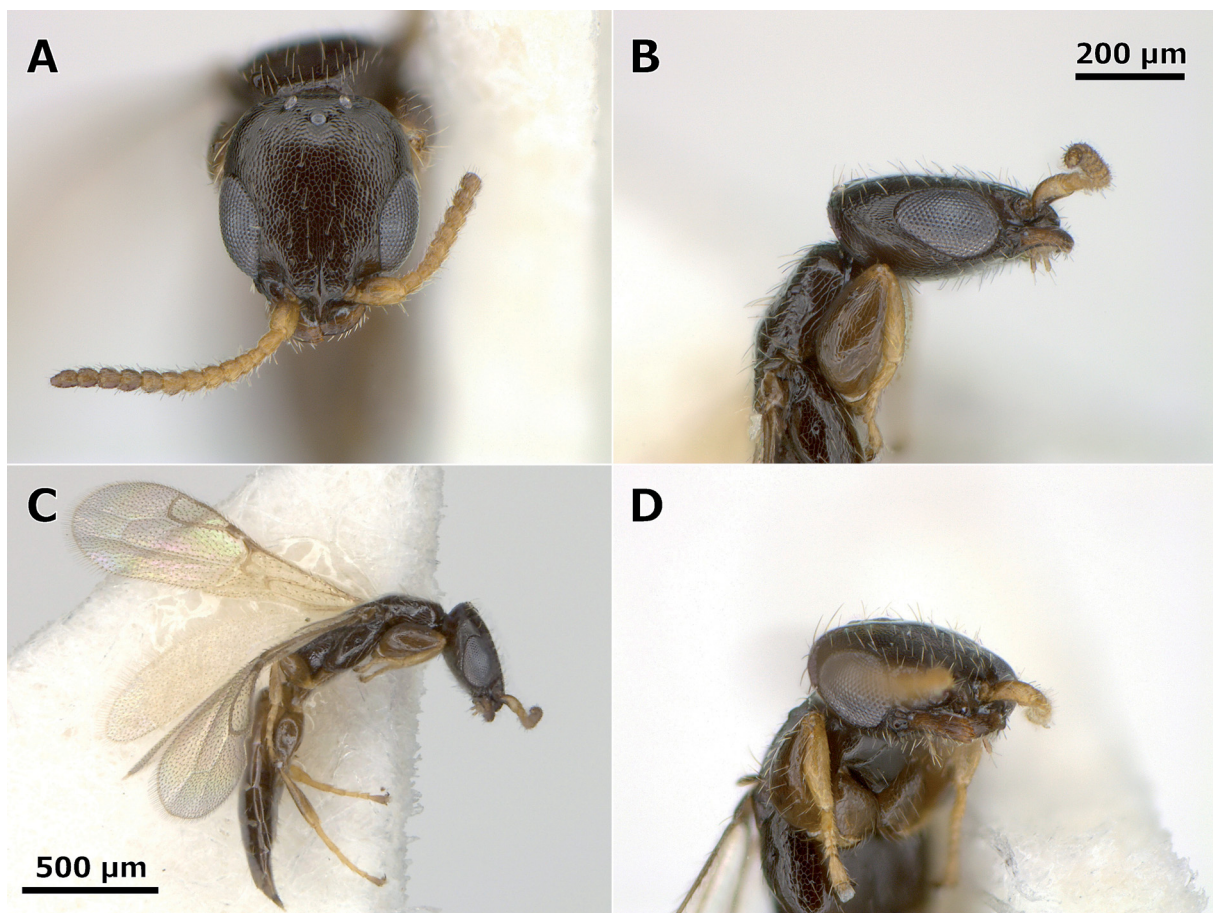


Fig. 113. *Sierola leptognatha* sp. nov., holotype, ♀ (QM T262162). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.29 mm; LM 0.64 mm (0.64–0.75); WH/LH 0.86 (0.86–0.90); DH/LH 0.47 (0.45–0.47); EV/HE 0.63 (0.56–0.63); EV/WF 0.58 (0.52–0.58); WF/HE 1.09 (1.08–1.10); WH/WF 1.73 (1.72–1.74); OOL/WOT 1.19 (1.19–1.29); DM/LM 0.31; FL/FW 2.07 (1.95–2.07); HFL/HFW 2.04 (1.93–2.04); A3 L/W 1.00; 2R1 L/W 3.08. N = 3.

Distribution

Queensland; known only from the type series, collected near Brisbane.

Sierola limitata sp. nov.

urn:lsid:zoobank.org:act:B604B95E-5C8E-4691-A448-F671A99DF270

Figs 108, 114

Diagnosis

Part of a complex of species with the head flat to weakly convex dorsally and ventrally, mandible reddish brown to black and distinctly concave ventrally, and lateral ocelli separated from the vertex crest. Distinguished from similar species by the prominently curved clypeus, sparsely setose basal wing cells, lateral ocelli separate from the vertex crest by an ocellus length, moderately deep head (DH/LH ~0.55), and conspicuous ventral setae of the head.

Etymology

From the Latin ‘*limitatus*’, ‘border’, from the type locality on the border between New South Wales and Queensland.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Donaldson State Forest via Woodenbong; 30 Dec. 1979; I.D. Naumann leg.; ANIC 32-154847.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex or

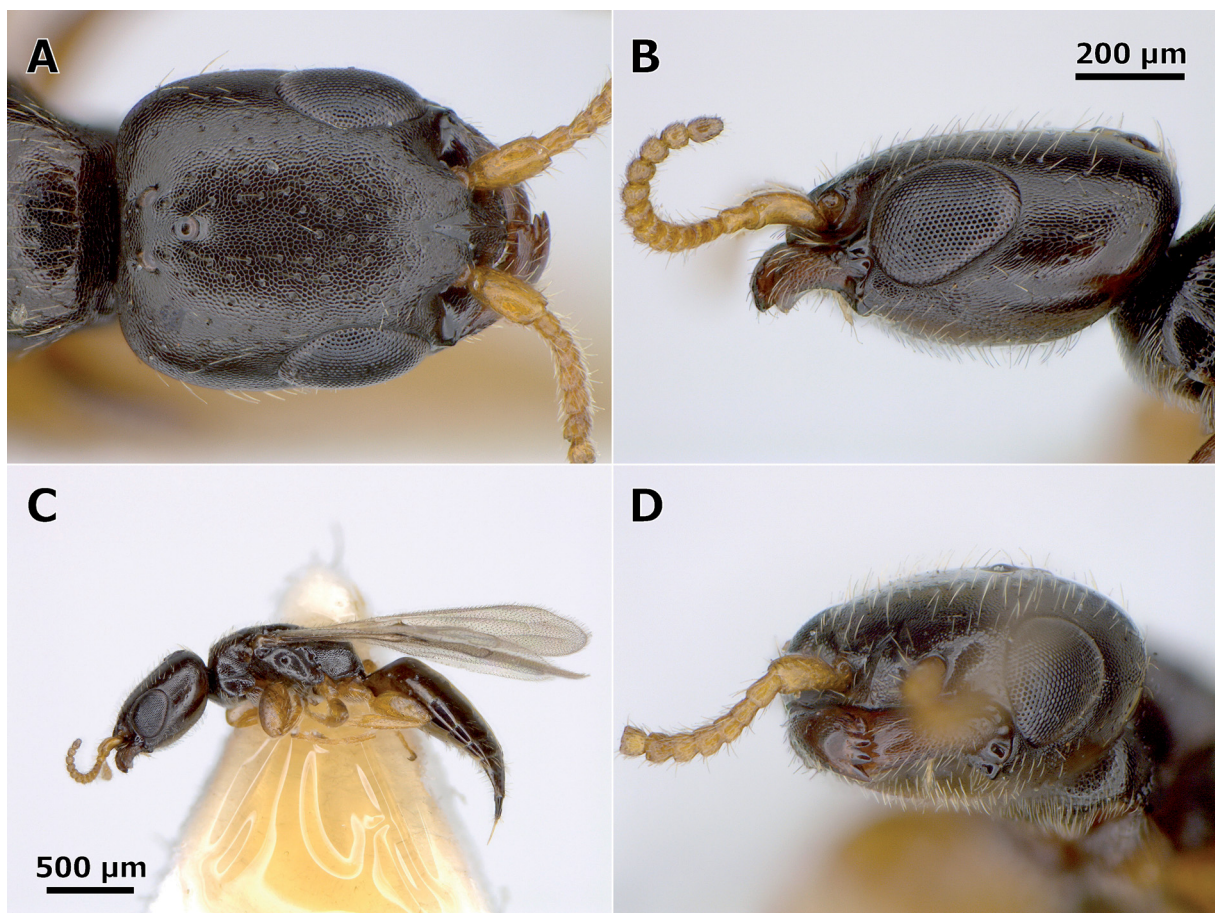


Fig. 114. *Sierola limitata* sp. nov., holotype, ♀ (ANIC 32-154847). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dull yellow. Mandible reddish brown. Legs yellowish brown.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.89 mm; LM 0.95 mm; WH/LH 0.82; DH/LH 0.55; EV/HE 1.00; EV/WF 0.80; WF/HE 1.25; WH/WF 1.64; OOL/WOT 1.71; DM/LM 0.40; FL/FW 2.08; HFL/HFW 2.26; A3 L/W 1.32; 2R1 L/W 2.50.

Distribution

New South Wales; known only from the holotype.

Remarks

Like several similar species, the intermediate character states cause this to key out in several places, but it is quite distinct in its combination of characters.

Sierola lissonota sp. nov.

urn:lsid:zoobank.org:act:61529C0A-D2BE-4185-82CE-5D613BDBE295

Figs 90, 115

Diagnosis

Among species with the basal wing cells glabrous and head convex dorsally, closest to *S. carinifrons* sp. nov. and *S. kimseyana* sp. nov. in having the frons shining and weakly sculpted, malar space short, and clypeus evenly curved in profile. Separated from both by the obtuse ocellar triangle (lateral ocelli nearly touching the vertex crest), broad head ($WH/LH \geq 0.89$), and broad metafemur ($HFL/HFW \leq 2.15$). Additionally separated from the latter by the broad, polished median strip on the propodeum and lack of a carina between the lateral ocelli.

Etymology

From the Greek ‘*lissos*’, ‘smooth’, + ‘*noton*’, ‘back’, referring to the broadly polished propodeum and generally smooth cuticle sculpture.

Type material

Holotype

AUSTRALIA – Queensland • ♀; 3 km S of Pine Mt; 21°46′ S, 148°51′ E; elev. 230 m; 6 Oct.–17 Dec. 1999; D. and I. Cook leg.; vine scrub intercept, 9041; QM T262163.

Description

Female

HEAD. Clypeal process semicircular to rounded triangular, apex rounded or weakly pointed; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly

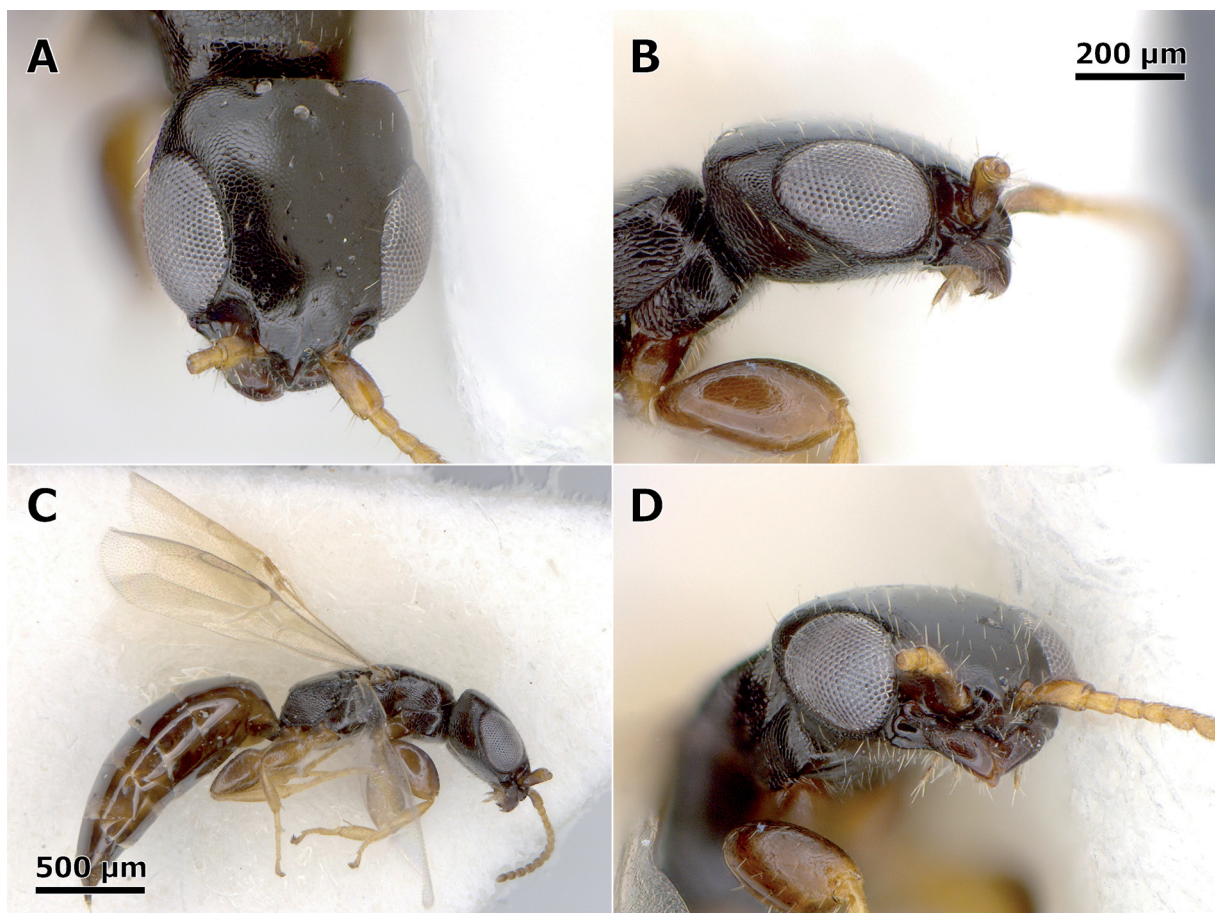


Fig. 115. *Sierola lissonota* sp. nov., holotype, ♀ (QM T262163). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae short, inconspicuous. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.54 mm; LM 0.83 mm; WH/LH 0.94; DH/LH 0.51; EV/HE 0.42; EV/WF 0.47; WF/HE 0.89; WH/WF 1.97; OOL/WOT 1.00; DM/LM 0.39; FL/FW 1.79; HFL/HFW 1.95; A3 L/W 1.20; 2R1 L/W 2.76.

Distribution

Queensland; known only from the holotype, collected near the central coast.

Sierola littoralis sp. nov.

urn:lsid:zoobank.org:act:D5ED17F6-1B61-470F-BCC8-09FBE45DAD87

Figs 116–117

Diagnosis

Part of the large complex of species with the head convex dorsally, basal wing cells setose, and mandible reddish brown. Distinguished from all others by the compressed head, short, transverse clypeus, vertex and gena setae elongate and conspicuous, and propodeum with a narrow polished median strip.

Etymology

From the Latin '*littoralis*', 'of the shore', for the coastal type locality.

Type material

Holotype

AUSTRALIA – South Australia • ♀; Aldinga Scrub, 40 km SSW of Adelaide; 27 Mar.–9 Apr. 1987; P. Dangerfield leg.; Malaise trap; SAMA.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded or truncate; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded

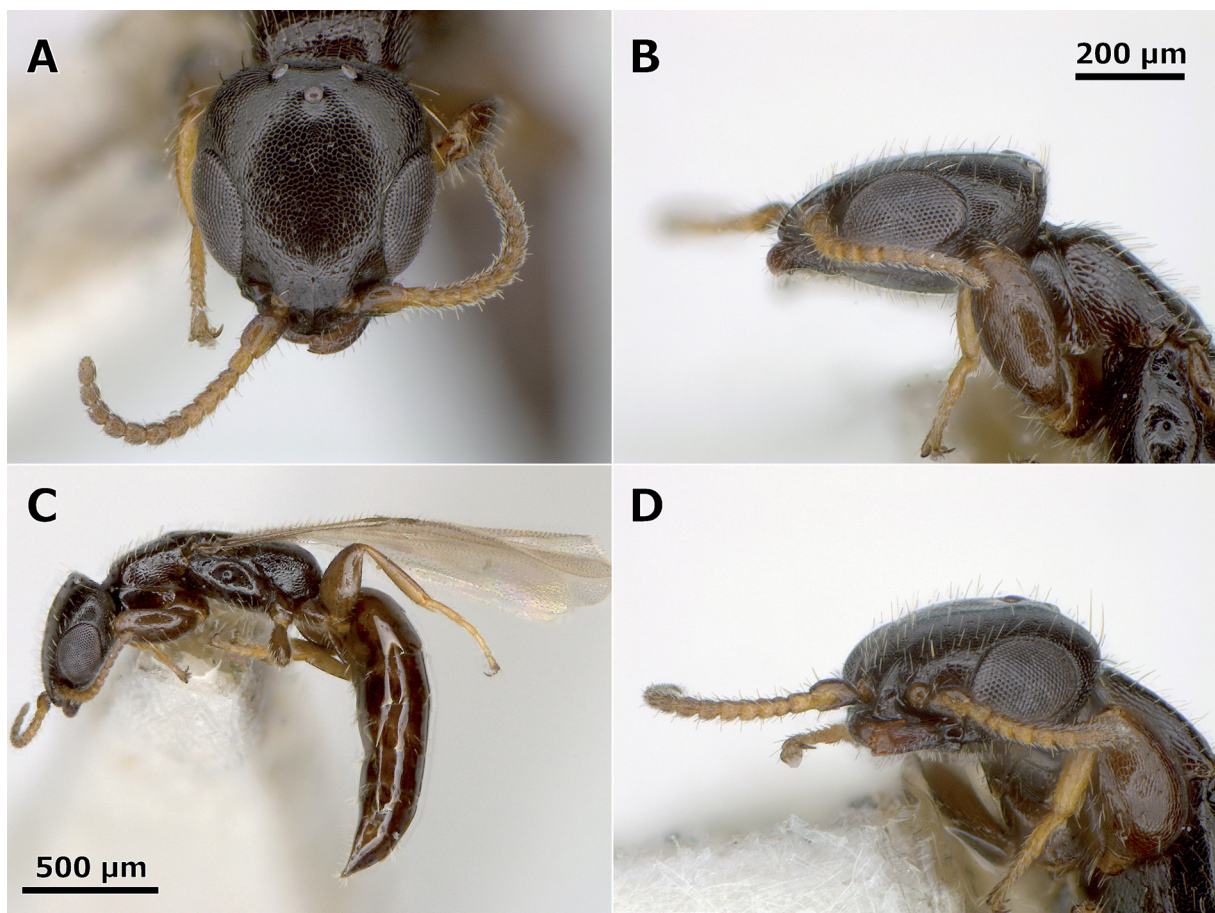


Fig. 116. *Sierola littoralis* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

shortly posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum narrowly glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

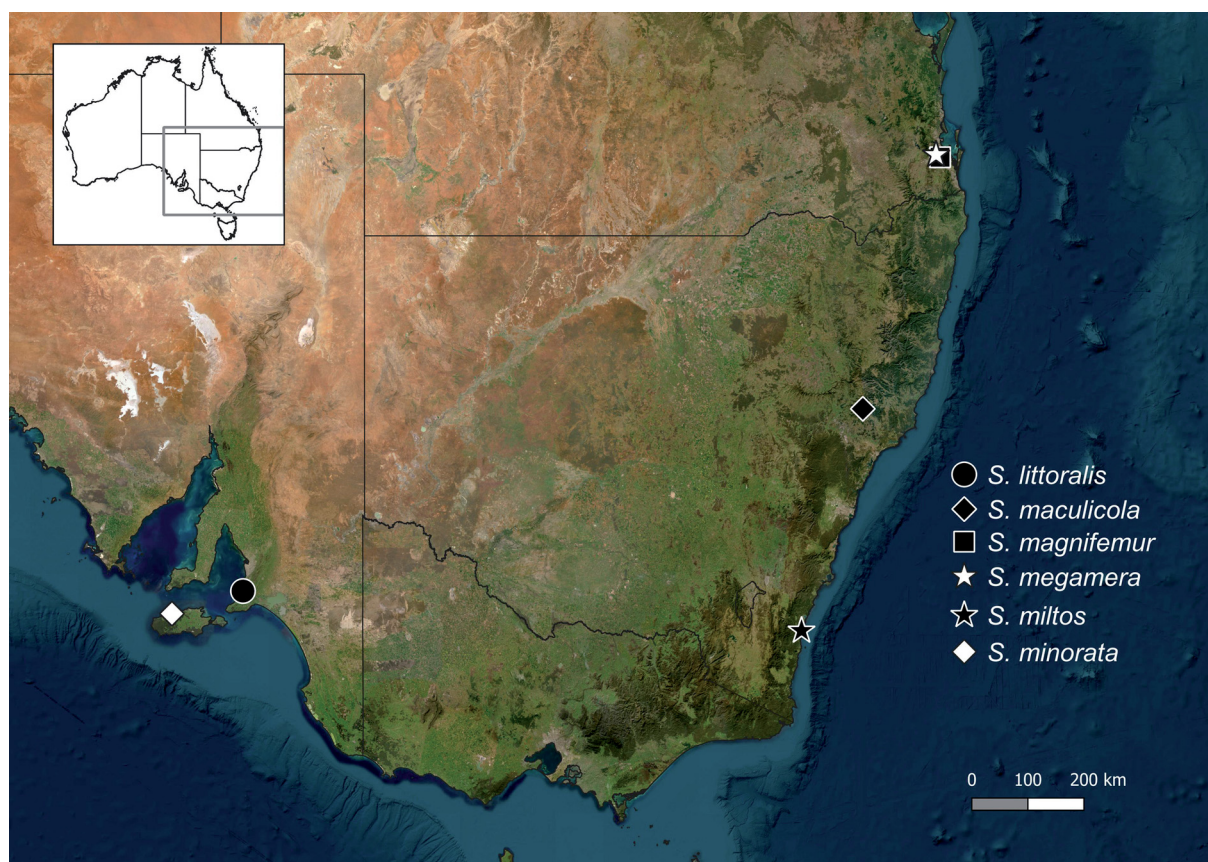


Fig. 117. Map of collection records of *Sierola littoralis* sp. nov., *S. maculicola* sp. nov., *S. magnifemur* sp. nov., *S. megamera* sp. nov., *S. miltos* sp. nov., and *S. minorata* sp. nov.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely to sparsely setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.61 mm; LM 0.82 mm; WH/LH 0.90; DH/LH 0.52; EV/HE 0.59; EV/WF 0.59; WF/HE 1.00; WH/WF 1.82; OOL/WOT 1.06; DM/LM 0.34; FL/FW 1.91; HFL/HFW 1.92; A3 L/W 0.68; 2R1 L/W 2.35.

Distribution

South Australia; known only from the holotype, collected near the coast south of Adelaide.

Sierola longifacies sp. nov.

urn:lsid:zoobank.org:act:7CC2FA1B-F2D8-4CAF-810F-33F21EF7E6F7

Figs 90, 118

Diagnosis

Namesake of the *longifacies* species group, characterized by the very narrow, compressed head (WH/LH 0.63–0.68), more or less flat dorsally and long posterior to the eyes, short clypeus, short antenna (hardly reaching past the head), lateral ocelli separated from the vertex crest, and ocellar triangle very strongly acute. Separated from similar species by having the clypeus evenly sloping; mandible broad, not concave ventrally, and strongly twisted; vertex slightly concave in dorsal view; lateral ocelli separated from the vertex crest by more than their length; and basal wing cells nearly glabrous. The head is also slightly convex dorsally and ventrally.

Etymology

Referring to the extremely long, narrow face.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; 11 km W by N of Bald Hill, McIlwraith Range, search party campsite; 13°44' S, 143°20' E; elev. 520 m; 27 Jun.–12 Jul. 1989; T.A. Weir leg.; ex dead *Pandanus* leaves; ANIC 32-154848.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; 13 km E by S of Weipa; 12°40' S, 143°00' E; 12 Sep.–24 Oct. 1993; P. Zborowski and D. Rentz leg.; flight intercept trap; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded, lateral lobes also produced nearly as far as median lobe; dorsally with a rounded carina, effaced towards apex; in profile evenly sloping, nearly straight. Mandible broad, not narrowed from base, ventral margin nearly straight; strongly twisted, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle very strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2

ommatidia. Dorsum of head in lateral view slightly convex or nearly flat, convex around ocellar triangle, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of long erect setae, those on S5–6 about twice as long as preceding. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Legs all yellow.

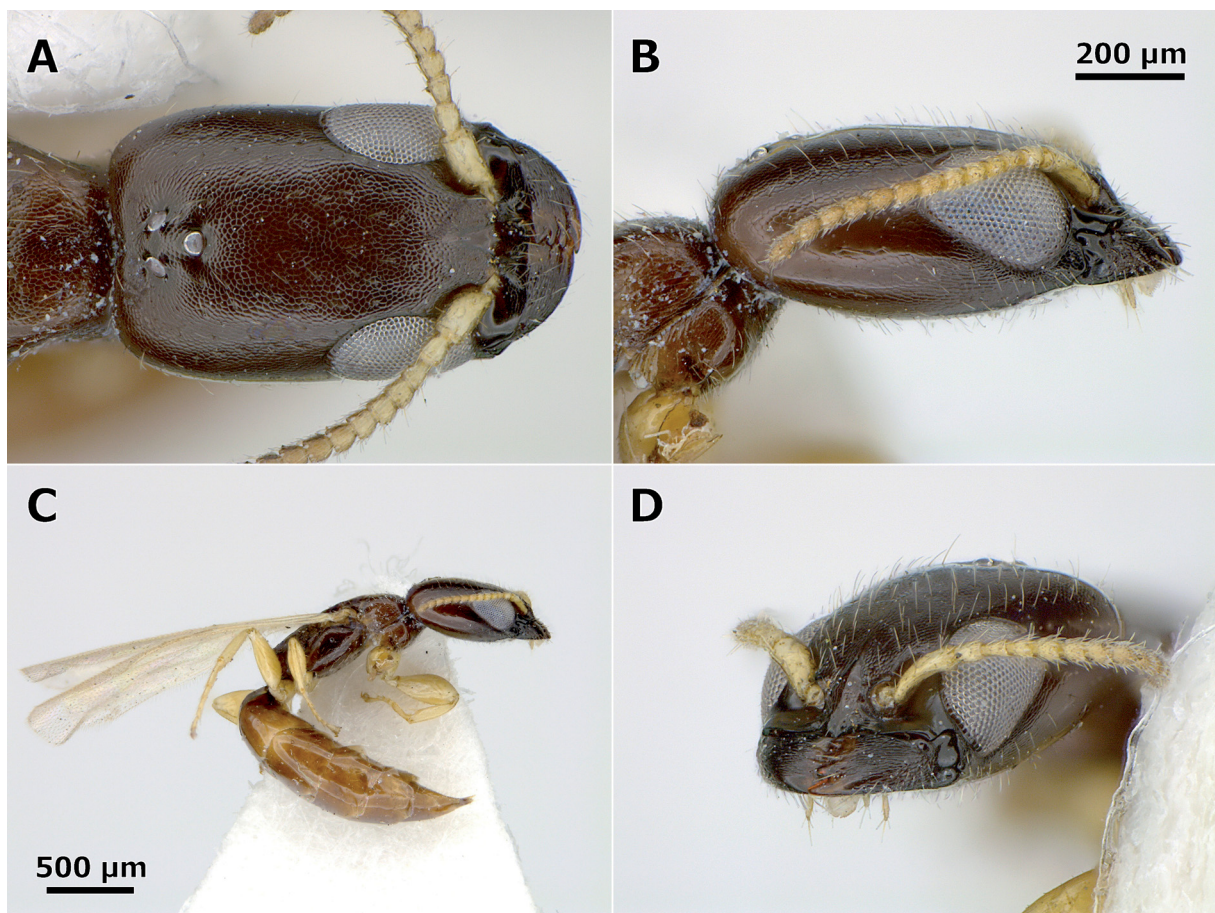


Fig. 118. *Sierola longifacies* sp. nov., holotype, ♀ (ANIC 32-154848). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.99 mm; LM 0.98 mm; WH/LH 0.66; DH/LH 0.46; EV/HE 1.30; EV/WF 1.37; WF/HE 0.95; WH/WF 1.87; OOL/WOT 2.50; DM/LM 0.34; FL/FW 2.00; HFL/HFW 2.14; A3 L/W 1.10; 2R1 L/W 2.53.

Distribution

Queensland; known from two specimens collected on the Cape York Peninsula.

Remarks

The combination of a long, narrow head with strongly twisted mandibles is distinctive. The elongate lateral lobes of the clypeus are unique in the genus.

Sierola lophotes sp. nov.

urn:lsid:zoobank.org:act:FA0ADF84-3D43-4DFD-81C1-B5BB5F8AF421

Figs 108, 119

Diagnosis

Part of the large complex of species with the head convex dorsally, basal wing cells setose, and head compressed. Separated from similar species by the elongate, conspicuous vertex and gena setae, moderately compressed head (DH/LH ~0.51), densely setose basal wing cells, and broadly rounded occipital margin. Closest to *S. gingera* sp. nov. and *S. paraptoma* sp. nov.; separated from the former by the narrower mandible and ocellar triangle right to weakly obtuse, from the latter by the less strongly convex head and propodeum lacking a median polished area, and from both by the reddish brown mandible and DH/LH.

Etymology

From the Greek ‘*lophos*’, ‘ridge’, referring to the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Acacia Ridge, Brisbane; Oct. 1976; E.C. Dahms leg.; Malaise trap; QM T262164.

Paratype

AUSTRALIA – Queensland • 1 ♀; Teewah, Cooloola; 15–16 Aug. 1981; G. Sarnes leg.; QM.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow punctures, dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal

view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum broadly glabrous medially, with sparse setae laterally.



Fig. 119. *Sierola lophotes* sp. nov., holotype, ♀ (QM T262164). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.19 mm; LM 0.66 mm; WH/LH 0.85; DH/LH 0.51; EV/HE 0.54; EV/WF 0.54; WF/HE 1.00; WH/WF 1.79; OOL/WOT 1.20; DM/LM 0.33; FL/FW 1.85; HFL/HFW 2.06; A3 L/W 0.85; 2R1 L/W 3.18.

Distribution

Queensland; known from two specimens collected in the southeast.

Remarks

Although not particularly long or dense, the pale head setae of this species are unusually conspicuous.

Sierola macrorhina sp. nov.

urn:lsid:zoobank.org:act:C52AE830-DFEE-4EBF-AF9B-6CEB5010B536

Figs 120–121

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Close to *S. campanula* sp. nov., sharing the clypeus with a low but distinct medial carina and broadly rounded apically rather than straight truncate or emarginate, and mandible black and not twisted. Separated by the broad frons (WH/HE ≥ 1.0), propodeum with a polished median strip, and Rs joining the anterior wing margin.

Etymology

From the Greek ‘macro’, ‘large’, + ‘rhinos’, ‘nose’, referring to the protruding clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 1 km E by N of Herrick; 41°06' S, 147°53' E; 29–30 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154849.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly sloping, nearly straight. Mandible broad, ventral margin slightly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly to weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about

as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

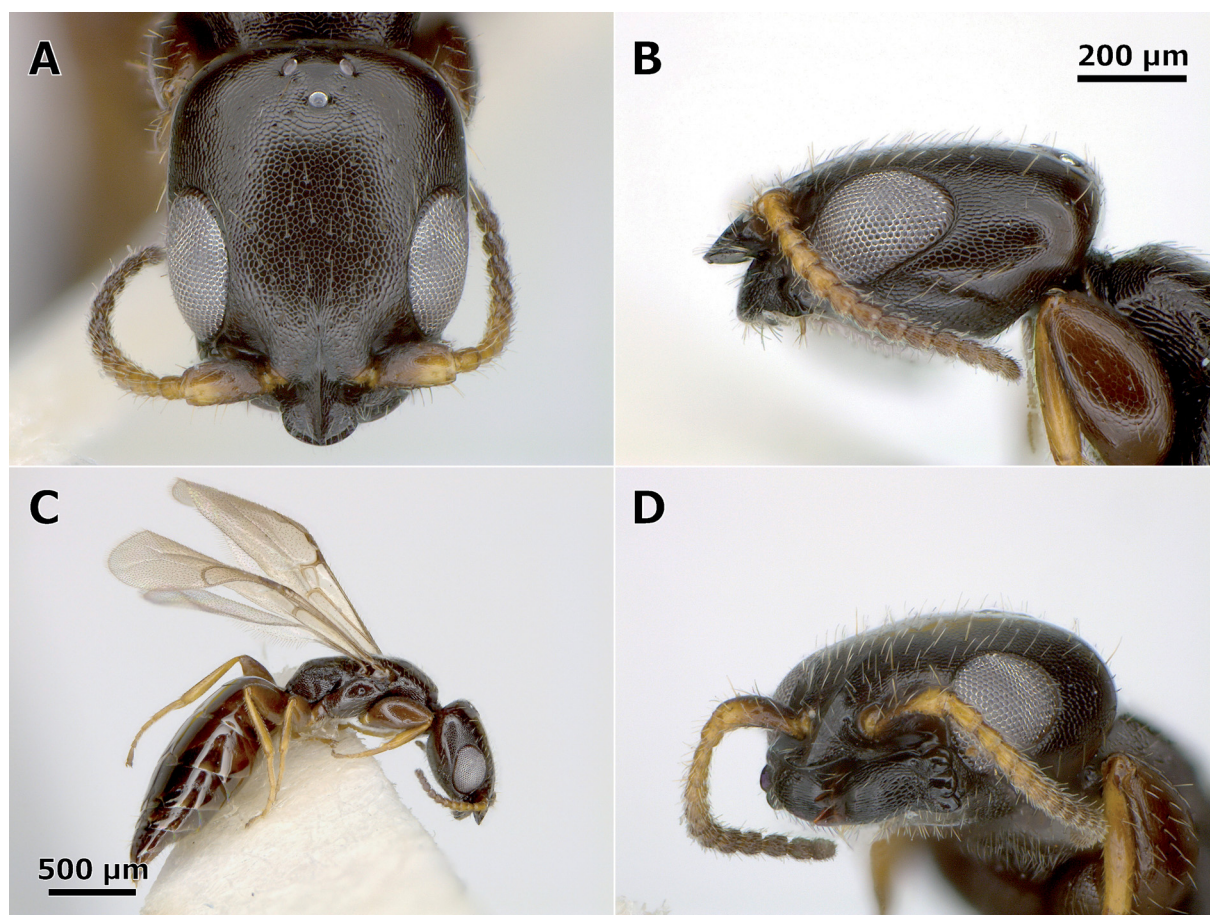


Fig. 120. *Sierola macrorrhina* sp. nov., holotype, ♀ (ANIC 32-154849). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.83 mm; LM 0.89 mm; WH/LH 0.74; DH/LH 0.50; EV/HE 0.80; EV/WF 0.75; WF/HE 1.07; WH/WF 1.73; OOL/WOT 1.84; DM/LM 0.39; FL/FW 2.04; HFL/HFW 2.21; A3 L/W 1.20; 2R1 L/W 3.00.

Distribution

Tasmania; known only from the holotype.

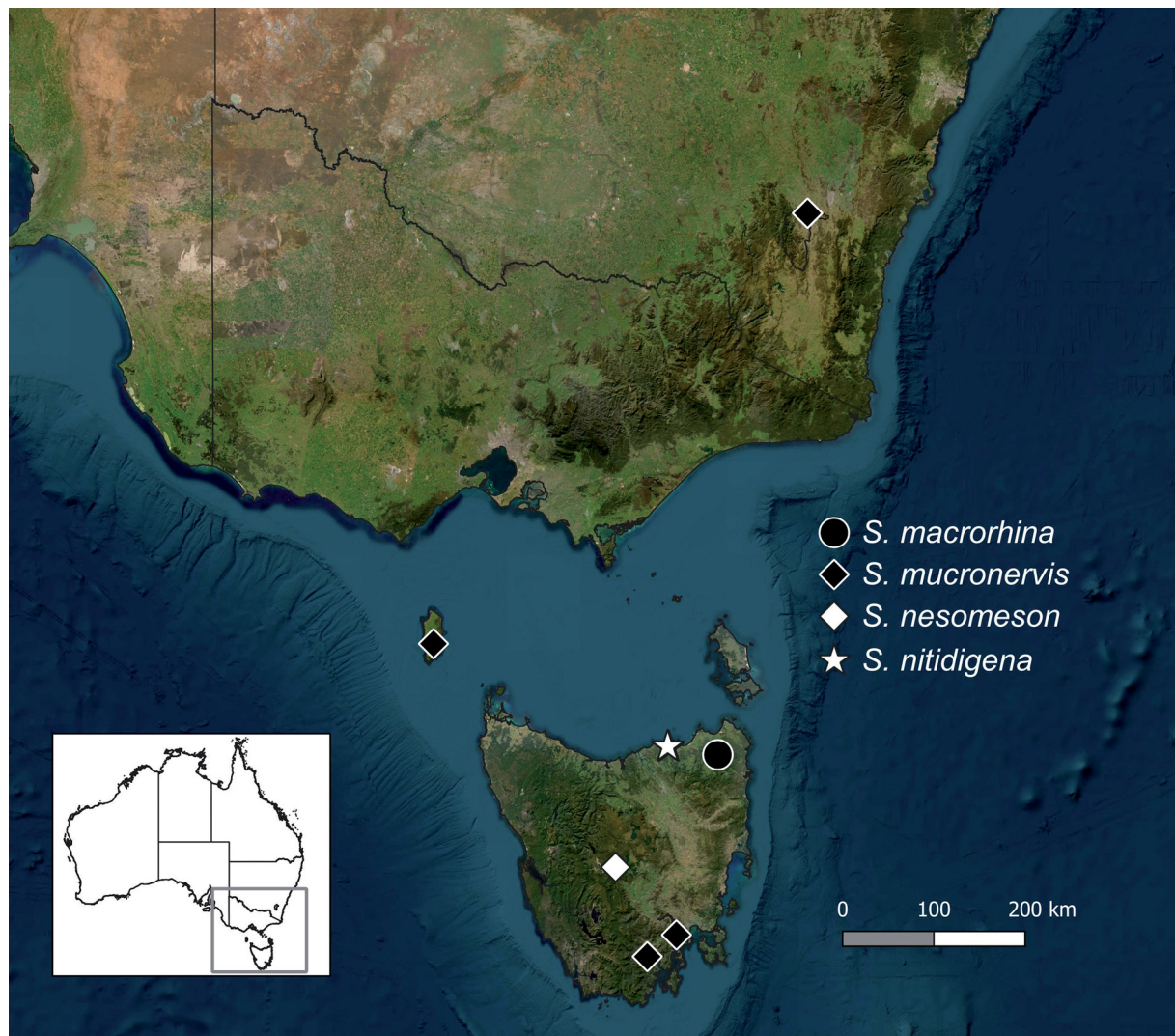


Fig. 121. Map of collection records of *Sierola macrorhina* sp. nov., *S. mucronervis* sp. nov., *S. nesomeson* sp. nov., and *S. nitidigena* sp. nov.

Sierola maculicola sp. nov.

urn:lsid:zoobank.org:act:1ED4CCA2-1EF9-4C0B-87DB-5D2A340BE0A5

Figs 117, 122

Diagnosis

Among species with the head compressed and flat or weakly convex dorsally, easily distinguished by having the clypeus evenly sloping and somewhat elongate in profile, apical angle strongly acute; mandible black, flat and strongly twisted, lying fully in line with the clypeus in lateral view when closed; basal wing cells densely setose; and head elongate posterior of the eyes, parallel-sided or slightly broadening.

Etymology

From the Latin ‘*macula*’, ‘spot’, + ‘*cola*’, ‘dwell’, referring to the patchwork of small reserves in the area of eastern New South Wales where this species is found.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Mt Allyn Forest Park via Dungog; 27 Jul. 1981; J.C. Cardale leg.; ex ethanol; ANIC 32-154850.

Description

Female

HEAD. Clypeal process trapezoidal, apex truncate; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly sloping, nearly straight. Mandible broad, ventral margin slightly concave; strongly twisted, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head broadening posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, tinged with brown dorsally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.17 mm; LM 1.02 mm; WH/LH 0.79; DH/LH 0.50; EV/HE 1.02; EV/WF 0.93; WF/HE 1.10; WH/WF 1.75; OOL/WOT 2.10; DM/LM 0.40; FL/FW 2.19; HFL/HFW 2.67; A3 L/W 0.93; 2R1 L/W 2.28.

Distribution

New South Wales; known only from the holotype, collected in the Allyn Range.

Remarks

This species is intermediate between the *longifacies* and *megacephala* species groups; in general appearance it is closer to the latter, but the frons is narrower and ocelli closer to the vertex.

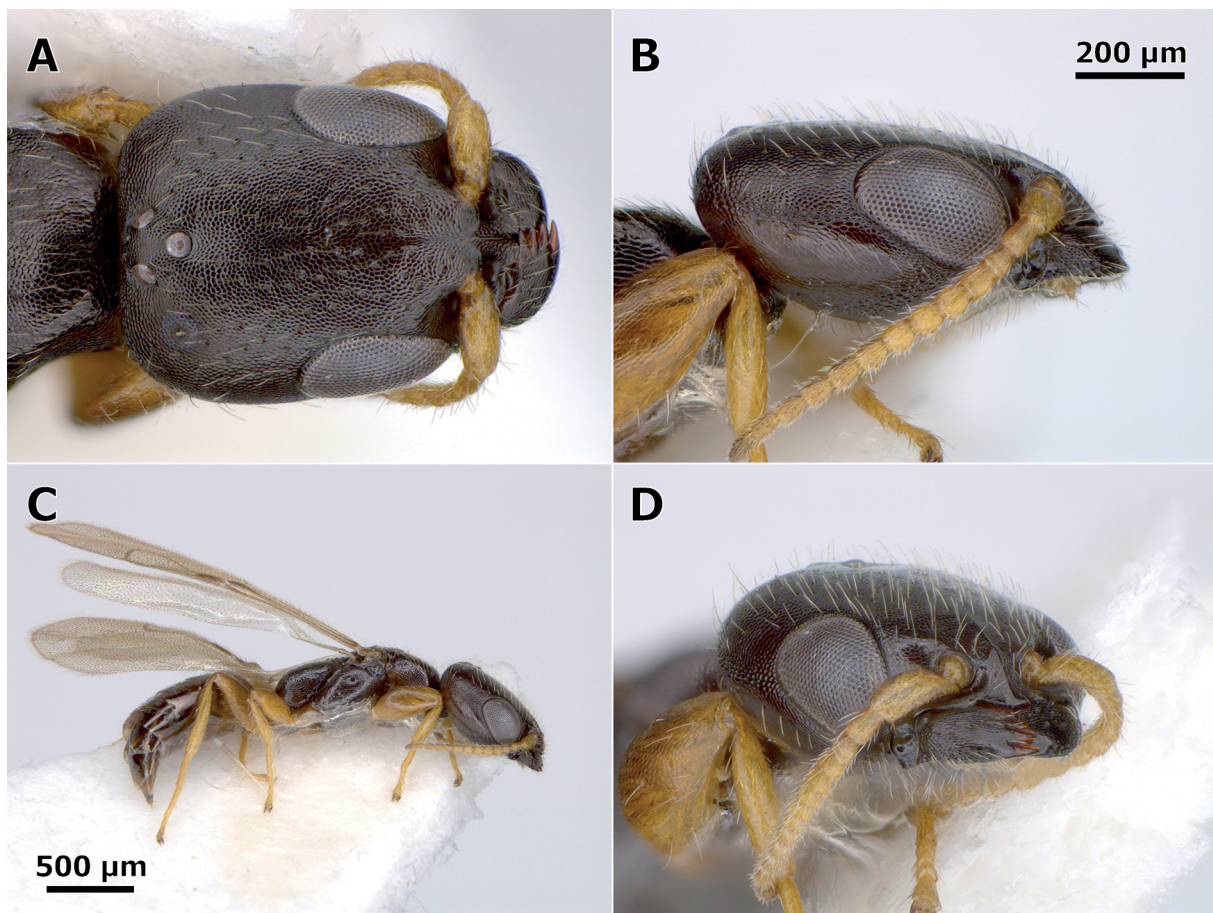


Fig. 122. *Sierola maculicola* sp. nov., holotype, ♀ (ANIC 32-154850). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Sierola magnifemur sp. nov.

urn:lsid:zoobank.org:act:7FEF1284-82AE-4955-920D-86B1FB52A5BB

Figs 117, 123

Diagnosis

A distinctive species, recognizable by the combination of nearly glabrous basal wing cells, mandible predominantly yellow, profemur very broad (FL/FW ~1.6), ocellar triangle strongly obtuse, and transverse propodeal carina strong and distinct. Closest to *S. lissonota* sp. nov., which has the profemur somewhat broad but the mandible brown, clypeus distinctly curved in lateral view, and head deeper.

Etymology

From the Latin ‘*magnus*’, ‘large’, + ‘*femur*’, referring to the extremely broad profemur. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Brisbane; 10 Sep. 1962; G. Monteith leg.; QM T262165.

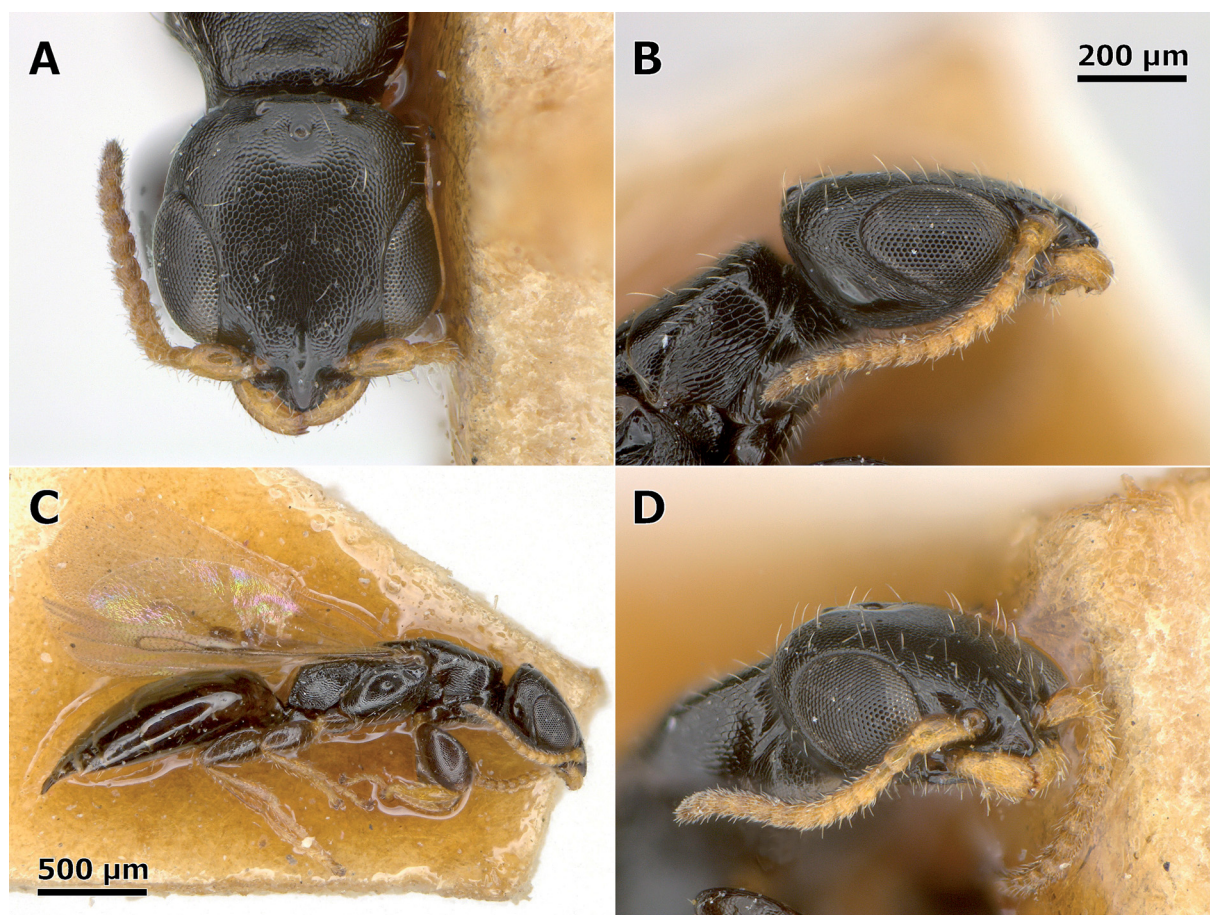


Fig. 123. *Sierola magnifemur* sp. nov., holotype, ♀ (QM T262165). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally rounded, convex, lacking a carina; in profile gently sloping dorsally, distally nearly vertical or slightly angled back. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to coriaceous, matte but without strong surface texture. Vertex in dorsal view straight or slightly convex; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina distinct, complete; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible yellow except black near articulation. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.64 mm; LM 1.02 mm; WH/LH 0.93; DH/LH 0.51; EV/HE 0.60; EV/WF 0.60; WF/HE 1.00; WH/WF 1.83; OOL/WOT 1.04; DM/LM 0.36; FL/FW 1.59; HFL/HFW 2.00; A3 L/W 0.93; 2R1 L/W 2.45.

Distribution

Queensland; known only from the holotype, collected in Brisbane.

Sierola marginalis sp. nov.

urn:lsid:zoobank.org:act:4FE04910-1CF7-41B4-9837-6272BC2B7BBE

Figs 124–125

Diagnosis

Part of a complex of species with the head flat dorsally, moderately narrow and compressed, and frons narrow. Closest to *S. solitaria* sp. nov. in having nearly glabrous basal wing cells; separated by having

the head slightly narrower and deeper (WH/LH 0.70, DH/LH 0.52 vs 0.74 and 0.46 respectively) clypeus curved in profile, mandible not twisted, and lateral ocelli nearly touching the vertex. The ventral head also has setae in a dense triangular patch which is conspicuous when seen from certain angles, an unusual character shared with *S. adalaidensis* sp. nov.

Etymology

Referring to the description of the type locality as being on the edge of the rainforest.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Julatten; 20 Oct.–29 Oct. 1987; A. Walford-Huggins leg.; edge of rainforest along creek, ex intercept trap; ANIC 32-154851.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad to moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex

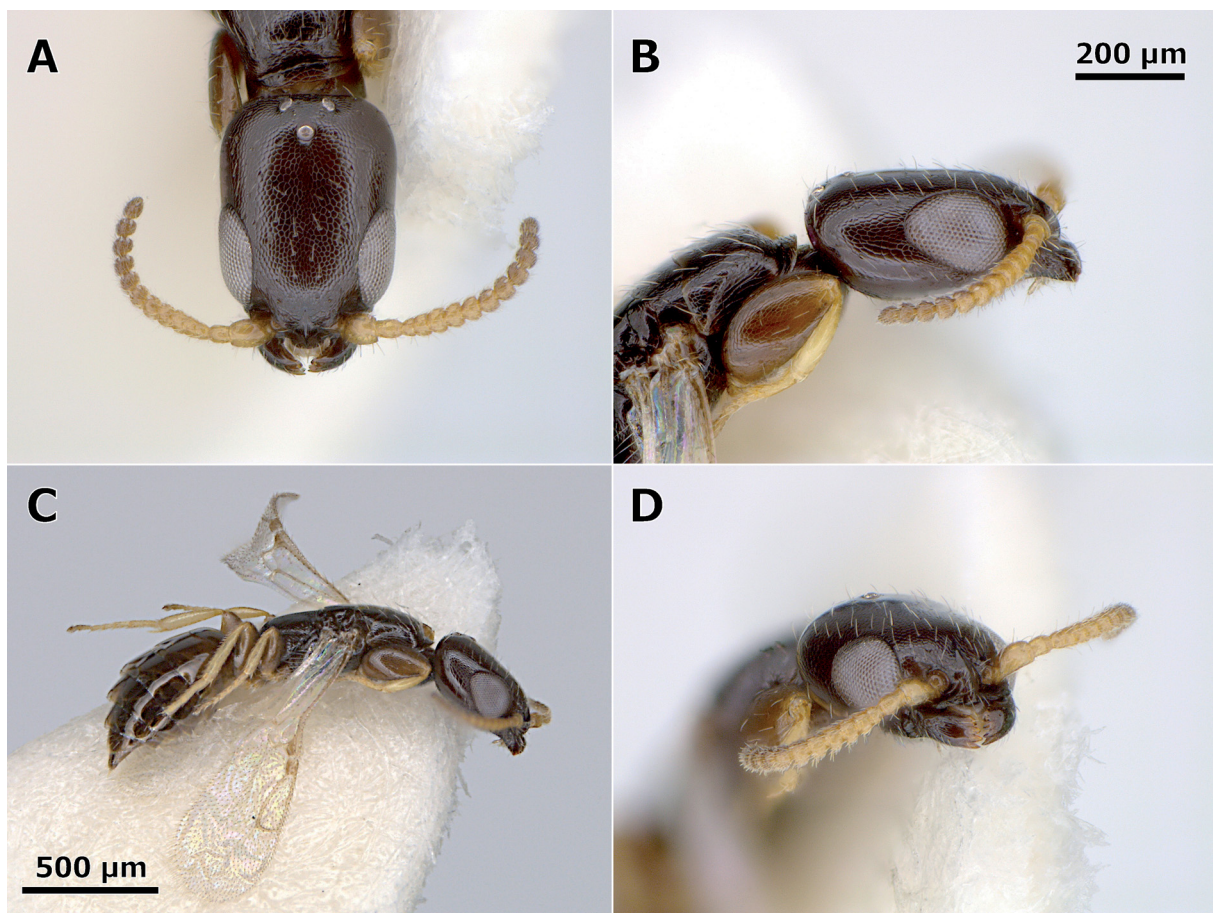


Fig. 124. *Sierola marginalis* sp. nov., holotype, ♀ (ANIC 32-154851). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with moderate pubescence in a triangle narrowing posteriorly from the mouthparts. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

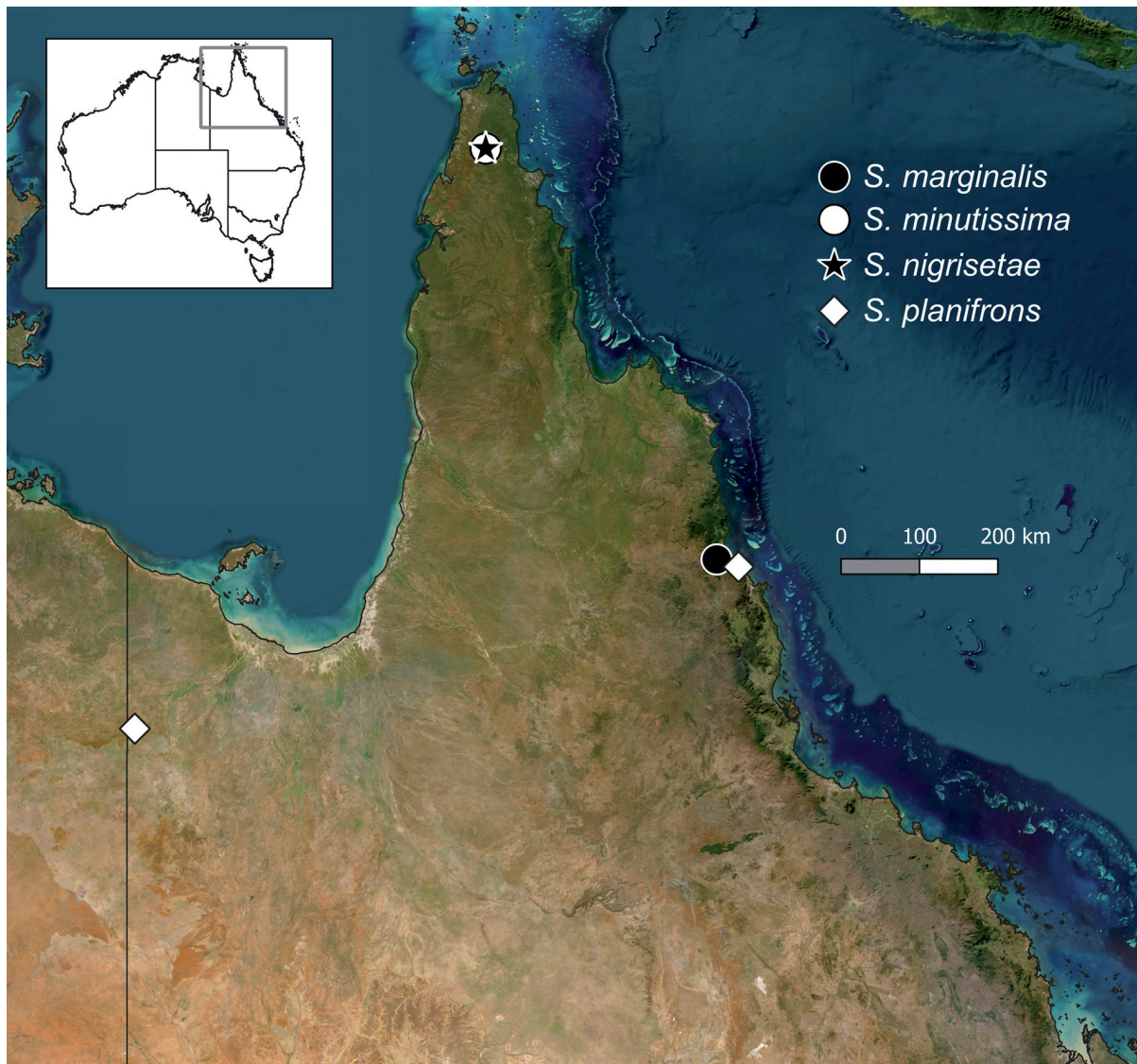


Fig. 125. Map of collection records of *Sierola marginalis* sp. nov., *S. minutissima* sp. nov., *S. nigrisetae* sp. nov., and *S. planifrons* sp. nov.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina faintly present; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.21 mm; LM 0.67 mm; WH/LH 0.70; DH/LH 0.52; EV/HE 1.00; EV/WF 1.04; WF/HE 0.96; WH/WF 1.73; OOL/WOT 1.73; DM/LM 0.37; FL/FW 1.91; HFL/HFW 1.85; A3 L/W 0.85; 2R1 L/W 2.91.

Distribution

Queensland; known only from the holotype, collected in northern rain forest.

Remarks

This species is intermediate between the *longifacies* and *ficicola* species groups, which are otherwise well separated by head width which creates a distinctly different appearance in dorsal view. The shorter head posterior of the eyes puts it closer to the latter.

Sierola medialis sp. nov.

urn:lsid:zoobank.org:act:5602EBF5-83C7-4153-8C31-24FFB50534BE

Figs 110, 126

Diagnosis

Belonging to the *compressa* species group, having the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells densely setose. Distinguished from most related species by the strongly acute ocellar triangle, dull and granular frons microsculpture, and all yellow legs. Closest to *S. desertorum* sp. nov., separated by having the ventral head somewhat convex posteriorly (appearing narrowly triangular in lateral view), ocellar triangle less strongly acute (OOL/WOT less than 2.00), legs clear yellow, and posterior margin of cell 1M distinctly convex.

Etymology

Referring to this species being intermediate morphologically between the *compressa* and *megacephala* species groups.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; 21 km E by N of Yellowdine; 31°18' S, 119°37' E; 10 Oct. 1981; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154852.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded or truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex to nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate

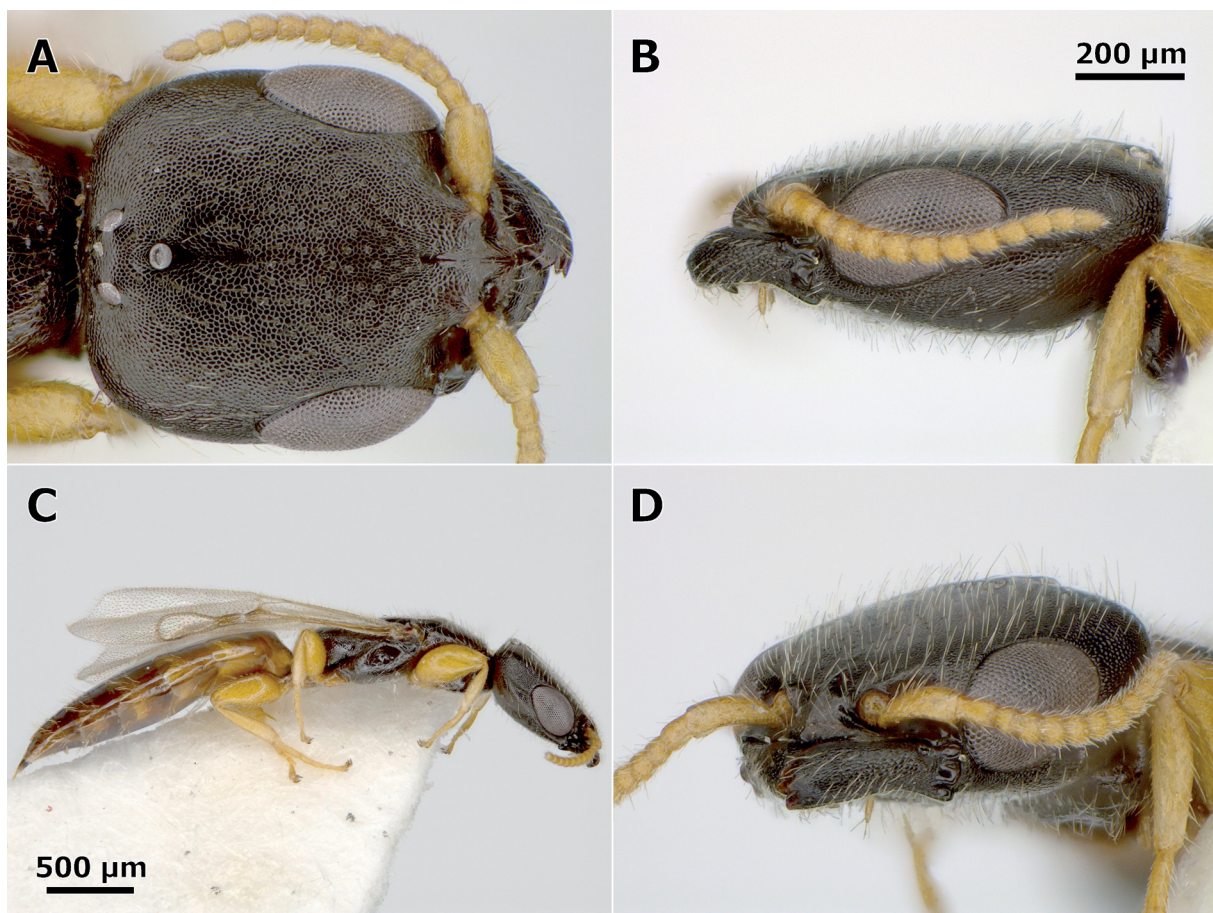


Fig. 126. *Sierola medialis* sp. nov., holotype, ♀ (ANIC 32-154852). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

sculpture along ventral eye margin. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna bright yellow. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.05 mm; LM 1.10 mm; WH/LH 0.88; DH/LH 0.45; EV/HE 0.86; EV/WF 0.66; WF/HE 1.31; WH/WF 1.56; OOL/WOT 1.84; DM/LM 0.33; FL/FW 2.00; HFL/HFW 1.97; A3 L/W 0.91; 2R1 L/W 2.25.

Distribution

Western Australia; known only from the holotype.

Remarks

This species has the body less obviously flattened than other members of the *compressa* group, and is somewhat intermediate with members of the *megacephala* group such as *S. lapis* sp. nov. It forms an allopatric species pair with *S. desertorum* sp. nov. of New South Wales.

Sierola megacephala sp. nov.

urn:lsid:zoobank.org:act:A86E0BDB-F257-4AC6-8A0D-54C5BDFDA8E1

Figs 127–128

Diagnosis

A member of the eponymous *megacephala* group, with the head large and flat dorsally and ventrally, frons very broad, clypeus short with a low carina, and ocelli well removed from the vertex crest. Separated from similar species by having the lateral ocelli much further anterior (separated from the vertex crest by more than the length of the ocellar triangle), head with a distinct angulate ridge between the eye and vertex, and legs entirely bright yellow.

Etymology

Referring to the enormous head.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Tutanning Nature Reserve, 22 km E by S of Pingelly; 18 Sep. 1981; A.A. Calder leg.; ex galls *Acacia lasiocalyx* em. Oct. 1981; ANIC 32-154853.

Paratypes

AUSTRALIA – **New South Wales** • 1 ♀; Mullaley; 6 Apr. 1985; I. and N. Lawrence leg.; in and on *Uromyocladium* galls on *Acacia* sp.; ANIC. – **Western Australia** • 2 ♀♀; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly curved from base to apex, apical angle slightly acute. Mandible broad, not narrowed from base, ventral margin nearly straight; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight, corners somewhat squared; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than length of ocellar triangle. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior

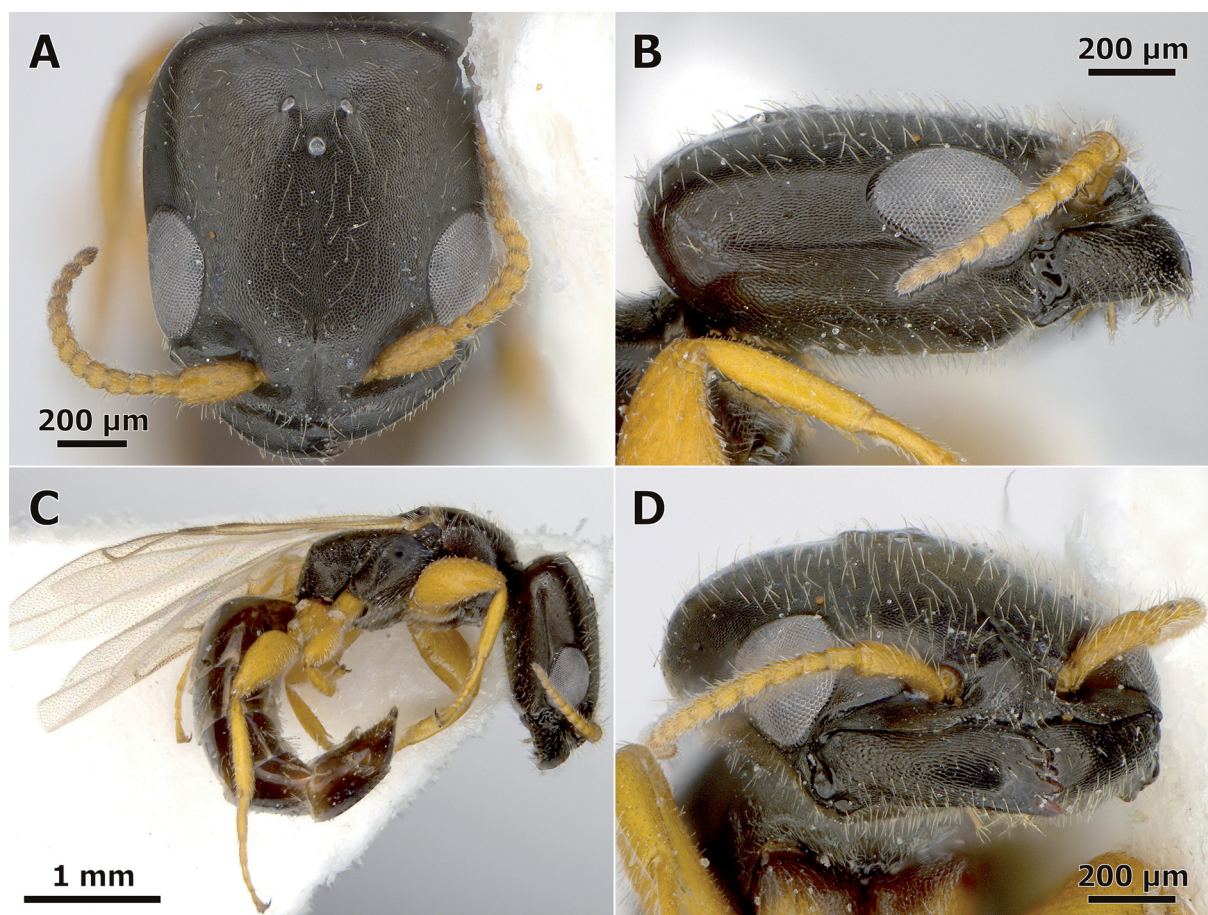


Fig. 127. *Sierola megacephala* sp. nov., holotype, ♀ (ANIC 32-154853). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye distinctly angulate. Gena ventral to eye concave; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with very faint microreticulation over posterior terga. S2 broadly setose all over, S3–5 each with a conspicuous apical band of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose to nearly glabrous. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

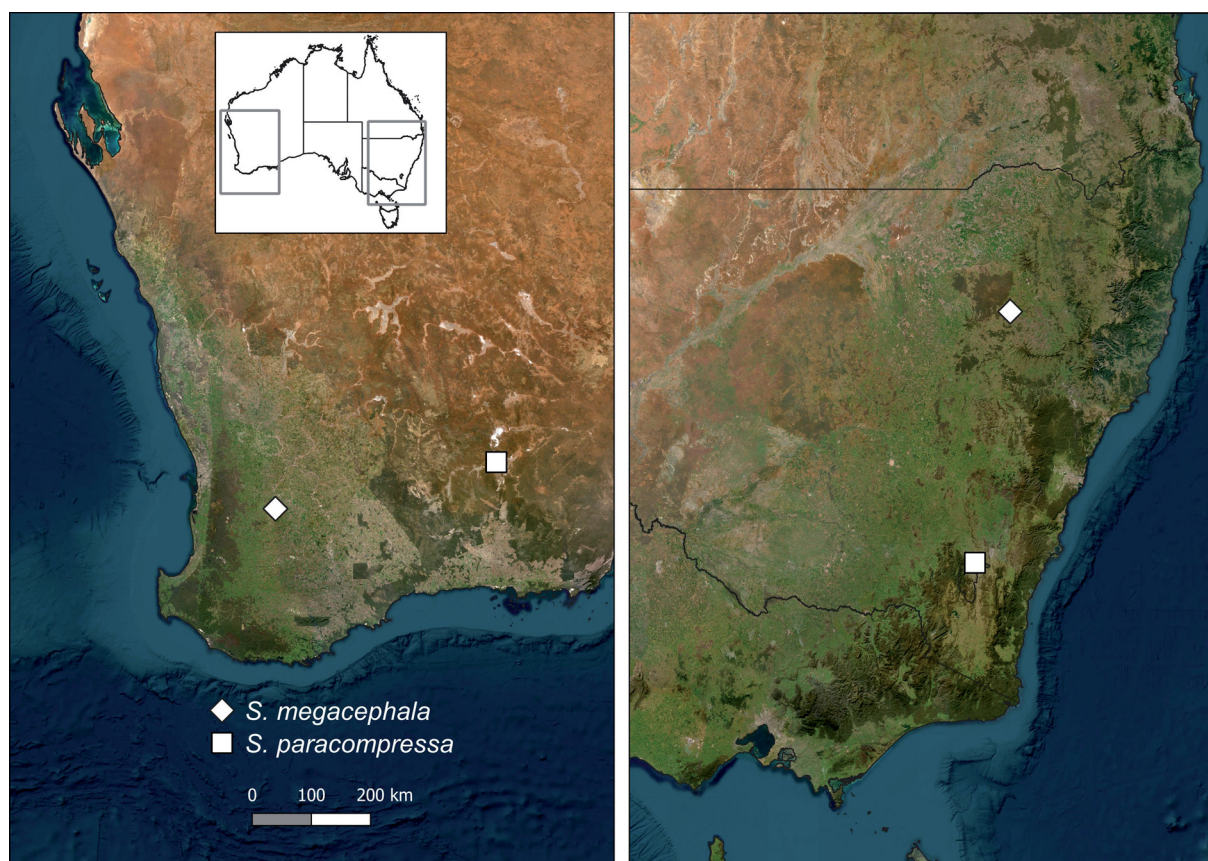


Fig. 128. Map of collection records of *Sierola megacephala* sp. nov. and *S. paracompressa* sp. nov.

MEASUREMENTS. LFW 2.74 mm; LM 1.35 mm (0.95–1.35); WH/LH 0.85 (0.81–0.86); DH/LH 0.48 (0.47–0.51); EV/HE 1.27 (1.10–1.33); EV/WF 0.79 (0.75–0.87); WF/HE 1.62 (1.27–1.65); WH/WF 1.56 (1.56–1.69); OOL/WOT 1.88 (1.74–1.88); DM/LM 0.43; FL/FW 2.21 (2.15–2.30); HFL/HFW 2.22 (2.20–2.34); A3 L/W 1.00 (0.81–1.13); 2R1 L/W 2.31. N = 3.

Distribution

Western Australia and New South Wales; known from one collection each.

Remarks

This is a large species overall, and the head is disproportionately large as well. One specimen is significantly smaller than the other three, but matches them in all characters except that the frons is much narrower relative to the eye and the ocelli are removed from the vertex crest by about the length of the ocellar triangle, versus 1.5× in the other specimens. The specimens on hand have an unusual disjunct distribution, in both WA and NSW. Vein Rs is peculiarly swollen and slightly angulate around cell 2R1 in the WA specimens, but not in the one from NSW; however I do not consider this significant.

Sierola megamera sp. nov.

urn:lsid:zoobank.org:act:28FF9F4B-AB38-450B-B7B4-D89C09B9907A

Figs 117, 129

Diagnosis

Belonging to the *compressa* species group, having the head and mesosoma flattened, frons broad, and basal wing cells sparsely setose. Distinguished from most related species by the obtuse ocellar triangle, reddish brown mandible, and broad metafemur. Closest to *S. amputator* sp. nov., separated by the more sparsely punctate frons and broader head (WH/LH ~0.89) which is more ovate in dorsal view, the posterior corners strongly rounded off.

Etymology

Referring to the broad metafemur. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Indooroopilly; 5 Oct. 1979; G. Gordh leg.; UCRC 556769.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; same data as for holotype; 4 Oct. 1979; UCRC 556768 • 1 ♀; same data as for holotype; 4 Nov. 1979; UCRC 556770 • 1 ♀; same data as for holotype; 6 Nov. 1979; UCRC 556774 • 1 ♀; same data as for holotype; 19 Nov. 1979; UCRC 556771.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons

microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.



Fig. 129. *Sierola megamera* sp. nov., holotype, ♀ (UCRC 556769). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible reddish brown. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.49 mm; LM 0.80 mm (0.72–0.94); WH/LH 0.89 (0.87–0.90); DH/LH 0.45 (0.45–0.51); EV/HE 0.69 (0.59–0.70); EV/WF 0.63 (0.53–0.63); WF/HE 1.10 (1.00–1.13); WH/WF 1.70 (1.65–1.76); OOL/WOT 1.17 (1.11–1.25); DM/LM 0.31; FL/FW 2.00 (1.91–2.03); HFL/HFW 1.79 (1.79–1.94); A3 L/W 0.90 (0.86–1.00); 2R1 L/W 2.74. N = 5.

Distribution

Queensland; known from one series collected near Brisbane.

Sierola miltos sp. nov.

urn:lsid:zoobank.org:act:8067544C-48A9-44C3-8C68-97BCBC9CF884

Figs 117, 130

Diagnosis

This species is somewhat intermediate in some head characters used in the key such as being flat or not. However, the combination of the strongly compressed mesosoma, strongly acute ocellar triangle, nearly glabrous basal wing cells, slightly twisted reddish brown mandible, and slightly convex ventral margin of the head will distinguish it from all other species.

Etymology

From the Greek ‘*miltos*’, ‘red earth’, referring to the color of the mandibles. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Congo, 8 km SE by E of Moruya; 35°58' S, 150°09' E; 26 Mar.–3 Apr. 1982; M.S. Upton leg.; Window trap; ANIC 32-154854.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded or truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli separated from vertex crest

by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex or nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Mostly shining and polished, T3–5 with paired submedian basal patches of faint microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black to reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

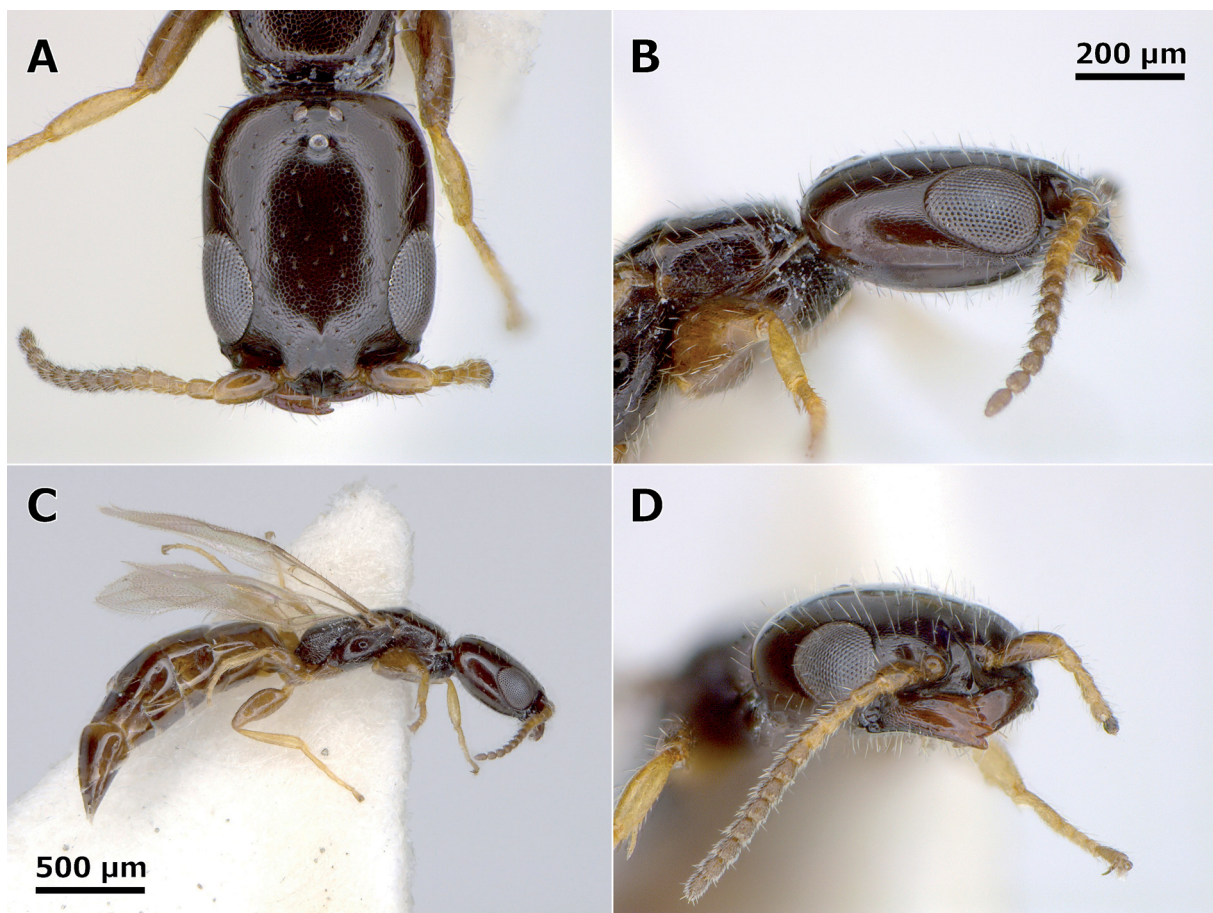


Fig. 130. *Sierola milto* sp. nov., holotype, ♀ (ANIC 32-154854). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.45 mm; LM 0.75 mm; WH/LH 0.76; DH/LH 0.46; EV/HE 1.05; EV/WF 0.96; WF/HE 1.09; WH/WF 1.78; OOL/WOT 2.39; DM/LM 0.32; FL/FW 2.26; HFL/HFW 2.15; A3 L/W 1.08; 2R1 L/W 2.69.

Distribution

New South Wales; known only from the holotype.

Sierola minorata sp. nov.

urn:lsid:zoobank.org:act:5190A953-345B-4B9B-8D19-A174E610C4F2

Figs 117, 131

Diagnosis

A member of the *megacephala* group, with the head flat dorsally and ventrally, frons broad, clypeus short with a low carina, and ocelli well removed from the vertex crest. Distinguished by the combination of having the mandible slightly twisted and frons only moderately broad, WF/HE ~1.30. Also differing from similar species by the much smaller size; most members of the group have the mesosoma over 1 mm in length.

Etymology

From the Latin '*minoratus*', 'reduced' or 'shrunk', referring to the smaller size of this species compared to other members of the *megacephala* species group.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Kangaroo Island, Western River Cove; 29 Nov. 1977; D.K. McAlpine and M.A. Schneider leg.; AM K.628961.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved (nearly straight distally). Mandible broad, ventral margin slightly concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart (appearing broadly impunctate medially between median ocellus and level of posterior eye margin). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view broadly, shallowly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae (type appears to be abraded). Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of

eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina present laterally, obsolete medially; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, tibiae brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.



Fig. 131. *Sierola minorata* sp. nov., holotype, ♀ (AM K.628961). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.74 mm; LM 0.85 mm; WH/LH 0.76; DH/LH 0.48; EV/HE 1.16; EV/WF 0.89; WF/HE 1.30; WH/WF 1.60; OOL/WOT 2.50; DM/LM 0.39; FL/FW 2.23; HFL/HFW 2.58; A3 L/W 1.10; 2R1 L/W 2.39.

Distribution

South Australia; known only from the holotype taken on Kangaroo Island.

Remarks

This species resembles those of the *ficicola* species group in the relatively narrow head and small size, but the broad frons and small eye place it clearly with the related *megacephala* group. The one visible mandible of the holotype appears to have only two sharp teeth with a broad truncation in place of the two dorsal teeth, but without additional specimens to compare it is unclear if this is due to wear or a modification of the mandible. The head lacks the dense ventral setation found in most other species in the group, but the setae present on the unique holotype are somewhat irregular so it may be abraded. This and *S. sila* sp. nov. are the only species recorded from Kangaroo Island.

Sierola minutissima sp. nov.

urn:lsid:zoobank.org:act:75D001FD-7E40-45BF-8063-AC3FC7D969F0

Figs 125, 132

Diagnosis

This species is easily recognizable by the sparsely punctate, nearly polished frons, with only faint microreticulation; sparsely setose basal wing cells; and clypeus evenly sloping in profile. It is also the smallest *Sierola* known; *S. pumila* sp. nov. is the next smallest. Other species with the clypeus evenly sloping and basal wing cells setose are much larger.

Etymology

Referring to this species' status as the smallest known species of *Sierola*.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Cockatoo Creek crossing, 17 km NW of Heathlands; 11°39' S, 142°27' E; 26 Jan.–29 Feb. 1992; P. Feehney leg.; open forest Malaise #5; ANIC 32-154855.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more, or appearing impunctate (setae arising from shallow pits that are only visible at low angles). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture nearly absent, polished. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle

absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture smooth and polished ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum nearly glabrous.

COLOR. Body entirely dark brown to black, clypeus orange to yellow. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

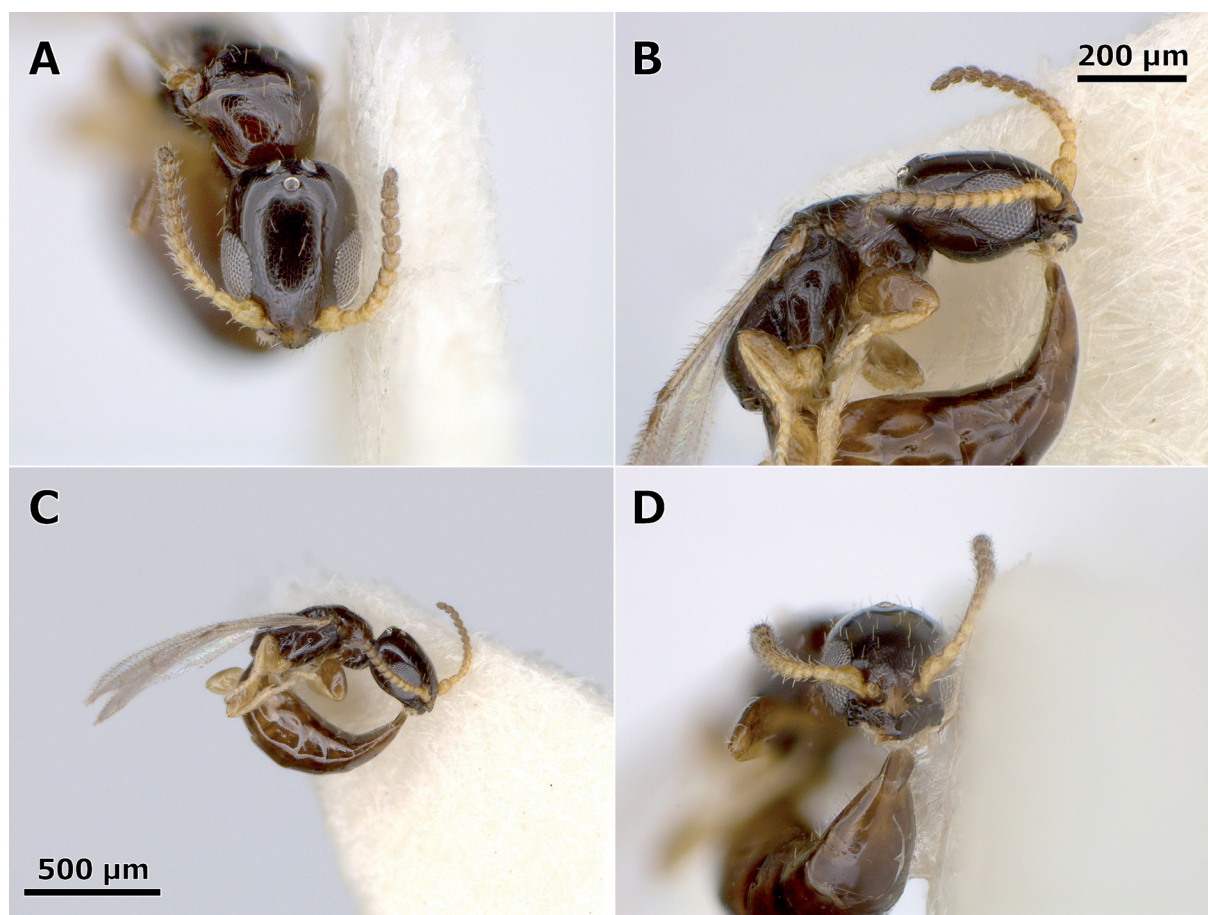


Fig. 132. *Sierola minutissima* sp. nov., holotype, ♀ (ANIC 32-154855). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.00 mm; LM 0.48 mm; WH/LH 0.77; DH/LH 0.58; EV/HE 0.75; EV/WF 0.77; WF/HE 0.97; WH/WF 1.91; OOL/WOT 1.28; DM/LM 0.40; FL/FW 2.00; HFL/HFW 2.13; A3 L/W 0.74; 2R1 L/W 3.04.

Distribution

Queensland; known only from the holotype, collected on the Cape York Peninsula.

Sierola mirabilis sp. nov.

urn:lsid:zoobank.org:act:B8FE9F46-CA09-43F5-A7EF-21AF2AF96640

Figs 133–134

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely to densely setose. Readily distinguished from all others by the extremely flattened body, with the mesosoma over 6 times as long as deep and head about 4 times as long as deep, very narrow mandible, and smooth frons microsculpture.

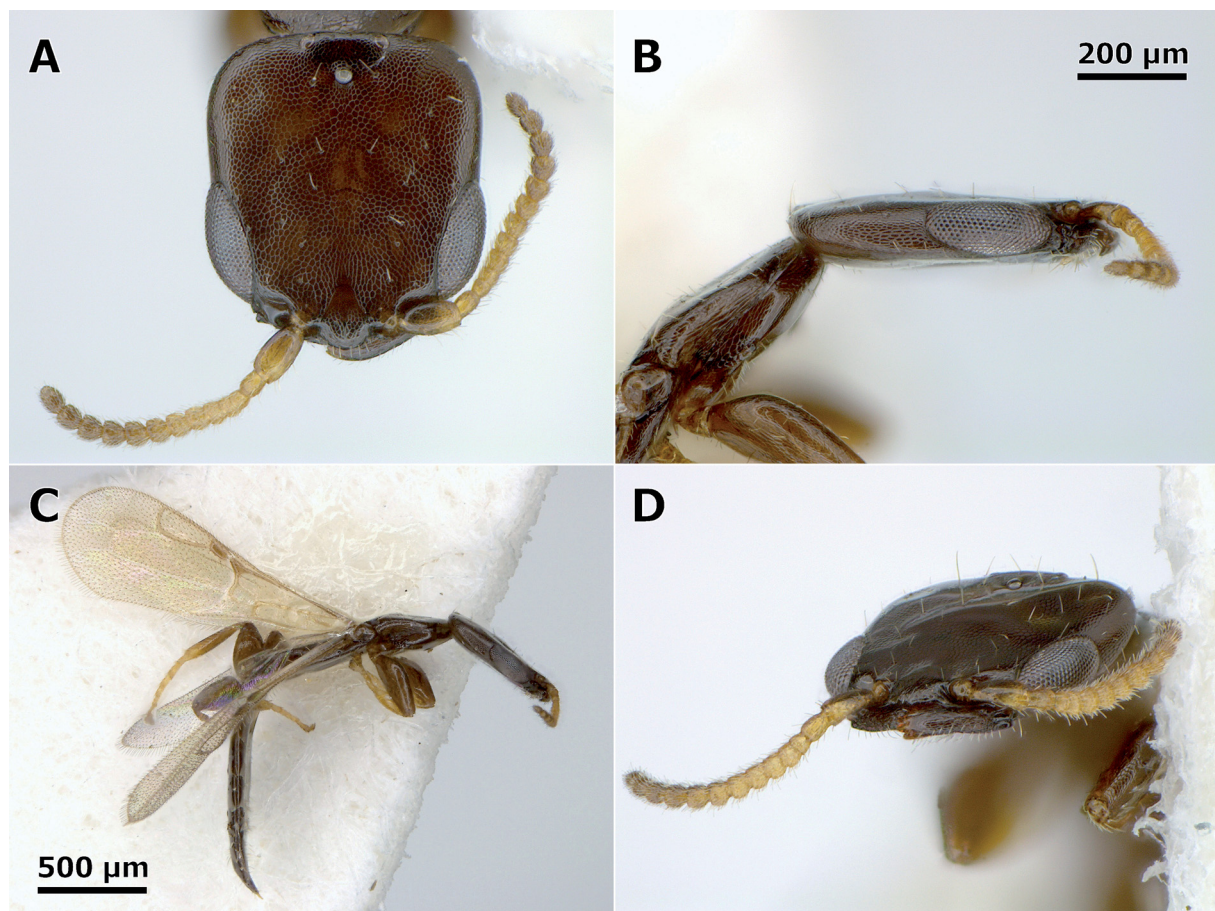


Fig. 133. *Sierola mirabilis* sp. nov., holotype, ♀ (QM T262166). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Closest to *S. exilis* sp. nov., which is not quite as flattened and has the mandible moderately narrow and distinctly concave ventrally.

Etymology

From the Latin '*mirabilis*', 'amazing' or 'extraordinary', referring to the exceedingly compressed body.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Samsonvale Cemetery, 8.5 km SSE of Dayboro; 27°16' S, 152°52' E; elev. 50 m; 12 Aug. 1998; C.J. Burwell leg.; sweeping, 50119; QM T262166.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally flat, with a trace of a low carina basally; in profile evenly curved from base to apex, apical angle slightly acute. Mandible very narrow, including at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view slightly convex; occipital

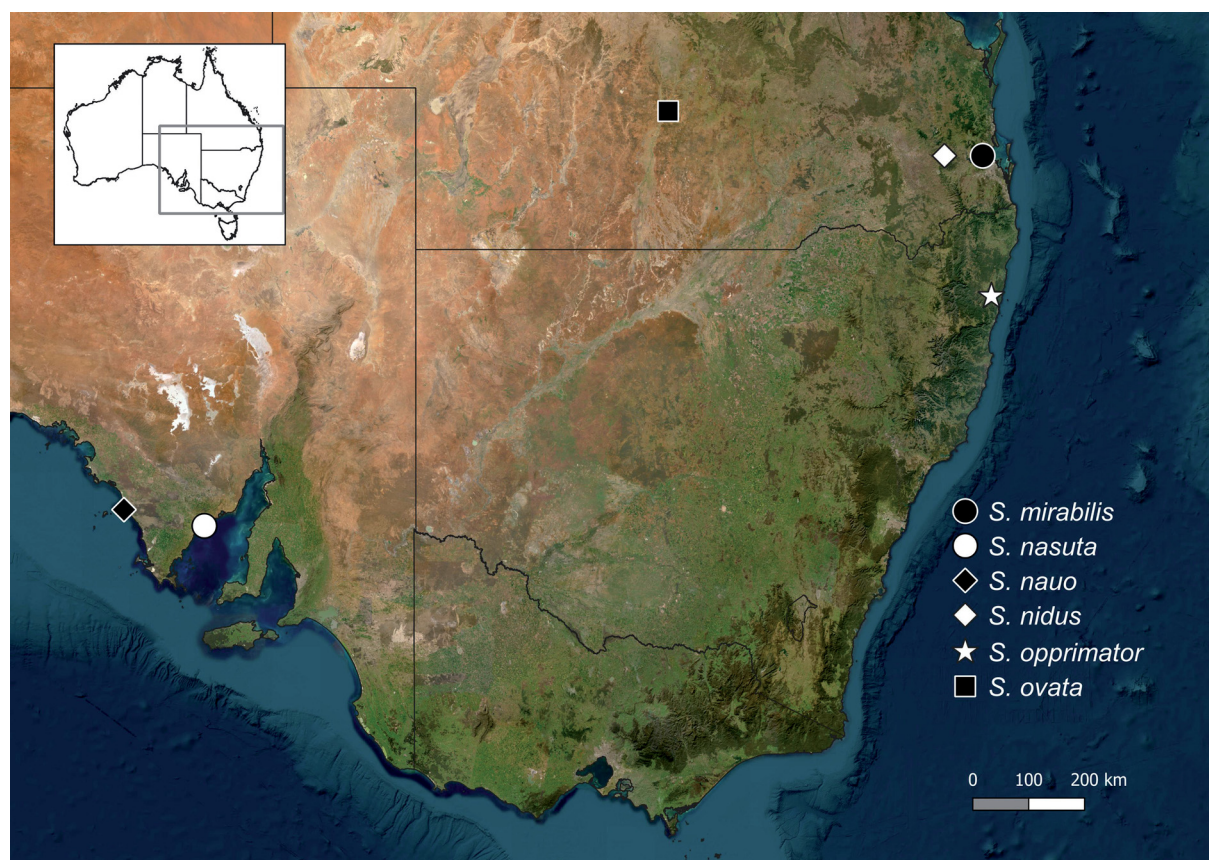


Fig. 134. Map of collection records of *Sierola mirabilis* sp. nov., *S. nasuta* sp. nov., *S. nauo* sp. nov., *S. nidus* sp. nov., *S. opprimator* sp. nov., and *S. ovata* sp. nov.

margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly concave between eyes and ocelli, head deepest on line well posterior of eye. Venter of head posterior to mandible flat in lateral view, nearly glabrous. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Extremely strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view flat, pronotal disc distinctly flattened. Pronotal setae short, inconspicuous. Propodeal disc laterally with weak microsculpture near margins, medial disc broadly polished and shining without a trace of microsculpture or carinae. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing mostly glabrous, cell R densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.55 mm; LM 0.94 mm; WH/LH 0.89; DH/LH 0.24; EV/HE 1.09; EV/WF 0.78; WF/HE 1.39; WH/WF 1.54; OOL/WOT 1.67; DM/LM 0.14; FL/FW 1.91; HFL/HFW 1.99; A3 L/W 0.80; 2R1 L/W 2.64.

Distribution

Queensland; known only from the holotype, collected near Brisbane.

Remarks

This species is the most extremely compressed *Sierola* known, resembling some of the more extreme sclerodermine genera such as *Megaprosternum* and *Thlastepyris*.

Sierola mucronervis sp. nov.

urn:lsid:zoobank.org:act:2818E62A-BD26-4CF7-AE71-06C2329B3093

Figs 121, 135

Diagnosis

Forming a species pair with *S. pandani* sp. nov., united by having the head compressed and as wide or wider than long, frons broad and sparsely punctate, and basal wing cells nearly glabrous. Separated by numerous characters as listed in the key, including the orange, narrow mandible, distinct malar space, ocellar triangle strongly obtuse, elongate triangular cell 1M, and coxae and femora dark brown to black.

Etymology

From the Latin ‘*mucro*’, ‘point’, + ‘*nervus*’, ‘vein’, referring to the spur vein on cell 1M. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **Australian Capital Territory** • ♀; Canberra, CSIRO, behind CSIRO; 35.275° S, 149.1109° E; elev. 590 m; 10 Apr. 2011; P. Hebert, R. Labbee, V. Levesque-Beaudin, J. McCormick, J. Sones and J. Webb leg.; BOLD: sample ID BIOUG53909-G04, process ID MCCA8432-20, BIN AED1413; ANIC 32-154856.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; same data as for holotype; BOLD: process ID MCCA8509-20, BIN AED1413; ANIC • 1 ♀; same data as for preceding; 2 Apr. 2011; BOLD: process ID MCCA8793-20, BIN AED1413; ANIC • 1 ♀; same data as for preceding; 19 Apr. 2011; BOLD: process ID MCCA8982-20, BIN AED1413; ANIC • 1 ♂; Canberra, CSIRO property; 35.275° S, 149.1109° E; elev. 588 m; 7–14 Nov. 2011; P. Hebert leg.; Malaise trap; BOLD: process ID MCCA7994-20, BIN AED1413; ANIC. – **Tasmania** • 1 ♀; The Lea; 42°56' S, 147°19' E; 5 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; Geeveston, 141 Fourfoot Road; 6 Jan. 2018; M.M. Giannotta leg.; swept off *Acacia melanoxylon*, *Eucalyptus nitens*, and *E. globulosus* residential forest with bracken understory; SAMA • 1 ♀; King Is., Pegarah Nature Reserve; 39.9441° S, 143.9905° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series 3; TMAG F180566.

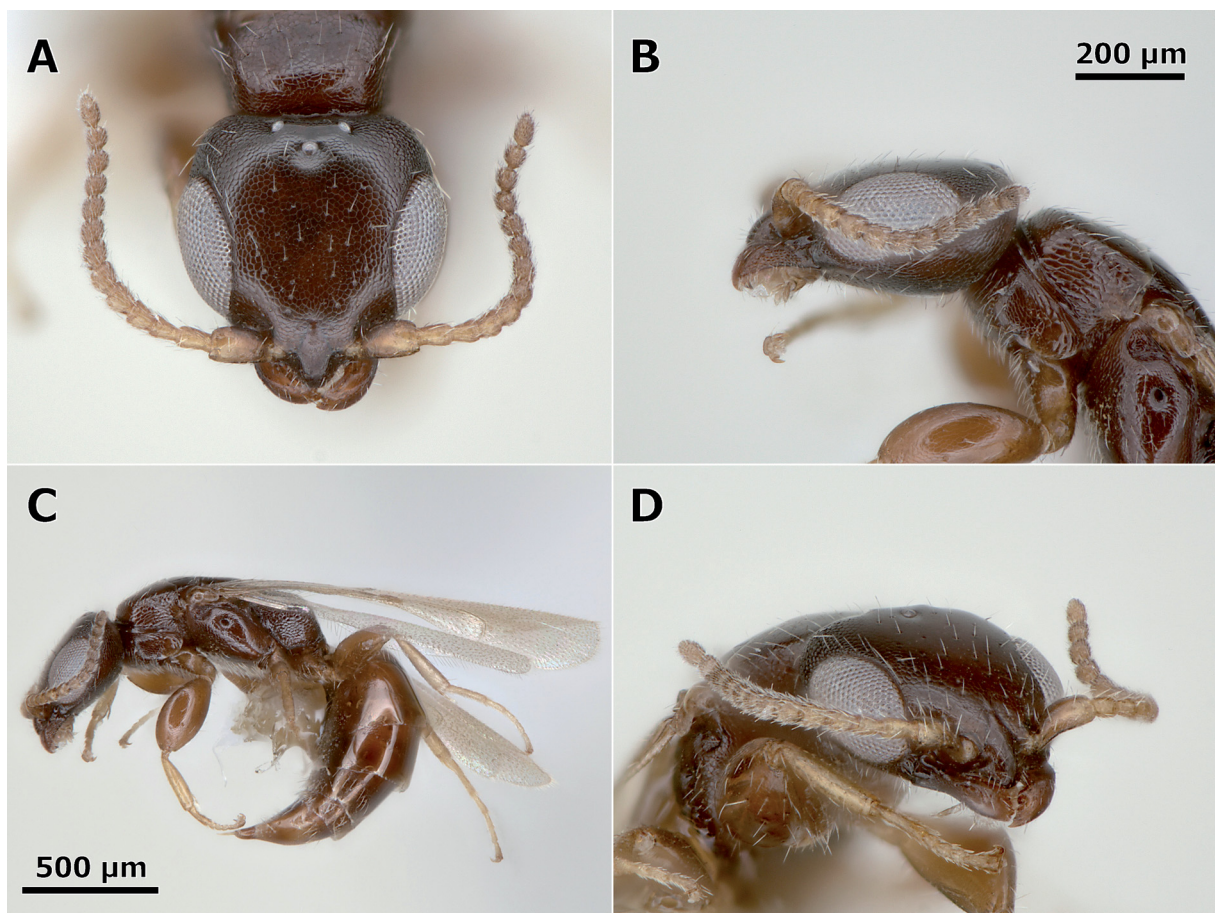


Fig. 135. *Sierola mucronervis* sp. nov., holotype, ♀ (ANIC 32-154856). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly to distinctly broadened at base and apex, ventral margin concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown to orange. Coxae and femora brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M elongate triangular, posterodistal corner extended into a point. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.60 mm; LM 0.86 mm (0.70–0.97); WH/LH 0.97 (0.96–1.00); DH/LH 0.51 (0.49–0.53); EV/HE 0.38 (0.36–0.44); EV/WF 0.38 (0.36–0.41); WF/HE 1.03 (1.00–1.11); WH/WF 1.78 (1.73–1.82); OOL/WOT 0.88 (0.88–0.97); DM/LM 0.41; FL/FW 1.91 (1.73–1.91); HFL/HFW 2.21 (2.21–2.37); A3 L/W 1.22 (1.12–1.23); 2R1 L/W 2.93. N = 6.

Male

Similar to female with the following exceptions. *Head.* Clypeus in profile short and steeply curved, weakly carinate dorsally. Malar space $\frac{1}{2}$ as long as basal width of mandible.

MEASUREMENTS. LFW 1.20 mm; LM 0.80 mm; WH/LH 1.03; DH/LH 0.54; EV/HE 0.50; EV/WF 0.41; WF/HE 1.22; WH/WF 1.64; OOL/WOT 0.98; DM/LM 0.35; FL/FW 1.92; HFL/HFW 2.27; A3 L/W 1.40; 2R1 L/W 2.83.

Distribution

Tasmania and Australian Capital Territory; uncommon but a series taken by Malaise trapping at the latter.

Sierola namatjira sp. nov.

urn:lsid:zoobank.org:act:37A429FF-8CD7-4C16-B6A0-4E7A76E605A6

Figs 26, 136

Diagnosis

A very distinctive species, easily recognized by the combination of the head flat dorsally and flat to weakly convex ventrally, very deep (DH/LH ~0.59), mandible moderately broad and parallel-sided, and basal wing cells densely setose.

Etymology

Named for Albert Namatjira, the Aboriginal artist who was born near the collecting site and for whom the road where it was taken is named. It is a noun in apposition.

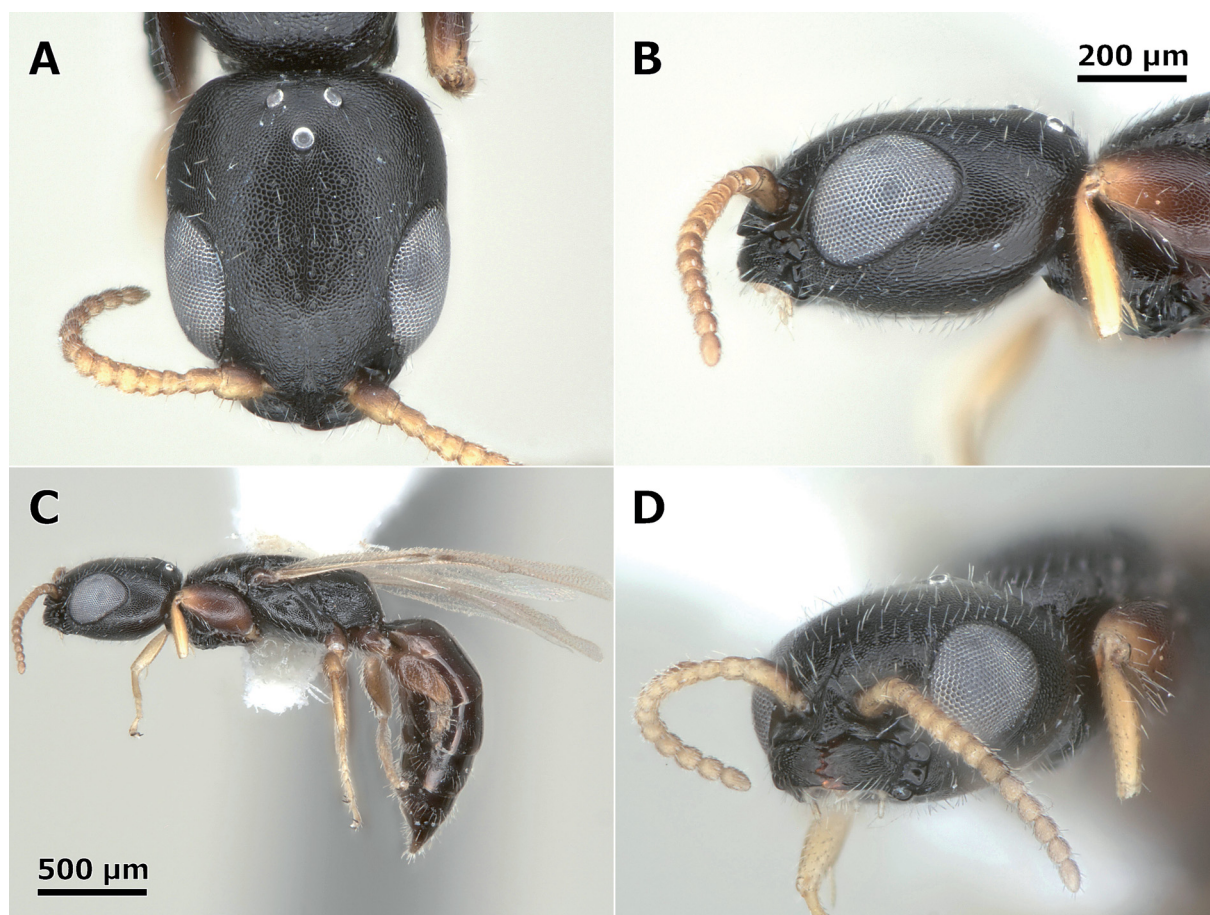


Fig. 136. *Sierola namatjira* sp. nov., holotype, ♀ (UCRC 437204). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **Northern Territory** • ♀; Kamatjira [sic; Namatjira] Drive; 23°45'02" S, 132°54'20" E; elev. 810 m; 13 Mar. 2002; J. Heraty leg.; UCRC 437204.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly sloping, nearly straight. Mandible moderately broad, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with second ventral tooth largest. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with very faint microreticulation over posterior terga. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black (metasomal terga with slightly paler W-shaped marks). Antenna yellow, tinged with brown dorsally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.76 mm; LM 1.00 mm; WH/LH 0.81; DH/LH 0.59; EV/HE 0.79; EV/WF 0.81; WF/HE 0.98; WH/WF 1.77; OOL/WOT 1.64; DM/LM 0.41; FL/FW 1.94; HFL/HFW 2.19; A3 L/W 0.93; 2R1 L/W 2.20.

Distribution

Northern Territory; known only from the holotype, collected in the desert interior.

Remarks

The affinities of this species are obscure; although not particularly divergent, it does not appear to be close to any other known species.

Sierola nasuta sp. nov.

urn:lsid:zoobank.org:act:6A8CCC69-0457-4638-A269-E3D4A1800EBF

Figs 134, 137

Diagnosis

A unique species, immediately recognizable by the elongate, elliptic clypeus and reflexed, carinate genal margin. Shares with *S. samiata* sp. nov. the unusual concavely curved clypeal profile, but differs from it in many other respects as listed in the key. Most other species with a flat clypeus also have the basal wing cells nearly glabrous.

Etymology

From the Latin '*nasutus*', 'large-nosed', referring to the extremely enlarged clypeus.

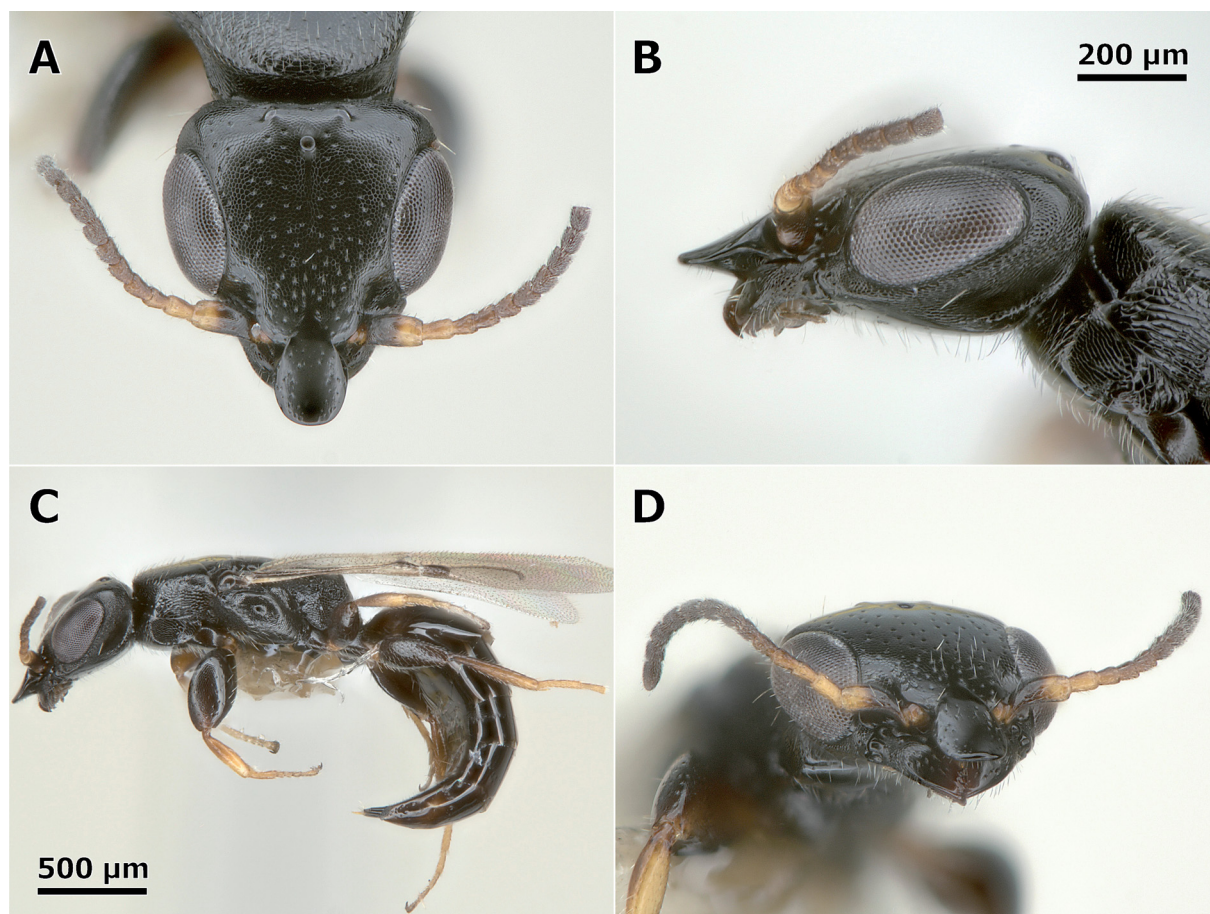


Fig. 137. *Sierola nasuta* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Arno Bay; elev. 20 m; 9–19 Jan. 2019; J.L. Holder leg.; MABJH2, sand dune, small bowl shaped area, lots of flowering shrubs and some *Eucalyptus* and *Acacia* plants nearby, tied to dead tree near thorn bush; SAMA.

Description

Female

HEAD. Clypeal process elliptic, large and projecting well beyond closed mandibles, slightly constricted where it joins head, apex broadly rounded or truncate; dorsally flat, margins dropping off vertically; in profile straight, slightly upturned at apex. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{2}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye concave, ventral margin distinctly reflexed and carinate; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina distinct, complete; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum narrowly glabrous medially, with short, moderately dense setae laterally.

COLOR. Body entirely dark brown to black. Antenna all brown except scape pale on apical third. Mandible black. Coxae and femora dark brown to black, basal half of tibiae tinged with brown, legs otherwise yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.96 mm; LM 1.15 mm; WH/LH 0.88; DH/LH 0.45; EV/HE 0.31; EV/WF 0.30; WF/HE 1.03; WH/WF 1.81; OOL/WOT 0.80; DM/LM 0.40; FL/FW 1.76; HFL/HFW 2.06; A3 L/W 1.09; 2R1 L/W 2.29.

Distribution

South Australia; known only from the holotype, collected on the Eyre Peninsula.

***Sierola nauo* sp. nov.**

urn:lsid:zoobank.org:act:29594800-C678-4709-A351-20587FF171B2

Figs 134, 138

Diagnosis

Part of a cluster of species with the clypeus dorsally with a low, sharp carina, evenly curved in profile; head moderately deep (DH/LH ~0.55) and convex dorsally; antenna short, A3 about as long as wide; and basal wing cells sparsely setose. Closest to *S. exleyae* and *S. ovata* sp. nov.; separated from the former by the shorter mandible, lateral ocelli close to the vertex crest, head sparsely setose ventrally, and lack of a median polished area on the propodeum; from the latter by the sparsely setose basal wing cells; and from both by the coriaceous sculpture of the posterolateral gena.

Etymology

Named for the Nauo people whose traditional land encompasses the Waterloo Bay area. It is a noun in apposition.



Fig. 138. *Sierola nauo* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus (image flipped horizontally). **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Elliston; 14 Nov. 1992; L.S. and R.B. Kimsey leg.; UCDC.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.40 mm; LM 0.70 mm; WH/LH 0.83; DH/LH 0.55; EV/HE 0.77; EV/WF 0.73; WF/HE 1.06; WH/WF 1.76; OOL/WOT 1.52; DM/LM 0.38; FL/FW 2.06; HFL/HFW 2.35; A3 L/W 0.92; 2R1 L/W 2.61.

Distribution

South Australia; known only from the holotype, collected on the Eyre Peninsula.

Sierola nesomeson sp. nov.

urn:lsid:zoobank.org:act:0189CB8A-9F7E-46D2-AD7A-2CDC8D31BB36

Figs 121, 139

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Closest to *S. paraglutinata* sp. nov. and *S. trinalis* sp. nov., united by having the head only moderately convex ventrally; ocellar triangle relatively wide, OOL/WOT less than 1.40; and malar space short but distinct, about $\frac{1}{4}$ as long as the mandible base. Differing from the latter in lacking the propodeal transverse carina and having the metafemur relatively narrow ($HFL/HFW \geq 2.50$). Nearly identical to *S. paraglutinata*, differing only in the wing venation, with the narrow cell 2R1, basal wing cells not so densely setose, and slightly darker mandible. Also similar to *S. pelion* sp. nov., but with the clypeus clearly though weakly carinate, and mandible reddish brown.

Etymology

From the Greek ‘*nesos*’, ‘island’, + ‘*meson*’, ‘middle’, referring to the type locality near the geographic center of Tasmania. It is a noun in apposition.

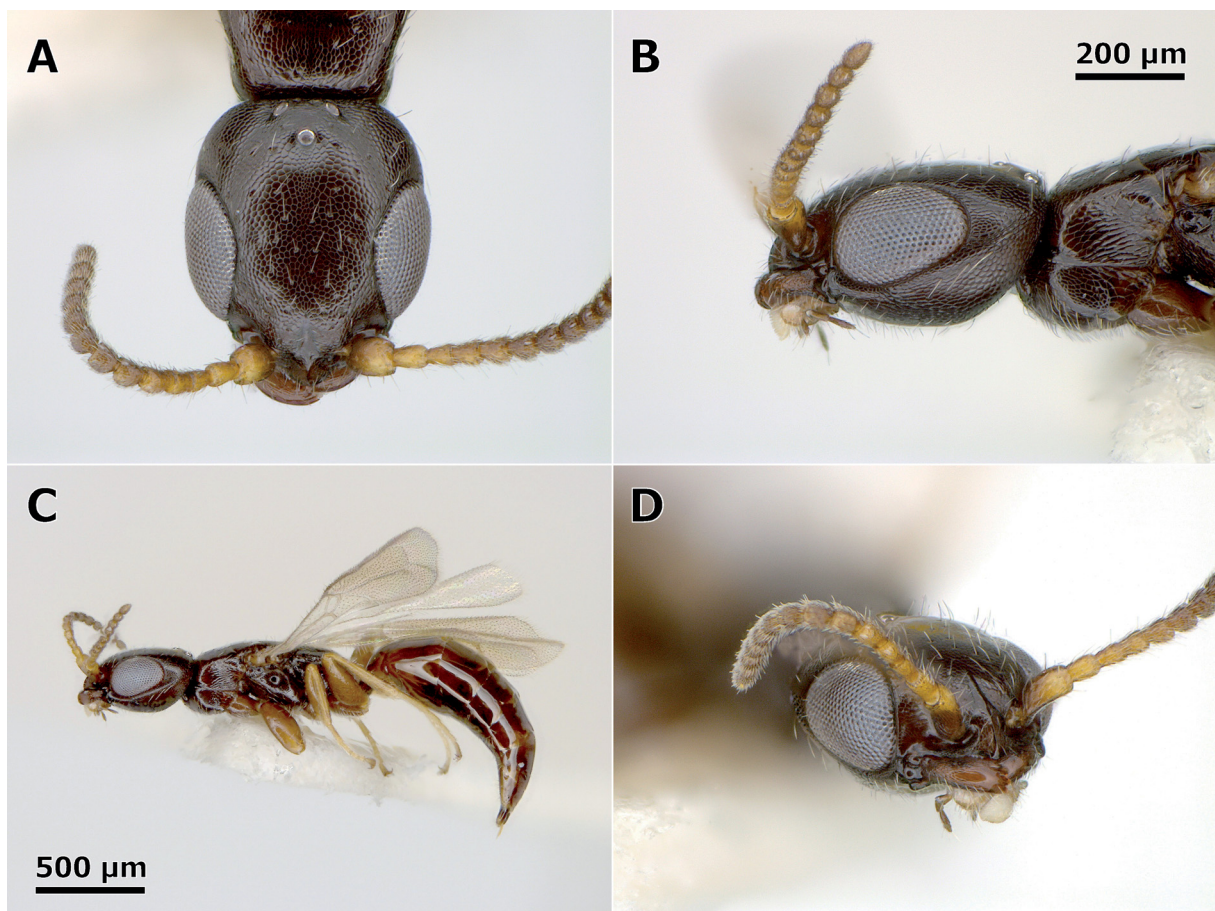


Fig. 139. *Sierola nesomeson* sp. nov., holotype, ♀ (ANIC 32-154857). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 14 km S of Bronte Park; 42°15' S, 146°29' E; 15 Jan.–3 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154857.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to mesoscutum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.48 mm; LM 0.79 mm; WH/LH 0.86; DH/LH 0.58; EV/HE 0.58; EV/WF 0.62; WF/HE 0.94; WH/WF 1.85; OOL/WOT 1.30; DM/LM 0.37; FL/FW 2.09; HFL/HFW 2.71; A3 L/W 1.30; 2R1 L/W 3.82.

Distribution

Tasmania; known only from the holotype.

Remarks

See Remarks under *S. paraglutinata* sp. nov.

Sierola nidus sp. nov.

urn:lsid:zoobank.org:act:C7D2A402-04B0-4243-9B29-BCE495BAF2A2

Figs 134, 140

Diagnosis

A somewhat nondescript species, distinguished by having the head compressed (DH/LH 0.48) and slightly convex dorsally; clypeus short, broad, semi-elliptical, in profile evenly curved; mandible black; basal wing cells densely setose, frons moderately broad, WF/HE 1.09; and lacking any other unusual characters.

Etymology

From the Latin '*nidus*', 'nest', referring to the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Crows Nest; 6 Aug. 1977; E.C. Dahms leg.; QM T262167.

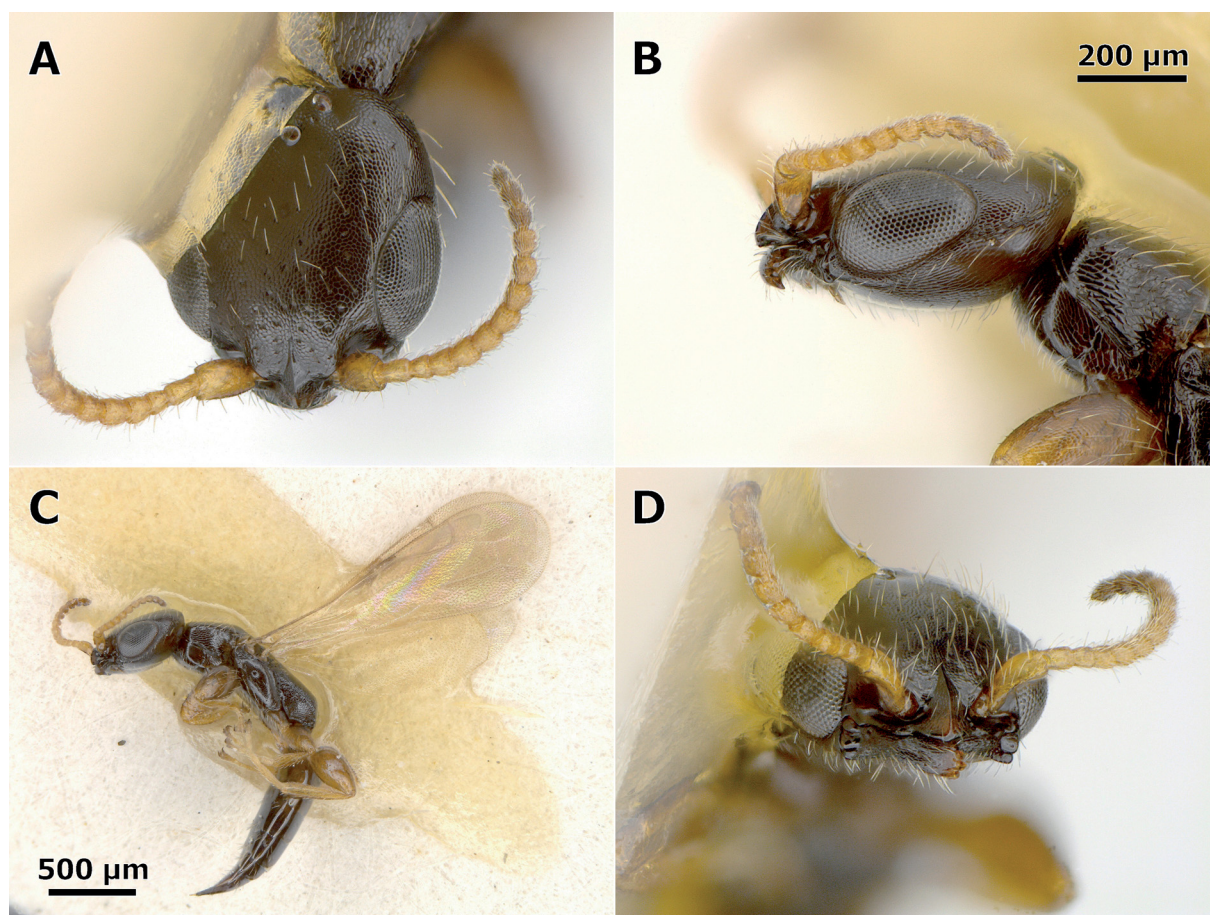


Fig. 140. *Sierola nidus* sp. nov., holotype, ♀ (QM T262167). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally weakly carinate, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin weakly to distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.89 mm; LM 0.95 mm; WH/LH 0.85; DH/LH 0.48; EV/HE 0.65; EV/WF 0.60; WF/HE 1.09; WH/WF 1.71; OOL/WOT 1.45; DM/LM 0.32; FL/FW 1.93; HFL/HFW 2.03; A3 L/W 0.90; 2R1 L/W 2.63.

Distribution

Queensland; known only from the holotype, collected in the Great Dividing Range west of Brisbane.

Sierola nigrisetae sp. nov.

urn:lsid:zoobank.org:act:51643EB7-7B6E-4746-9F62-48397EDBAEBA

Figs 125, 141

Diagnosis

A striking and distinctive species, easily recognized from all others. The head is wider than long and deep, strongly convex dorsally and somewhat angulate ventrally, with dense ventral setation, and long,

thick, black, bristle-like setae on the vertex and gena. The metasomal sternites also have conspicuous elongate setae, but these are often broken off.

Etymology

Referring to the elongate black hairs of the head and metasoma. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Cockatoo Creek; 11°39' S, 142°27' E; 12 Nov.–14 Dec. 1993; P. Zborowski leg.; flight intercept trap; ANIC 32-154858.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; same data as for holotype; ANIC • 2 ♀♀; same data as for preceding; 19 Feb.–20 Apr. 1994; ANIC • 1 ♀; same data as for preceding; 20 Apr.–20 May 1994; ANIC.

Description

Female

HEAD. Clypeal process triangular, apex pointed; dorsally convex, narrowing to a sharp carina on anterior face; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately broad at base, evenly tapering, slightly broadened on apical third; apical half of mandible strongly

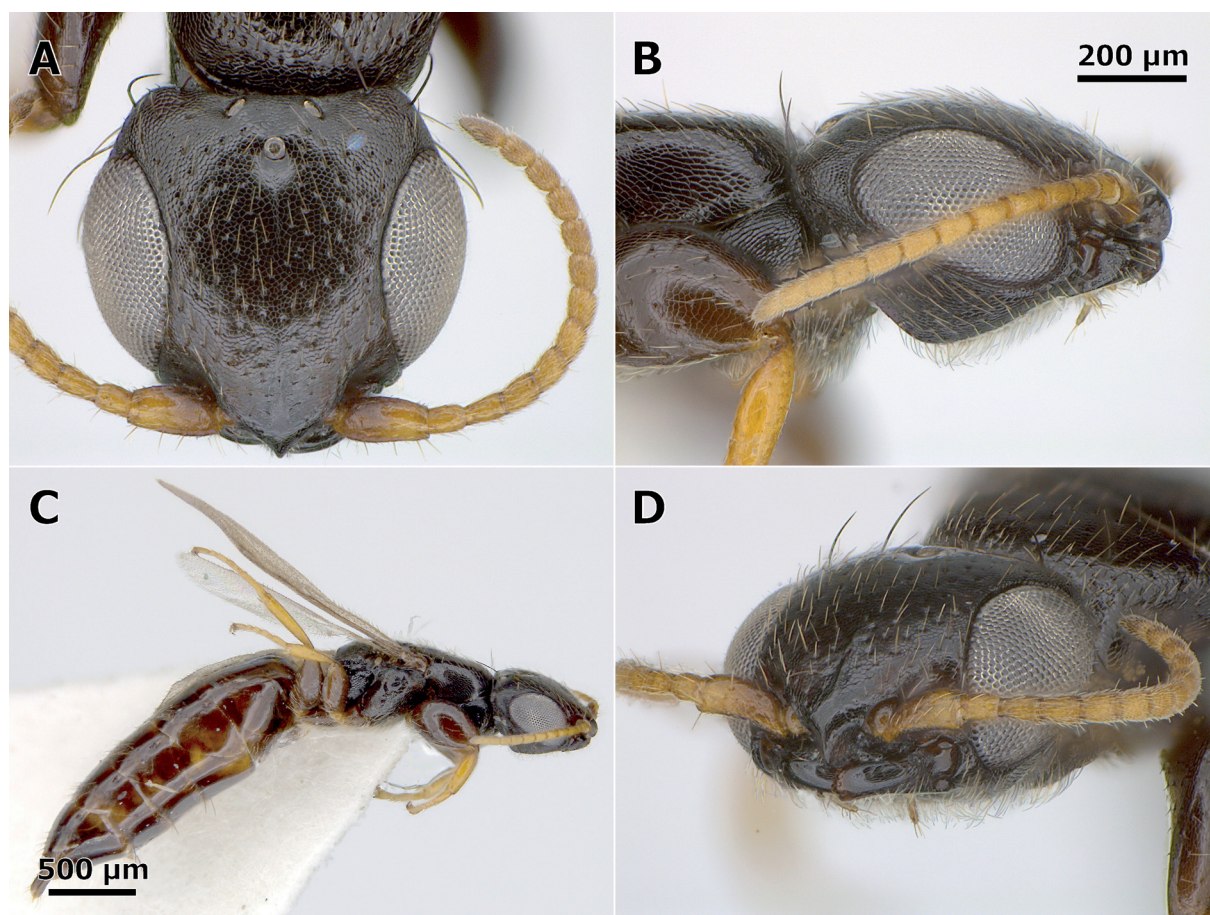


Fig. 141. *Sierola nigrisetae* sp. nov., holotype, ♀ (ANIC 32-154858). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae with long, black, bristle-like setae: two on each side of vertex, and a row along the gena becoming shorter anteriorly. Frons microsculpture evident but smooth, shining, coarsely reticulate and dull laterally between eyes and vertex. Vertex in dorsal view broadly, shallowly concave; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with moderately dense pubescence. Genal angle prominent, apex rounded, head distinctly triangular in lateral view. Side of head posterior to eye convex. Gena ventral to eye flat; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina present laterally, obsolete medially; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga, apical tergites punctate laterally. S3–5 each with a pair of long erect black setae near posterior margin. Sixth sternum narrowly glabrous medially, with moderately dense setae laterally, becoming longer laterad.

COLOR. Body entirely dark brown to black. Antenna with scape brown basally, otherwise nearly all yellow. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M triangular, Rs connecting in the middle of the cell. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.77 mm; LM 1.01 mm (1.01–1.26); WH/LH 1.01 (1.01–1.06); DH/LH 0.64 (0.64–0.67); EV/HE 0.27 (0.24–0.31); EV/WF 0.30 (0.26–0.33); WF/HE 0.90 (0.90–0.96); WH/WF 1.85 (1.82–1.86); OOL/WOT 0.95 (0.90–0.96); DM/LM 0.49; FL/FW 1.83 (1.82–1.86); HFL/HFW 2.18 (2.09–2.22); A3 L/W 1.61 (1.50–1.61); 2R1 L/W 2.53. N = 5.

Distribution

Queensland; known from a series of five specimens, all taken at the same locality in the Cape York Peninsula.

Remarks

The vertex and gena setae identify this species as part of the *vibrissata* group, but the very broad, deep head makes it strikingly different from all the others. It shares with *S. vibrissata* the flattened anterior frons, with the sides converging to a sharp carina anteriorly. The ventral metasomal setae are evidently fragile, as they are missing from several of the specimens.

***Sierola nitidigena* sp. nov.**

urn:lsid:zoobank.org:act:F20674DE-7818-488D-BB93-3D4E68A6918D

Figs 121, 142

Diagnosis

Part of a cluster of species with the head moderately deep (DH/LH ~0.57) and convex dorsally; lateral ocelli nearly touching the vertex crest; and basal wing cells densely setose. Very similar to *S. intonsa* sp. nov. and *S. pelion* sp. nov., sharing the moderately narrow mandible which is distinctly concave ventrally and strongly convex outwardly, distinct malar space, and clypeus lacking a sharp carina. Separated from both by the broad metafemur, gena smooth and polished posterolaterally, and S6 evenly covered with short pilose setae, without a median glabrous area.

Etymology

From the Latin ‘*nitidus*’, ‘shining’, + ‘*gena*’, ‘cheek’, referring to the polished gena. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Bellingham Dam, 117 Saltwood Road; 41.0234° S, 147.2119° E; 18 Nov.–15 Dec. 2023; S.J. Grove leg.; Malaise trap series 1; TMAG F152999.

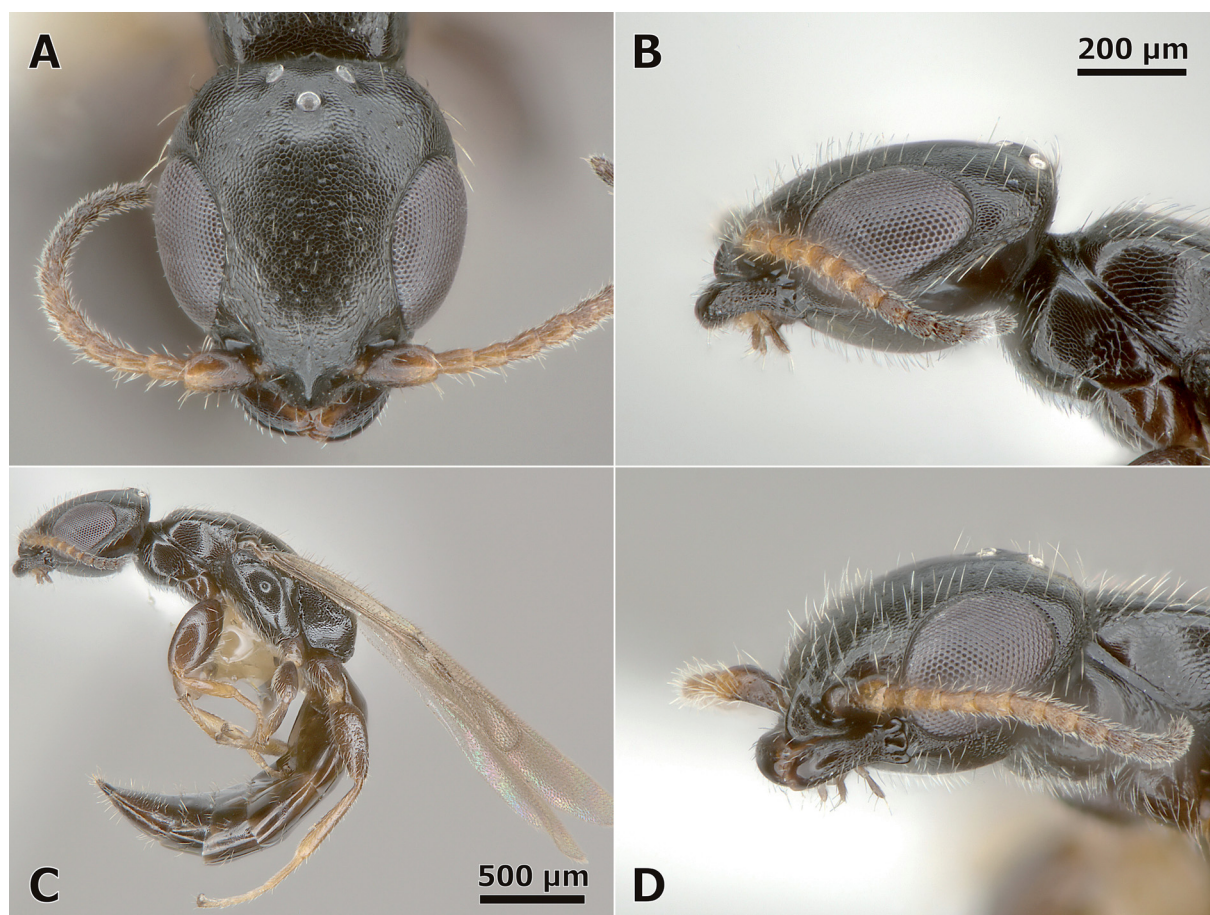


Fig. 142. *Sierola nitidigena* sp. nov., holotype, ♀ (TMAG F152999). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; Bellingham; 41.016° S, 147.197° E; Jan. 2024; S.J. Grove leg.; Malaise trap; TMAG F180584.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a rounded carina, effaced towards apex; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye concave; sculpture smooth and polished posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with very faint microreticulation over posterior terga. S2–5 each with a single sparse apical row of setae. Sixth sternum evenly pilose, with dense short erect setae.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae, trochanters, and femora dark brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.25 mm; LM 1.17 mm; WH/LH 0.90; DH/LH 0.59; EV/HE 0.48; EV/WF 0.55; WF/HE 0.88; WH/WF 1.95; OOL/WOT 1.12; DM/LM 0.36; FL/FW 1.95; HFL/HFW 2.17; A3 L/W 1.50; 2R1 L/W 2.42.

Distribution

Tasmania; known from two specimens.

Sierola ocellata sp. nov.

urn:lsid:zoobank.org:act:D568809F-F7FA-420C-B431-BA13E73E7E00

Figs 97, 143

Diagnosis

Part of a cluster of species with the clypeus dorsally with a low, sharp carina, evenly curved in profile; head moderately deep (DH/LH ~0.55) and convex dorsally; lateral ocelli nearly touching the vertex crest; and basal wing cells densely setose. Distinguished by the somewhat densely punctate frons, with abundant long setae giving it a hairy appearance; metasomal tergites with faint reticulate sculpture dorsally; and ocelli somewhat enlarged, lateral ocelli separated by less than twice their diameter.

Etymology

Named for the unusually large ocelli.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Baldy Mt Road, 3.3 km from S end; 17°20' S, 145°25' E; elev. 1100 m; 30 Nov. 1997; C.J. Burwell leg.; QM T262168.

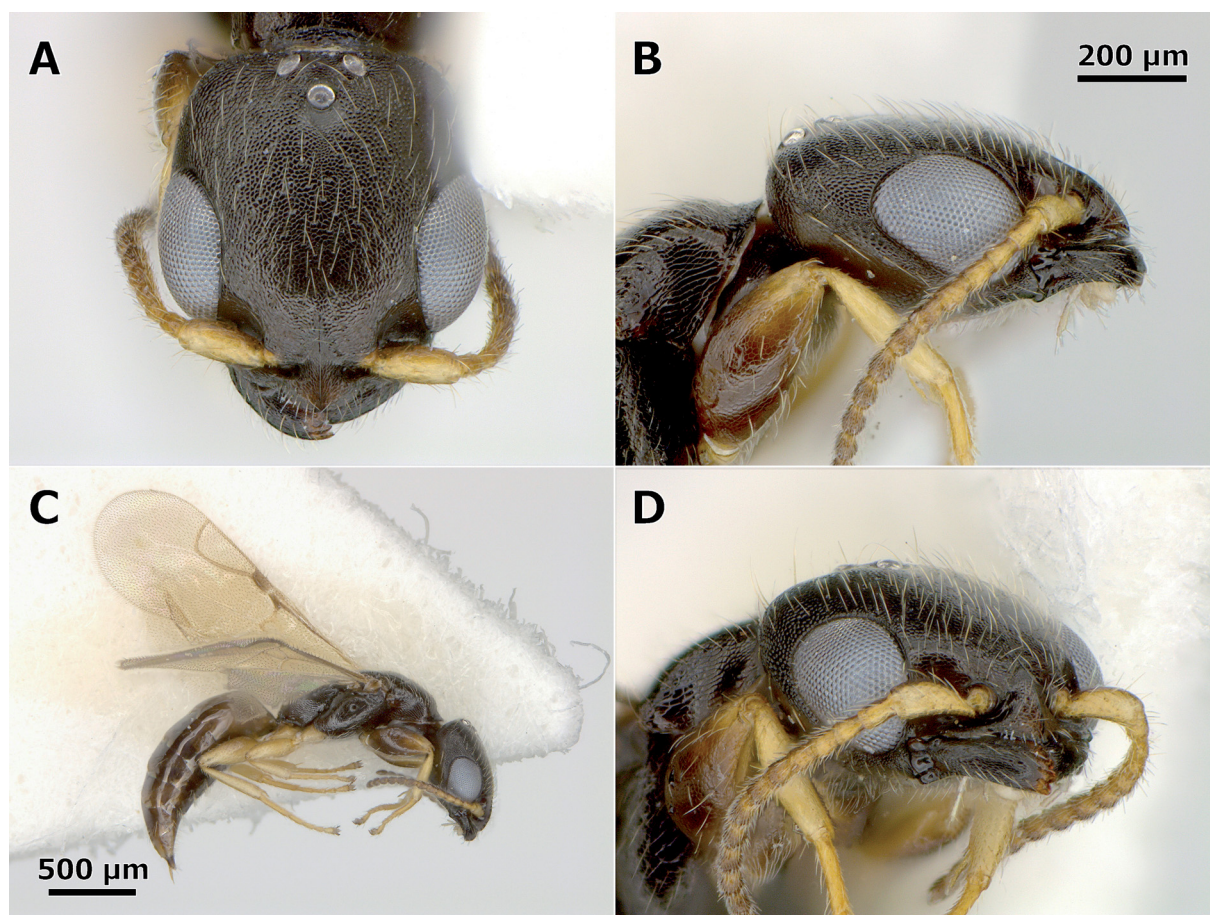


Fig. 143. *Sierola ocellata* sp. nov., holotype, ♀ (QM T262168). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Indooroopilly mine and quarry; 18 Sep. 1979; G. Gordh leg.; UCRC 556767 • 1 ♀; Indooroopilly; 6 Nov. 1979; G. Gordh and H. Hartman leg.; UCRC 556773.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Procoxa and femur black to brown, legs otherwise yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.98 mm; LM 0.94 mm (0.89–0.98); WH/LH 0.89 (0.85–0.89); DH/LH 0.55 (0.54–0.55); EV/HE 0.64 (0.64–0.79); EV/WF 0.56 (0.56–0.64); WF/HE 1.16 (1.15–1.19); WH/WF 1.73 (1.65–1.73); OOL/WOT 1.39 (1.39–1.70); DM/LM 0.39; FL/FW 2.33 (2.08–2.33); HFL/HFW 2.55 (2.36–2.55); A3 L/W 1.33 (1.17–1.33); 2R1 L/W 2.45. N = 3.

Distribution

Queensland; known only from the holotype, collected in the Atherton Table and, and a pair of specimens taken in Brisbane.

Remarks

The paratypes from southern Queensland are slightly different and may represent a separate species. The clypeus is more straight in profile, only curving near the apex, with the head longer posterior of the eyes, and meso- and metacoxae and femora brown rather than yellow. However, these are mostly within the range of normal variation, so they are considered a single species for now.

***Sierola opprimator* sp. nov.**

urn:lsid:zoobank.org:act:21512F8E-2CA3-4D48-8016-CF3706DB4230

Figs 134, 144

Diagnosis

A very distinctive species, immediately recognizable among the Australian fauna by the thick (in ventral view), strongly elbowed mandible, with the head wider than long and short posterior of the eyes, and vertex slightly concave. Most similar to *S. megalognatha* Fullaway, 1920 of Hawaii, which has the head slightly less broad and much longer posteriorly.



Fig. 144. *Sierola opprimator* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

From the Greek ‘*opprimator*’, ‘one that crushes’, referring to the massive mandibles. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Murwillumbah–Coffs Harbor Hwy 1; 2 Sep. 1986; E.A. Sugden leg.; car net; UCDC.

Description

Female

HEAD. Clypeal process rounded triangular, apex pointed; dorsally weakly carinate, or rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view distinctly elbowed externally, internal margin nearly straight. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave, ventral margin distinctly reflexed and carinate; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, median area with a narrow polished strip extending from base to declivity; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S4–6 each with a pair of long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane tinged with yellow. Basal cells of fore wing mostly glabrous, cell R densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.27 mm; LM 1.20 mm; WH/LH 1.04; DH/LH 0.57; EV/HE 0.27; EV/WF 0.26; WF/HE 1.05; WH/WF 1.81; OOL/WOT 1.14; DM/LM 0.40; FL/FW 1.79; HFL/HFW 2.13; A3 L/W 1.36; 2R1 L/W 2.25.

Distribution

New South Wales; known only from the holotype, collected in the northeastern forest region.

Remarks

The resemblance of this species to *S. megalognatha* from Hawaii is quite striking, especially considering that there are no other similar species known from either fauna. This suggests either a large number of trans-Pacific dispersal events for *Sierola* or extreme morphological convergence.

Sierola ovata sp. nov.

urn:lsid:zoobank.org:act:3E0BC650-5AD8-4E21-AF2C-3153DC6B7B52

Figs 134, 145

Diagnosis

Among species with the head convex dorsally and ventrally and basal wing cells setose, distinguished from most species by the moderately broad frons, clypeus semi-elliptical with a low carina dorsally, head



Fig. 145. *Sierola ovata* sp. nov., holotype, ♀ (QM T262169). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

moderately broad and deep, mandible distinctly concave ventrally, and lateral ocelli distinctly separated from the vertex crest. Closest to *S. exleyae* sp. nov. and *S. lacustris* sp. nov.; separated from the former by the densely setose basal wing cells, short, broad cell 2R1, short and steep clypeus in profile, and propodeum entirely reticulate dorsally, without a polished strip; and from the latter by the coriaceous frons microsculpture, narrower frons (WF/HE ~1.10 vs 1.15–1.20), vertex not carinate between the lateral ocelli, and head slightly deeper (DH/LH ~0.58 vs 0.53–0.54).

Etymology

Named for the strongly ovate 2R1 cell.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; near Charleville; 27 Oct.–5 Dec. 1989; P. Johnson leg.; Malaise trap; QM T262169.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or slightly shorter. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous to finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or slightly longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.64 mm; LM 0.89 mm; WH/LH 0.86; DH/LH 0.58; EV/HE 0.81; EV/WF 0.73; WF/HE 1.11; WH/WF 1.73; OOL/WOT 1.50; DM/LM 0.41; FL/FW 2.14; HFL/HFW 1.89; A3 L/W 0.85; 2R1 L/W 2.54.

Distribution

Queensland; known only from the holotype, collected in the southern interior.

Sierola pandani sp. nov.

urn:lsid:zoobank.org:act:8D649ABF-2353-49D6-BF2A-CFBE4D8BB54A

Figs 26, 146

Diagnosis

Forming a species pair with *S. mucronervis* sp. nov., united by having the head compressed and as wide or wider than long, frons broad and sparsely punctate, and basal wing cells nearly glabrous. Separated by numerous characters as listed in the key, including the black, moderately broad, slightly twisted mandible, ocellar triangle right, deep postgenal depression, and legs all yellow.

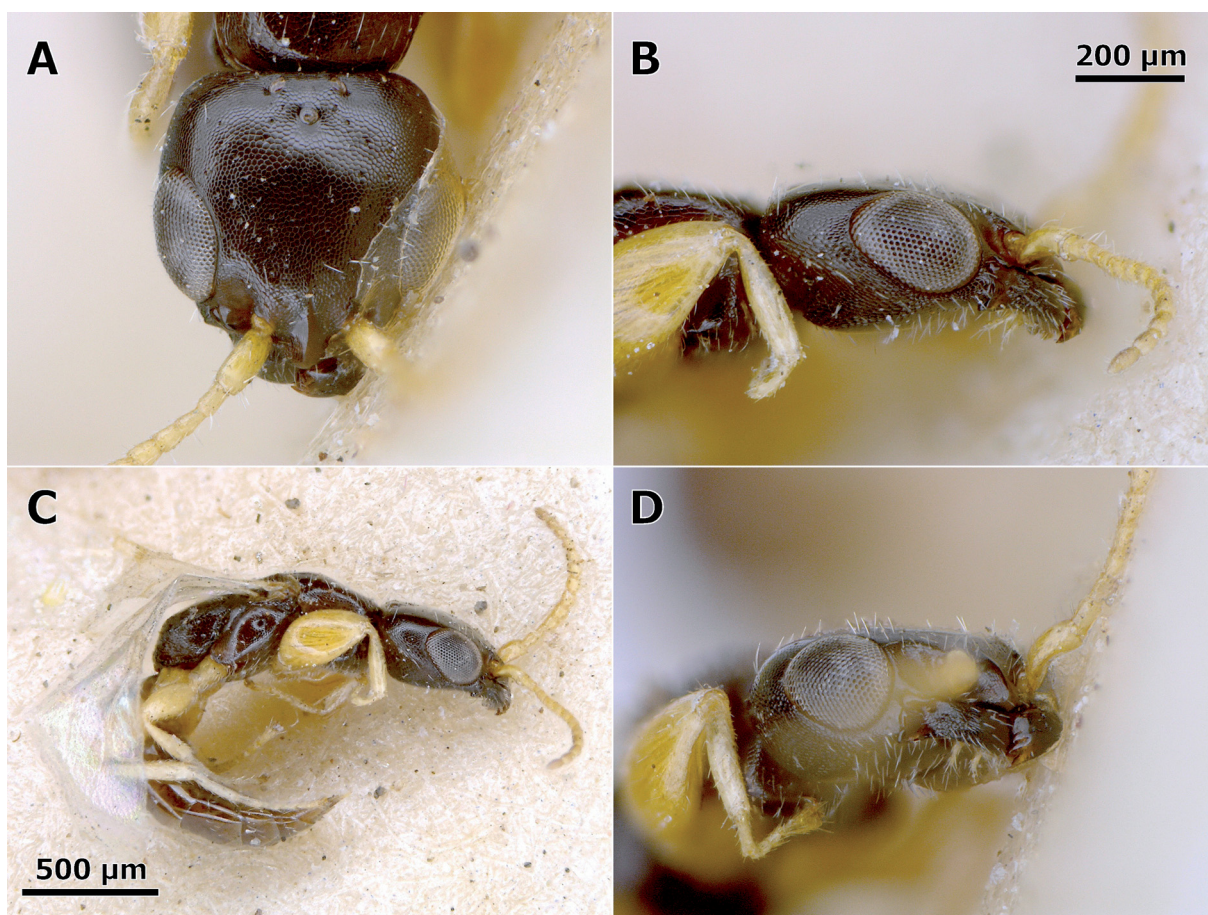


Fig. 146. *Sierola pandani* sp. nov., holotype, ♀ (ANIC 32-154859). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Etymology

Referring to the host plant, *Pandanus* sp. (probably *P. spiralis*).

Type material

Holotype

AUSTRALIA – Northern Territory • ♀; Darwin; 28 Aug. 1915; G.F.H. leg.; ex *Pandanus* leaf-miner; ANIC 32-154859.

Paratypes

AUSTRALIA – Northern Territory • 2 ♀♀; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate or rounded, convex; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression deep, distinct, broad. Antenna extending to posterior margin of pronotum.

MESOSOMA. Pronotal setae longer than flagellar width. Propodeal disc laterally shining, with weak microsculpture; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely yellow except the two terminal flagellomeres brown. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.67 mm; LM 0.86 mm (0.83–0.88); WH/LH 0.97 (0.95–0.97); DH/LH 0.51 (0.49–0.51); EV/HE 0.67 (0.67–0.73); EV/WF 0.52 (0.52–0.57); WF/HE 1.28 (1.27–1.29); WH/WF

1.65 (1.65–1.68); OOL/WOT 1.50 (1.33–1.50); DM/LM 0.37; FL/FW 1.85 (1.84–1.93); HFL/HFW 2.08 (2.08–2.24); A3 L/W 1.52 (1.40–1.65); 2R1 L/W 2.71. N = 3.

Distribution

Northern Territory; known from one series of three specimens collected at Darwin.

Sierola paracompressa sp. nov.

urn:lsid:zoobank.org:act:1CE453F4-B3BB-403F-8502-D3D062D2E60A

Figs 128, 147

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, head moderately long posterior of the eyes, and basal wing cells sparsely setose. Separated from related species by the strongly acute ocellar triangle and the clypeus evenly sloping in profile. In addition to the clypeus, distinguished from the very similar *S. compressa* sp. nov. by the more granular frons microsculpture.

Etymology

Referring to the similarity of this species to *S. compressa* sp. nov.

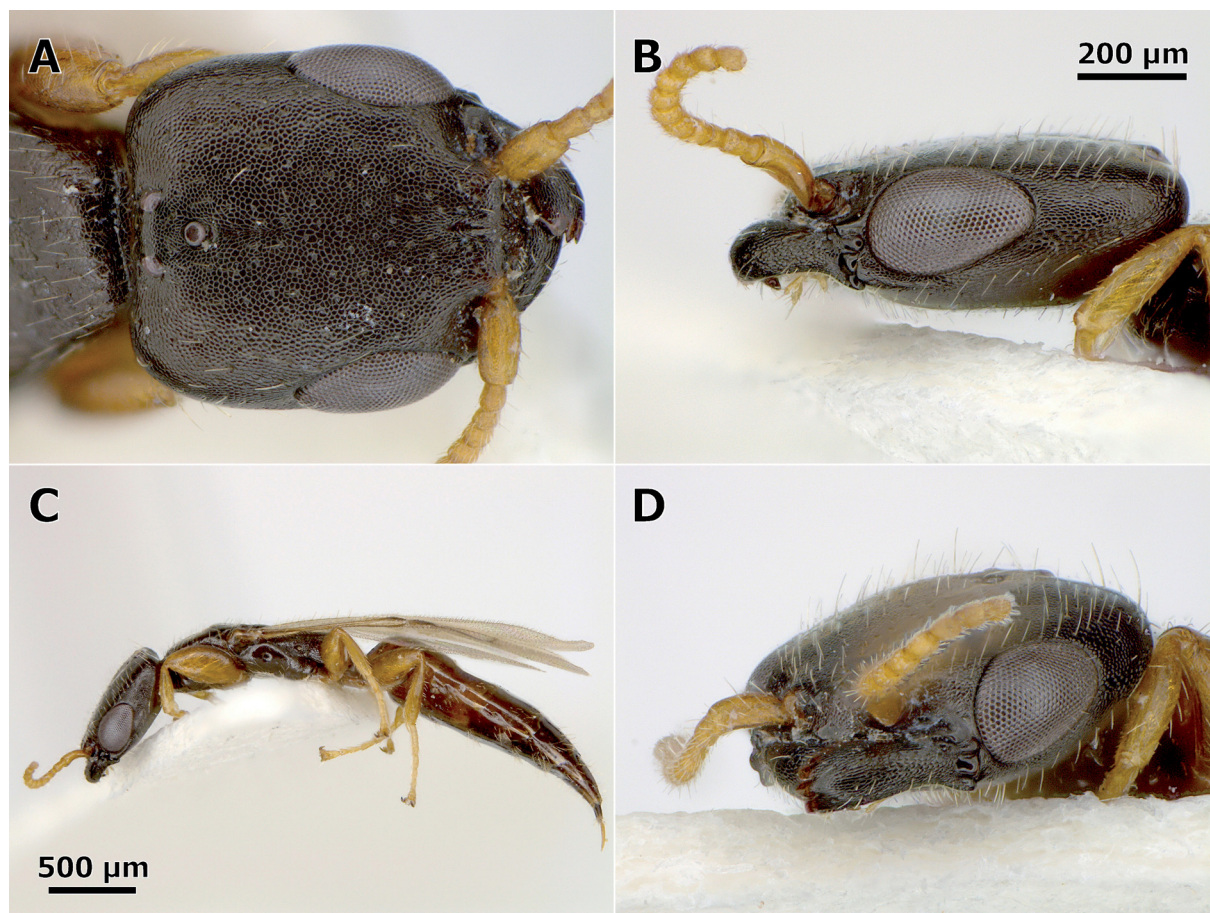


Fig. 147. *Sierola paracompressa* sp. nov., holotype, ♀ (ANIC 32-154860). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Higginsville; 31°45' S, 121°42' E; 11 Oct. 1981; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154860.

Paratype

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra; Aug. 1947; E.F. Riek leg.; ANIC.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally flat, with a trace of a low carina basally; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with dorsal tooth broad but short, on dorsal surface, indistinct, three ventral teeth pointed and equal. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.06 mm; LM 1.16 mm; WH/LH 0.89; DH/LH 0.40; EV/HE 0.89; EV/WF 0.65; WF/HE 1.36; WH/WF 1.55; OOL/WOT 1.92; DM/LM 0.27; FL/FW 2.07; HFL/HFW 1.84; A3 L/W 0.86; 2R1 L/W 2.45.

Distribution

Western Australia and Australian Capital Territory. Known from two widely separated specimens.

Remarks

It is possible that the two specimens may represent cryptic species, since the other related species appear to be localized and the habitats they were collected in were also quite different. However, they appear indistinguishable aside from difference in OOL/WOT.

***Sierola paracontracta* sp. nov.**

urn:lsid:zoobank.org:act:1975C3B0-B4BF-482A-83D8-683BC3B24AA3

Figs 148–149

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. United with *S. confecta* sp. nov., *S. contracta* sp. nov., *S. parallela* sp. nov., *S. pericontracta* sp. nov., and *S. subcontracta* sp. nov. in having the long setae brown, scrobal carinae converging but not fused, clypeus apically a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Separated from the first by the dense punctation and short setae of the frons (setae only about as long as the medial

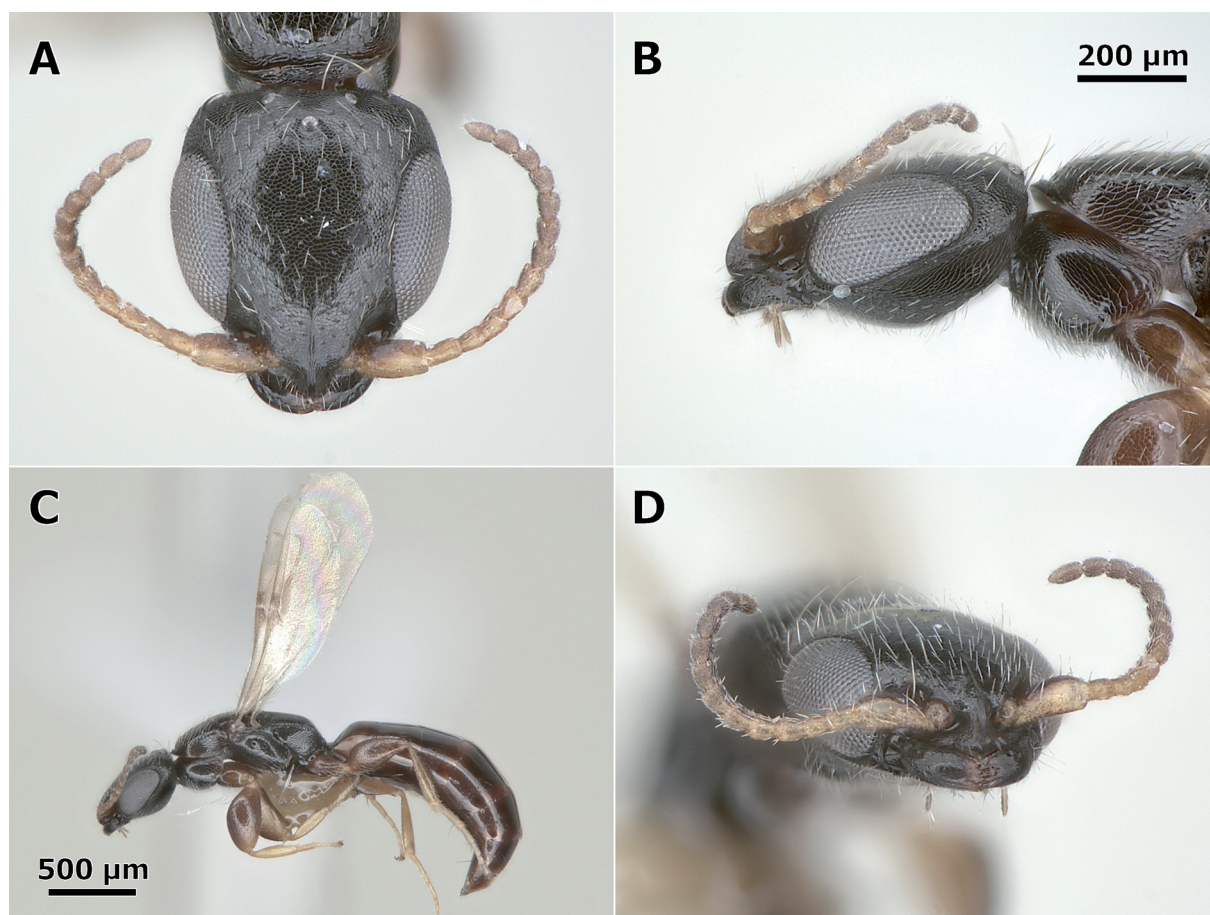


Fig. 148. *Sierola paracontracta* sp. nov., holotype, ♀ (ANIC 32-154861). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

flagellum width) and broader head (WH/LH ~0.91) with posterior corners well defined; and from the last by the low carina on the anterior frons, mandible entirely black, and fore wing evenly tinged with yellow. Very similar to *S. pericontracta*, separated by the strongly obtuse ocellar triangle and carinate occipital margin; nearly identical to *S. parallela*, separated only by the slightly broader clypeal ridge and distinct malar space, and by DNA sequence.

Etymology

Referring to the similarity of this species to *S. contracta* sp. nov.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; near Renmark, Calperum Station, Primary Site; 34.0542° S, 140.6194° E; elev. 50 m; 22–29 Oct. 2015; Peter Cale leg.; Malaise trap, fire Jan. 2014, 850 m unburnt mallee in all directions; BOLD: sample ID BIOUG36661-B10, process ID GMASU025-17, BIN ADL2126; ANIC 32-154861.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; flat with a low carina dorsally, narrowing to a flat ridge on anterior face, antennal scrobes carinate; in profile steep, recurved at apex. Mandible moderately narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate. Gena ventral to eye concave; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow, metatibia tinged with brown.

WINGS. Membrane weakly infusate. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.69 mm; LM 0.92 mm; WH/LH 0.91; DH/LH 0.54; EV/HE 0.34; EV/WF 0.37; WF/HE 0.92; WH/WF 1.74; OOL/WOT 0.80; DM/LM 0.39; FL/FW 1.85; HFL/HFW 2.05; A3 L/W 1.08; 2R1 L/W 3.00.

Distribution

South Australia; known only from the holotype, collected in the semi-arid region near the border with New South Wales and Victoria.

Remarks

See Remarks under *S. parallela* sp. nov.

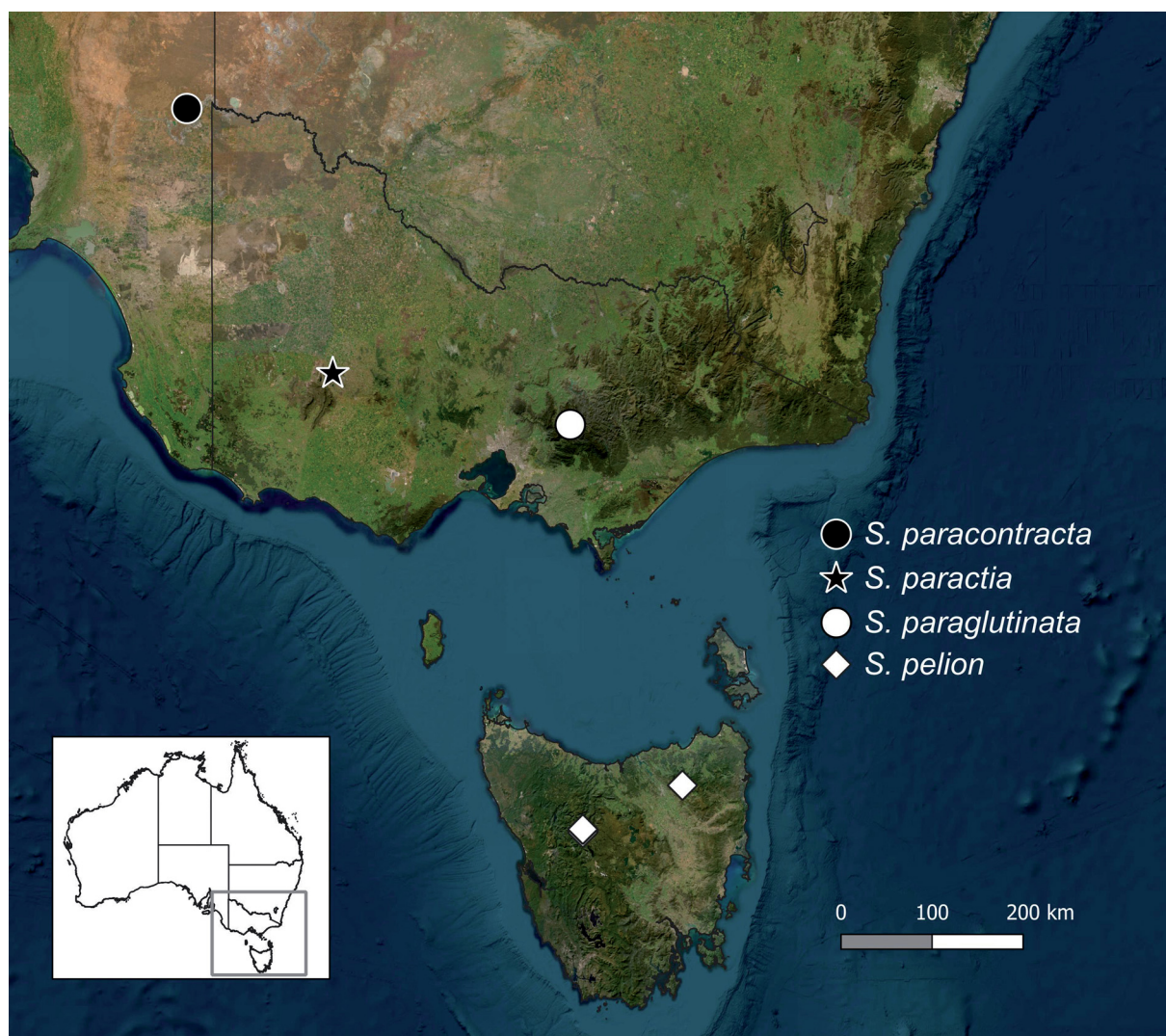


Fig. 149. Map of collection records of *Sierola paracontracta* sp. nov., *S. paractia* sp. nov., *S. paraglutinata* sp. nov., and *S. pelion* sp. nov.

Sierola paractia sp. nov.

urn:lsid:zoobank.org:act:39CE6316-DF47-4902-822B-A8C59B3F4A9D

Figs 149–150

Diagnosis

Part of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Closest to *S. comparata* sp. nov., sharing the long head posterior of the eye and mandible strongly convex outwardly, the second ventral tooth prominent, and weakly concave ventrally. Separated by the vertex not carinate between the lateral ocelli, head more compressed (DH/LH ~0.47), and basal wing cells each with a single row of setae (that of R broadly interrupted) rather than sparsely scattered.

Etymology

From the Greek ‘*paraktios*’, ‘coastal’, referring to the collection of the holotype on the lake shore. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Victoria • ♀; Lake Lonsdale; 37.00856° S, 142.621041° E; 14 Dec. 2019; L. Hearn leg.; sweeping *Acacia*; ANIC 32-154862.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with second ventral tooth largest. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded (indistinctly carinate posterior of ocelli). Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice

as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, tibiae brown, tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose (setal row in cell R broadly interrupted medially). Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.61 mm; LM 0.80 mm; WH/LH 0.73; DH/LH 0.47; EV/HE 1.00; EV/WF 1.00; WF/HE 1.00; WH/WF 1.78; OOL/WOT 1.83; DM/LM 0.35; FL/FW 1.97; HFL/HFW 2.00; A3 L/W 0.83; 2R1 L/W 2.42.

Distribution

Victoria; known only from the holotype, collected near the Grampian Range.

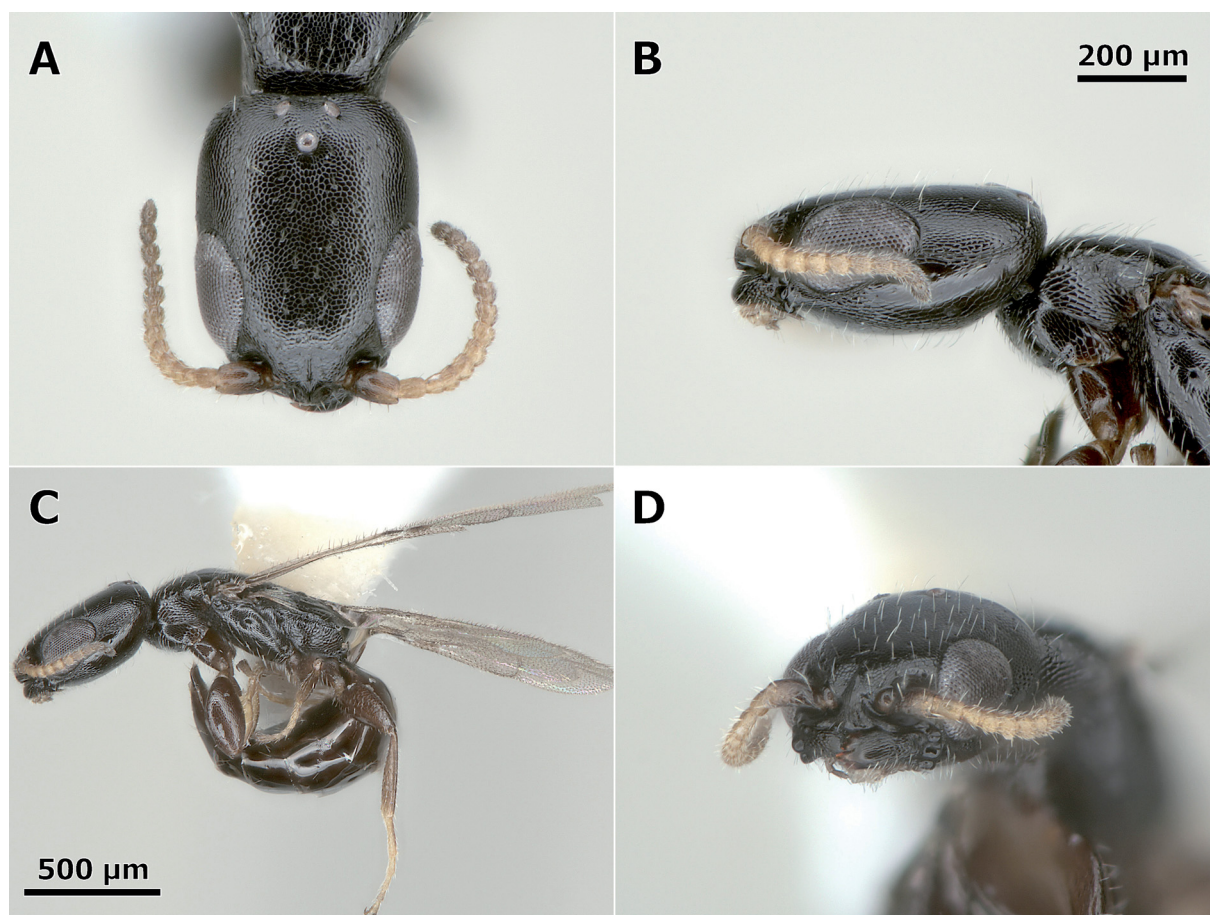


Fig. 150. *Sierola paractia* sp. nov., holotype, ♀ (ANIC 32-154862). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Sierola paraglutinata sp. nov.

urn:lsid:zoobank.org:act:C8020578-45DF-40B2-937F-9E0CC8AE4CBF

Figs 149, 151

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Closest to *S. nesomeson* sp. nov. and *S. trinalis* sp. nov., united by having the head only moderately convex ventrally; ocellar triangle relatively wide, OOL/WOT less than 1.40; and malar space short but distinct, about $\frac{1}{4}$ as long as the mandible base. Differing from *S. trinalis* in lacking the propodeal transverse carina and having the metafemur relatively narrow ($HFL/HFW \geq 2.50$). Nearly identical to *S. nesomeson*, differing only in the wing venation, with a broader cell 2R1 and convex posterior margin of 1M, denser setation of the basal wing cells, and slightly paler mandible. Also very similar to *S. intonsa* sp. nov., differing in having the mandible and femora conspicuously pale (usually nearly black in *S. intonsa*, sometimes mandible reddish brown) and the vertex slightly carinate between the lateral ocelli.

Etymology

Named for the close similarity of this species to *S. glutinata* sp. nov.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Cumberland Creek, via Cambarville; elev. 854 m; 13 Dec. 1973; I. Naumann leg.; temperate rainforest; QM T262170.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to coriaceous, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina

absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible orange. Coxae and femora brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane tinged with yellow. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.39 mm; LM 0.73 mm; WH/LH 0.86; DH/LH 0.58; EV/HE 0.51; EV/WF 0.56; WF/HE 0.91; WH/WF 1.84; OOL/WOT 1.25; DM/LM 0.38; FL/FW 2.10; HFL/HFW 2.69; A3 L/W 1.10; 2R1 L/W 2.50.

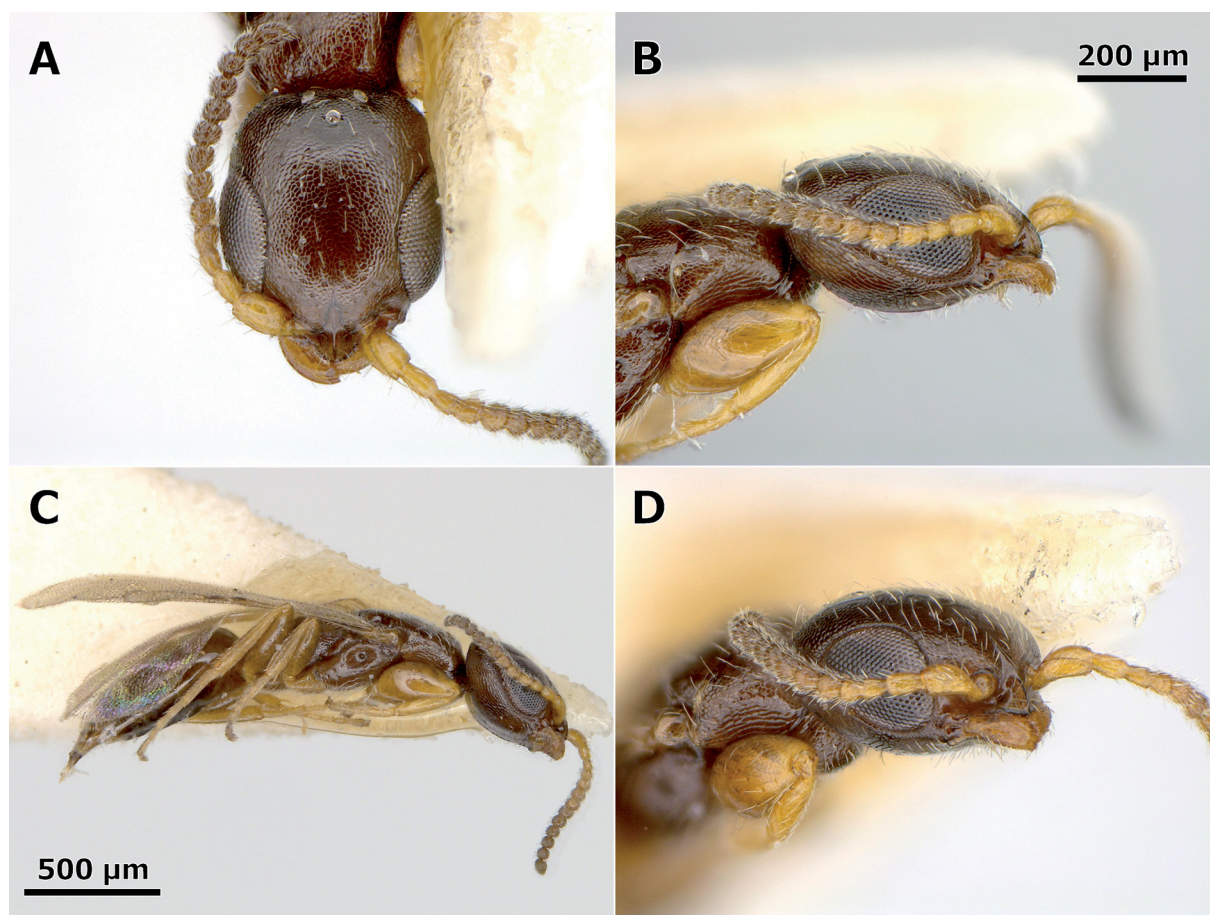


Fig. 151. *Sierola paraglutinata* sp. nov., holotype, ♀ (QM T262170). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Distribution

Victoria; known only from the holotype, collected in the Yarra Ranges.

Remarks

This species may be conspecific with *S. nesomeson* sp. nov., but the difference in wing venation and setation is notable enough that given their geographic separation, I feel it is best to treat them as semi-cryptic species.

Sierola parallela sp. nov.

urn:lsid:zoobank.org:act:8A500484-E939-49C7-A2E9-5CB68DE7E370

Figs 152–153

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. United with *S. confecta* sp. nov., *S. contracta* sp. nov., *S. paracontracta* sp. nov., *S. pericontracta* sp. nov., and *S. subcontracta* sp. nov. in having the long setae brown, scrobal carinae converging but not fused, clypeus apically a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Forming a well-defined group with *S. confecta* and *S. paracontracta*, distinguished by the strongly obtuse ocellar triangle and carinate occipital margin; separated from the former by the much more highly arched clypeus and infusate fore wing, and from the latter by the slightly narrower clypeal ridge, very short malar space, and DNA sequence.

Etymology

From the Latin ‘*parallelus*’, ‘side by side’, referring to the collection of the holotype alongside that of *S. pericontracta* sp. nov. while being morphologically nearly identical to *S. paracontracta* sp. nov.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Cockburn Wetlands Education Centre; 32.0865° S, 115.831° E; 8–15 Aug. 2014; D. Crosbie leg.; Malaise trap; BOLD: sample ID BIOUG23352-A08, process ID GMCWF470-15, BIN ACW8560; ANIC 32-154863.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; flat with a low carina dorsally, narrowing to a flat ridge on anterior face (narrow, nearly carinate), antennal scrobes carinate; in profile steep, recurved at apex. Mandible moderately narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent.

Side of head posterior to eye distinctly angulate. Gena ventral to eye concave; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Moderately shining with distinct microreticulation over all terga, T4–6 punctate and conspicuously setose. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane weakly infusate. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

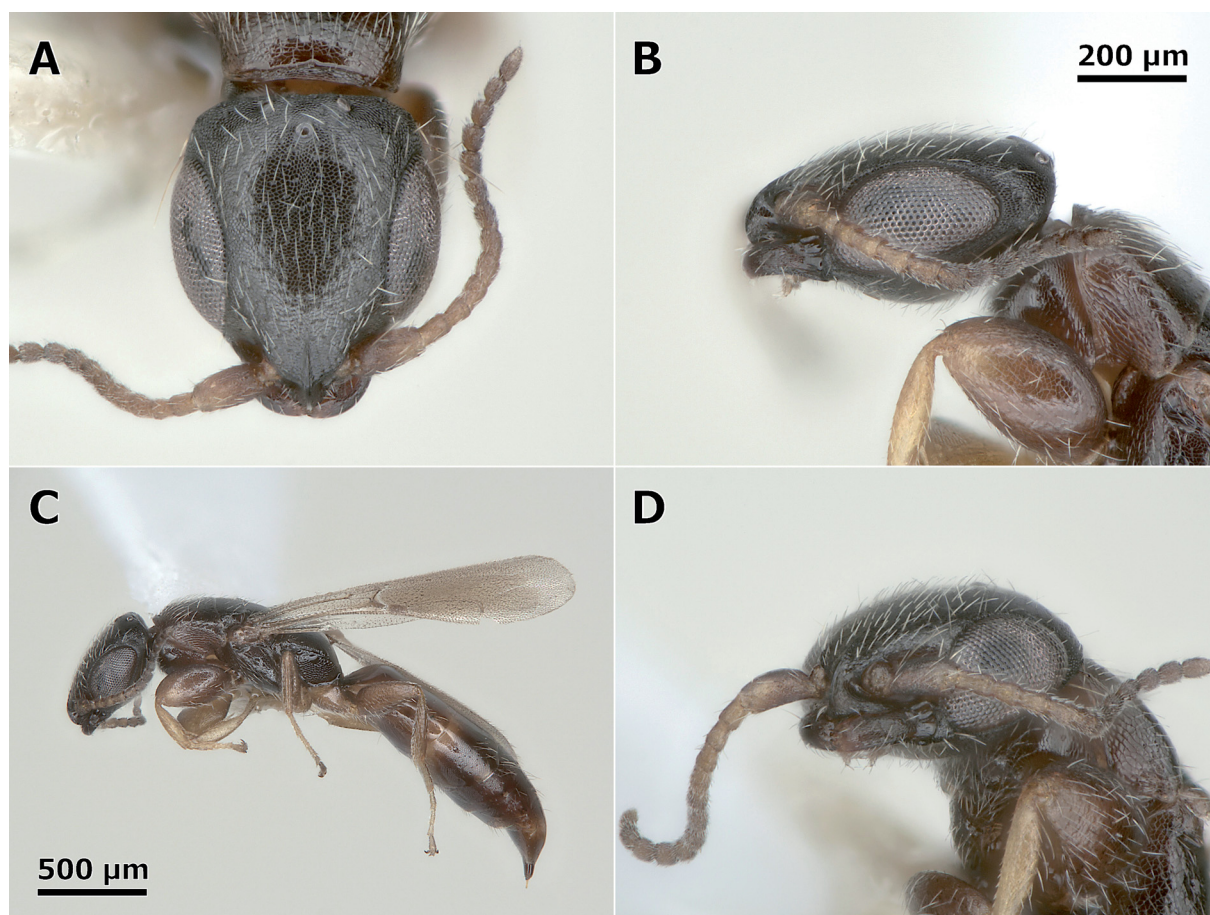


Fig. 152. *Sierola parallela* sp. nov., holotype, ♀ (ANIC 32-154863). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.66 mm; LM 0.95 mm; WH/LH 0.86; DH/LH 0.53; EV/HE 0.33; EV/WF 0.38; WF/HE 0.87; WH/WF 1.73; OOL/WOT 0.79; DM/LM 0.36; FL/FW 1.87; HFL/HFW 2.17; A3 L/W 1.25; 2R1 L/W 3.00.

Distribution

Western Australia; known only from the holotype, collected in the Perth-Fremantle area.

Remarks

This species is morphologically nearly identical to *S. paracontracta* sp. nov. (ocellar triangle obtuse, DH/LH 0.54, OOL/WOT ~1.7) of South Australia, but was collected in Western Australia at the same site as *S. pericontracta* sp. nov. I would not have considered the slight differences between this and at least the first species to be significant enough to warrant describing it as separate, but all three have been sequenced and they are genetically about equally distant (~6% divergent in COI). This suggests that some of the other species described here from a small number of widely-separated collections, such as *S. megacephala* sp. nov., *S. paracompressa* sp. nov., and *S. vibrissoides* sp. nov., are likely to be cryptic

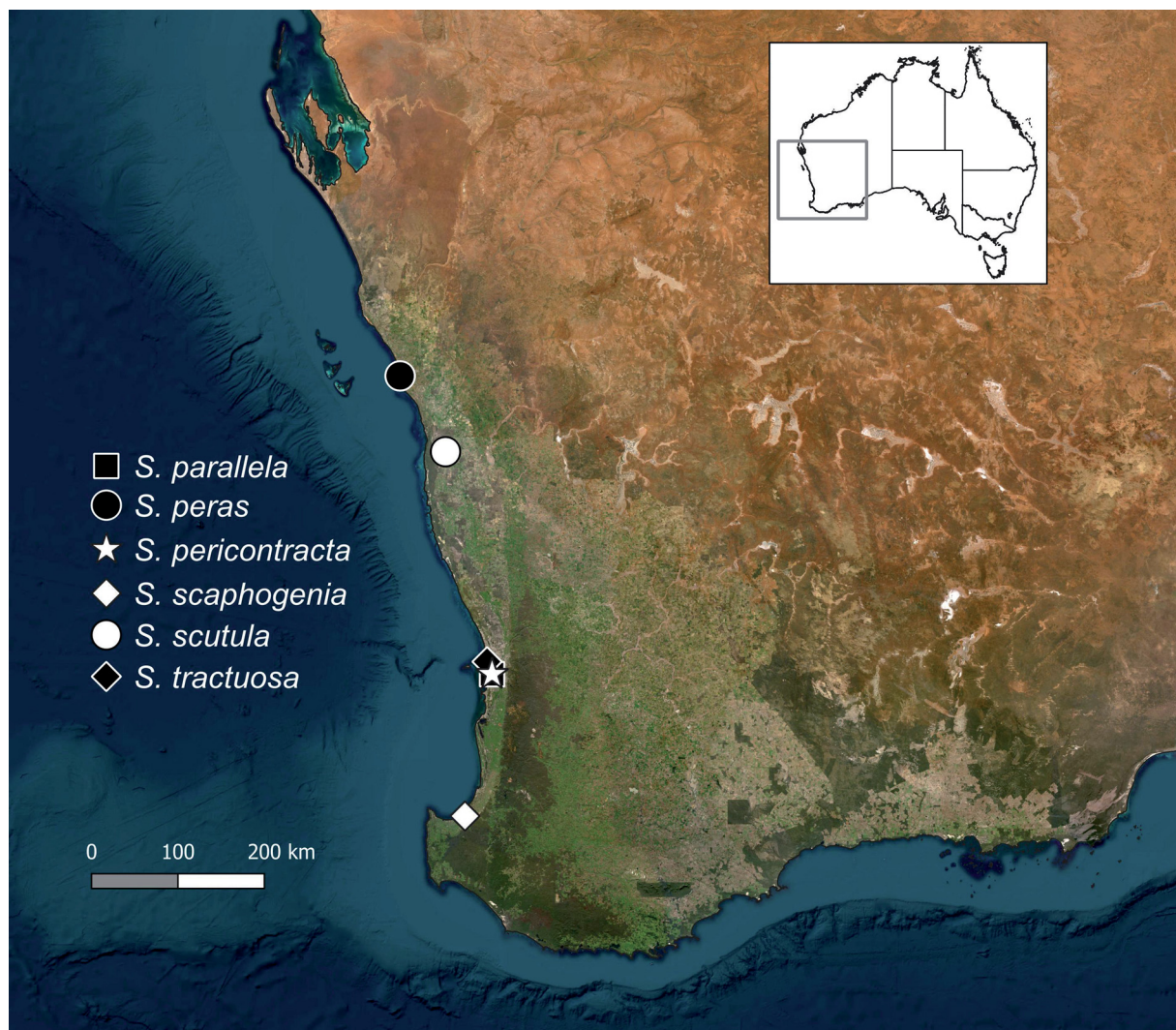


Fig. 153. Map of collection records of *Sierola parallela* sp. nov., *S. peras* sp. nov., *S. pericontracta* sp. nov., *S. scaphogenia* sp. nov., *S. scutula* sp. nov., and *S. tractuosa* sp. nov.

species pairs. The fourth species in this complex, *S. confecta* sp. nov. of New South Wales, has not been sequenced but also has clear differences and is no doubt distinct from the others.

***Sierola pelion* sp. nov.**

urn:lsid:zoobank.org:act:DD02FFC1-FBC6-4B1D-8CC1-32D1BDCAA095

Figs 149, 154

Diagnosis

Part of a cluster of species with the head moderately deep (DH/LH ~0.57) and convex dorsally; lateral ocelli nearly touching the vertex crest; and basal wing cells densely setose. Very similar to *S. nitidigena* sp. nov. and *S. intonsa* sp. nov., sharing the moderately narrow mandible, distinctly concave ventrally and strongly convex outwardly, distinct malar space, and clypeus lacking a sharp carina. Separated from the former by the narrow metafemur, gena reticulate posterolaterally, and S6 glabrous medially; and from the latter by the coarser frons sculpture, distinctly pigmented wing veins, and more triangular cell 1M.

Etymology

Named for the type locality, at the base of Mount Pelion East. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 30 Nov. 1990–8 Jan. 1991; closed forest (W.E.B.S.) Malaise 5; ANIC 32-154864.

Paratypes

AUSTRALIA – **Tasmania** • 1 ♀; same data as for holotype; ANIC • 1 ♀; Mt Barrow 11 km E by N of Nunamara; 41°23' S, 147°25' E; 30 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 4 km S of Mt Oakleigh; 41°51' S, 146°03' E; 4 Oct.–6 Nov. 1990; (W.E.B.S.) Malaise 3; ANIC • 2 ♀♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 4 Oct.–6 Nov. 1990; closed forest (W.E.B.S.) Malaise 2; ANIC • 2 ♀♀; Pelion Gap, 2 km ENE of Mt Ossa; 41°52' S, 146°03' E; 30 Nov. 1990–9 Jan. 1991; [no collector] leg.; (W.E.B.S.) Malaise 6; ANIC • 2 ♀♀; 4 km S of Mt Oakleigh; 41°51' S, 146°03' E; 30 Nov. 1990–8 Jan. 1991; (W.E.B.S.) Malaise 3; ANIC • 1 ♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 8 Jan.–12 Feb. 1991; closed forest (W.E.B.S.) Malaise 2; ANIC • 2 ♀♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 8 Jan.–12 Feb. 1991; open forest (W.E.B.S.) Malaise 1; ANIC • 1 ♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 18–23 Nov. 1991; I.D. Naumann leg.; rainforest margin; ANIC.

Additional material examined

AUSTRALIA – **Tasmania** • 1 ♂; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 5–10 Feb. 1990; I.D. Naumann leg.; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded to truncate; dorsally weakly carinate, or rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3

pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

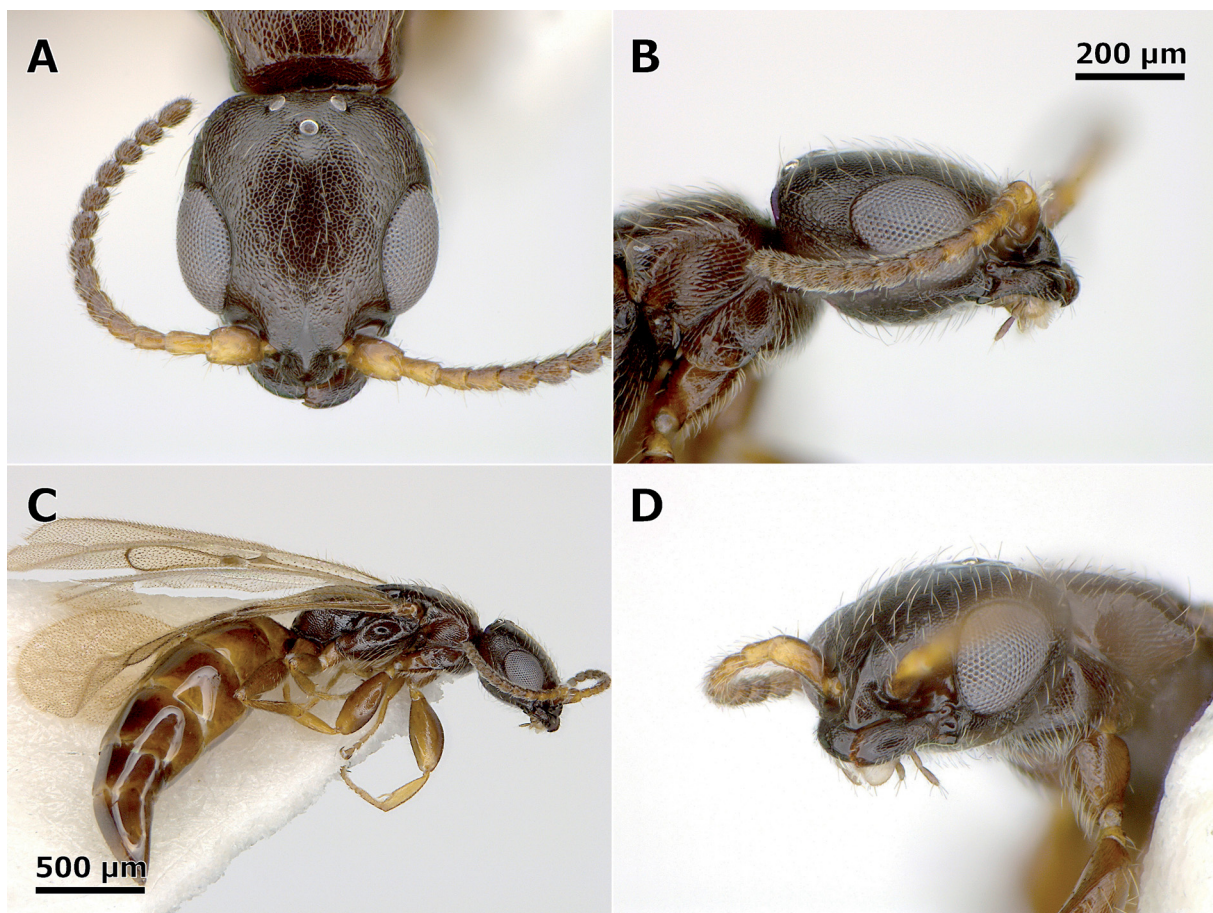


Fig. 154. *Sierola pelion* sp. nov., holotype, ♀ (ANIC 32-154864). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with moderately dense setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown, scape yellowish on median face. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.96 mm; LM 0.89 mm (0.78–0.98); WH/LH 0.89 (0.82–0.90); DH/LH 0.59 (0.57–0.61); EV/HE 0.63 (0.58–0.76); EV/WF 0.59 (0.55–0.68); WF/HE 1.06 (1.03–1.14); WH/WF 1.78 (1.71–1.82); OOL/WOT 1.21 (1.18–1.37); DM/LM 0.38; FL/FW 2.17 (2.08–2.26); HFL/HFW 2.68 (2.48–2.76); A3 L/W 1.50 (1.33–1.57); 2R1 L/W 3.11. N = 14.

Male

Similar to female with the following exceptions. *Head.* Clypeus semicircular, apex rounded, in profile weakly curved, nearly straight. Malar space nearly absent. Frons setae longer than flagellum width. *Mesosoma.* Propodeal disc coarsely striate laterally. *Metasoma.* Apical tergites with very faint reticulation dorsally. *Color.* Mandible pale yellow. Profemur predominantly yellow, dorsal and ventral margins brownish. *Wings.* Basal wing cells with intermediate setation.

Measurements. LFW 1.24 mm; LM 0.61 mm; WH/LH 0.89; DH/LH 0.56; EV/HE 0.64; EV/WF 0.69; WF/HE 0.93; WH/WF 1.85; OOL/WOT 1.12; DM/LM 0.40; FL/FW 2.33; HFL/HFW 2.50; A3 L/W 1.25; 2R1 L/W 3.18.

Distribution

Tasmania; known from a long series all taken around the same locality in the course of one season.

Remarks

The association of the male is somewhat uncertain; it differs from the female in more characters than other species, such as wing setation. See Remarks under *S. intonsa* sp. nov.

Sierola peras sp. nov.

urn:lsid:zoobank.org:act:4EEB05E2-E330-4E1F-B18C-6DA98C05C8B4

Figs 153, 155

Diagnosis

Among species with the basal wing cells glabrous, head convex dorsally, and clypeus evenly curved in profile, distinguished by the moderately deep head (DH/LH 0.55–0.60), mostly dark mandible, and lack of a carina between the lateral ocelli. Closest to *S. lemniscata* sp. nov., separated by having the mandible distinctly narrower, frons about as wide as eye height, and head longer posterior of the eye.

Etymology

From the Greek ‘*peras*’, ‘end’ or ‘western’, referring to the type locality on the far west coast and its position as the last major town on the way north. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Geraldton; 31 Dec. 1975; R. Storey and E.M. Exley leg.; QM T262171.

Paratype

AUSTRALIA – Western Australia • 1 ♀; same data as for holotype; QM.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head

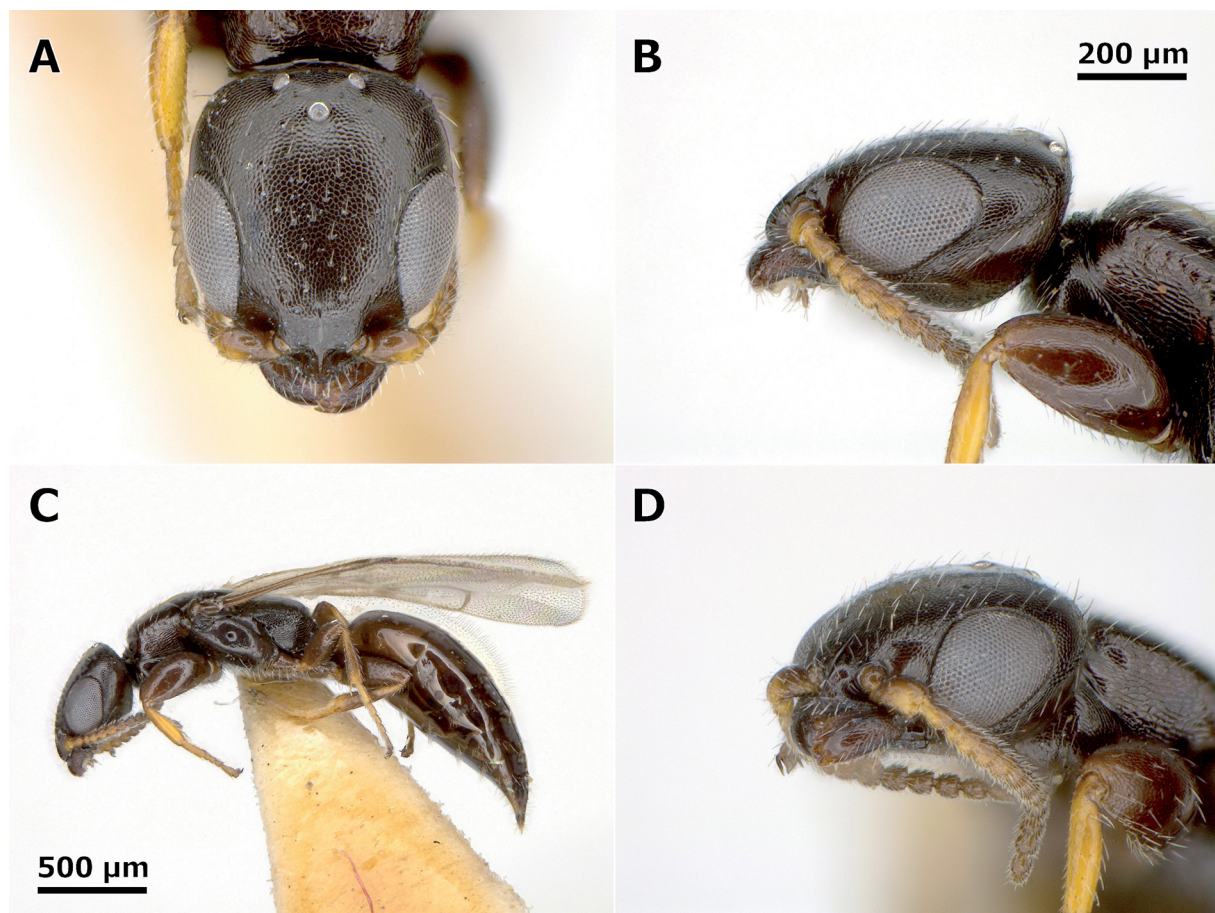


Fig. 155. *Sierola peras* sp. nov., holotype, ♀ (QM T262171). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.86 mm; LM 0.98 mm; WH/LH 0.88; DH/LH 0.58; EV/HE 0.63; EV/WF 0.62; WF/HE 1.03; WH/WF 1.79; OOL/WOT 1.03; DM/LM 0.37; FL/FW 1.96; HFL/HFW 2.29; A3 L/W 0.83; 2R1 L/W 2.47.

Distribution

Western Australia; known from one collection.

Sierola pericontracta sp. nov.

urn:lsid:zoobank.org:act:E7F851F2-1DAE-4368-B65E-75A1AB2A0108

Figs 153, 156

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. United with *S. contracta* sp. nov., *S. confecta* sp. nov., *S. paracontracta* sp. nov., *S. parallela* sp. nov., and *S. subcontracta* sp. nov. in having the long setae brown, scrobal carinae converging but not fused, clypeus apically a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Separated from the first by the dense punctation and short setae of the frons (setae only about as long as the medial flagellum width) and broader head (WH/LH ~0.91) with posterior corners well defined; and from the last by the low carina on the anterior frons, mandible entirely black, and fore wing evenly tinged with yellow. Very similar to *S. confecta*, *S. paracontracta*, and *S. parallela*, separated by having the ocellar triangle anterior angle right and occipital margin rounded, not carinate.

Etymology

Referring to the similarity of this species to *S. contracta* sp. nov.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Cockburn Wetlands Education Centre; 32.0865° S, 115.831° E; 6–13 Feb. 2015; D. Crosbie leg.; Malaise trap; BOLD: sample ID BIOUG26390-A01, process ID GMCWS630-15, BIN ADC2753; ANIC 32-154865.

Description

Female

HEAD. Clypeal process semicircular to rounded triangular, apex rounded; flat with a low carina dorsally, narrowing to a flat ridge on anterior face, antennal scrobes carinate; in profile steep, recurved at apex. Mandible moderately narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly

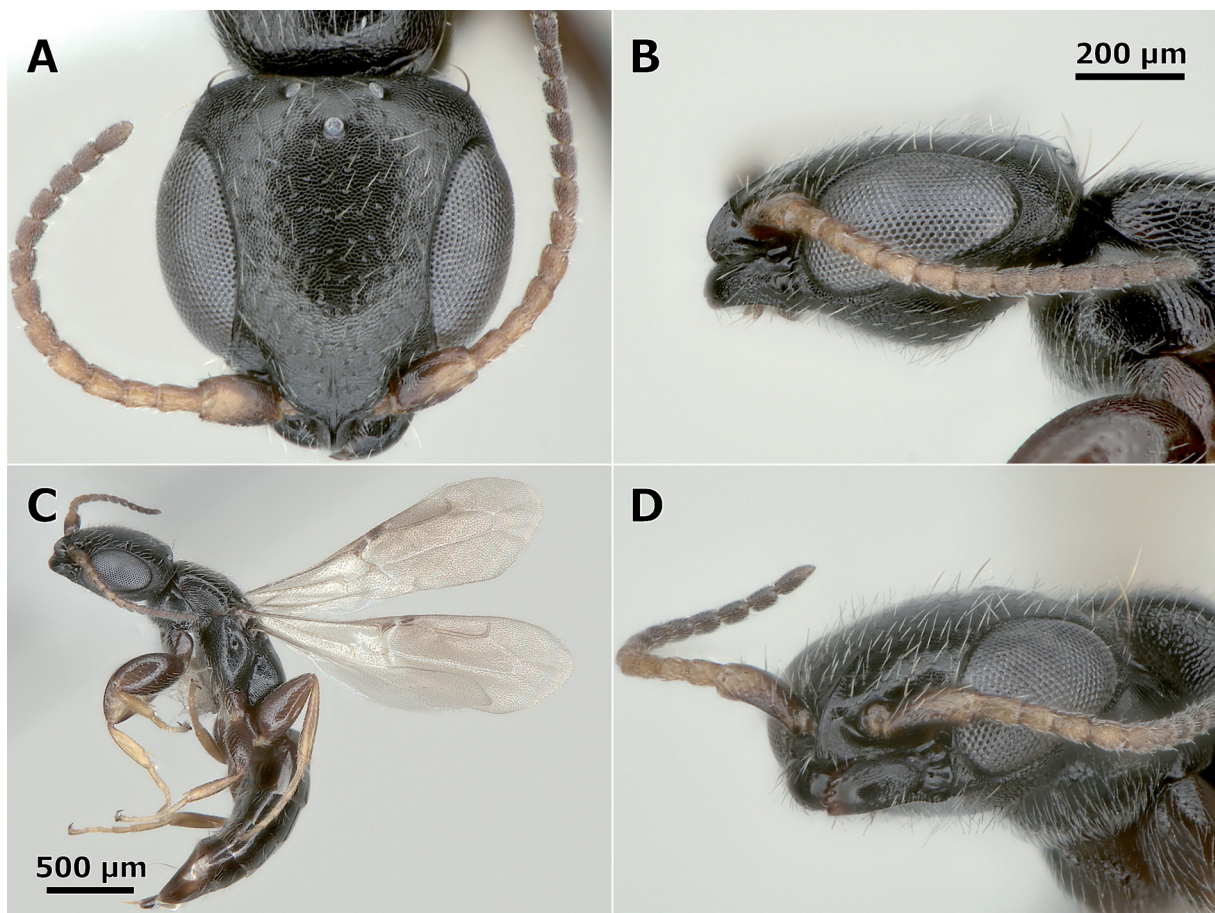


Fig. 156. *Sierola pericontracta* sp. nov., holotype, ♀ (ANIC 32-154865). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with moderately dense pubescence. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head (weakly differentiated from ventral sculpture). Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane with a transverse band of faint infuscation between stigma and apex of Rs. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 2.11 mm; LM 1.13 mm; WH/LH 0.93; DH/LH 0.55; EV/HE 0.29; EV/WF 0.35; WF/HE 0.83; WH/WF 1.89; OOL/WOT 0.95; DM/LM 0.39; FL/FW 1.80; HFL/HFW 2.02; A3 L/W 1.20; 2R1 L/W 2.85.

Distribution

Western Australia; known only from the holotype, collected in the Perth-Fremantle area.

Remarks

See Remarks under *S. parallela* sp. nov.

Sierola planifrons sp. nov.

urn:lsid:zoobank.org:act:6AFDC50A-5E75-459E-95AD-EFE1722FE101

Figs 125, 157

Diagnosis

An aberrant member of the *compressa* species group, with the head flattened and frons broad but mesosoma not compressed. Closest to *S. lapis* sp. nov. and *S. medialis* sp. nov., separated by having the head nearly as wide as long (WH/LH 0.98), head flat and clypeus elongate in profile.

Etymology

From the Latin '*planus*', 'flat', + '*frons*', 'front', referring to the broad frons and flattened head. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; 5.5 km W of Musselbrook Mining Camp; 18°36' S, 138°06' E; 14 Apr. 1995; G.V. Maynard leg.; *Melaleuca* GVM-AC950549; ANIC 32-154866.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; 9.7 km N of Ellis Beach; 17 Apr. 1987; E.C. Dahms and G. Sarnes leg.; QM.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile elongate, evenly curved, apex acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with ventral tooth largest, three dorsal teeth equal. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae similar to and only slightly longer

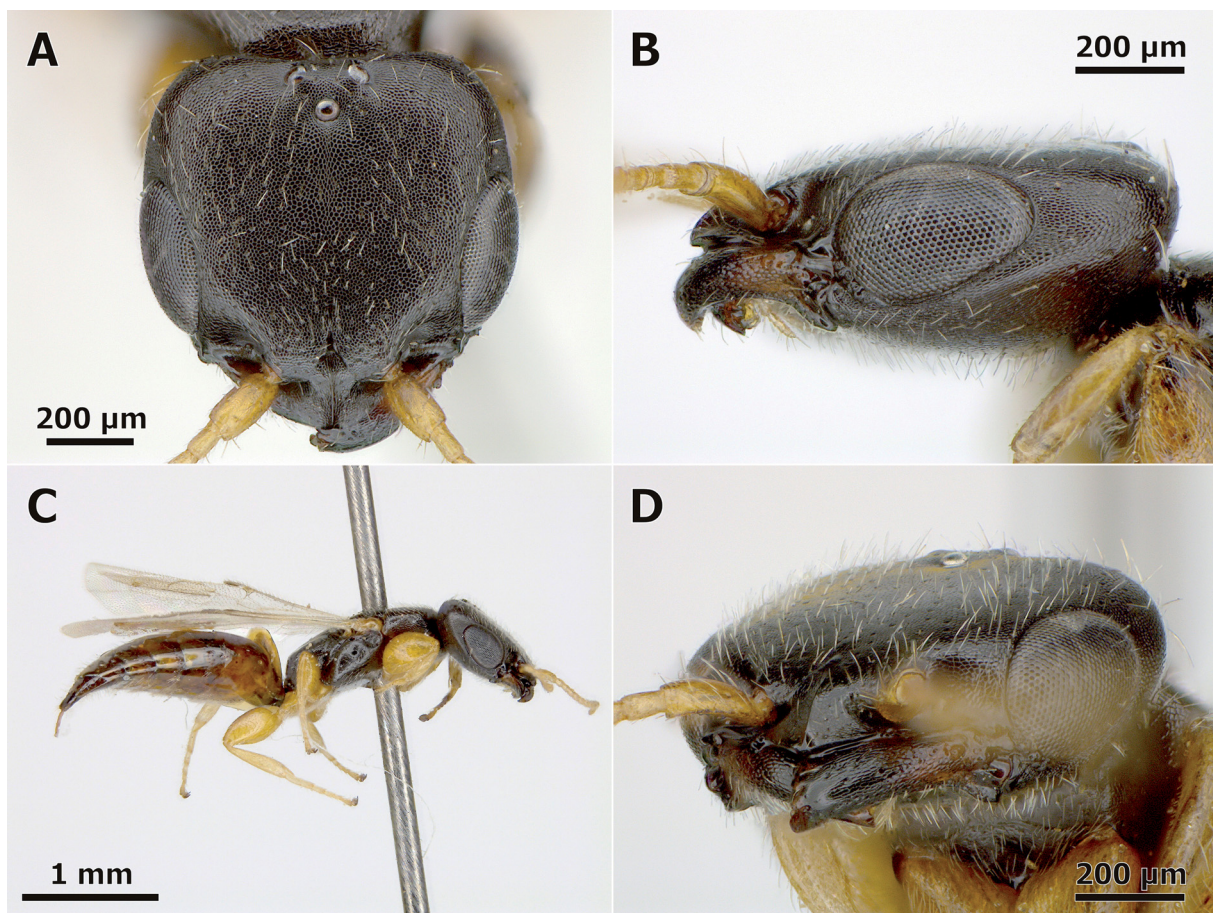


Fig. 157. *Sierola planifrons* sp. nov., holotype, ♀ (ANIC 32-154866). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

than setae of frons. Frons microsculpture microreticulate and extremely dull, velvety. Vertex in dorsal view broadly, shallowly concave; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2 broadly setose all over, S3–5 each with a conspicuous apical band of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Head and mesosoma black, metasoma brownish. Antenna entirely dull yellow. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.28 mm; LM 1.29 mm; WH/LH 0.98; DH/LH 0.44; EV/HE 0.71; EV/WF 0.45; WF/HE 1.60; WH/WF 1.46; OOL/WOT 1.79; DM/LM 0.38; FL/FW 1.73; HFL/HFW 1.82; A3 L/W 1.33; 2R1 L/W 2.53.

Distribution

Queensland; known from two locations in the north, one wet and one dry.

Remarks

Like *S. medialis* sp. nov., the head shape clearly places this species in the *compressa* group despite the robust mesosoma. Its collection from two very different habitat types is unusual in the Australian *Sierola* fauna.

Sierola planirostris sp. nov.

urn:lsid:zoobank.org:act:3586C36F-4DC9-49D2-9361-9D6D68112459

Figs 158–159

Diagnosis

Among the species with a distinctly elongate, parallel-sided clypeus, easily separated by the clypeus completely flat dorsally and evenly sloping in profile. The sculpture of the frons is minutely colliculate, obscuring the punctation, while the clypeus is highly polished, both unusual characters. Most similar to *S. giffardi* Fullaway, 1920 of Hawaii, which differs in having both the frons and clypeus smoothly microreticulate, and the vertex distinctly concave.

Etymology

From the Latin '*planus*', 'flat', + '*rostrum*', 'beak' or 'nose', referring to the flat clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; 9 km NE of Blackbutt; 26°52' S, 152°11' E; 19 Oct. 1991; T. Gush leg.; in debris in creek bed, Tom Gush Collection 3181; ANIC 32-154867.

Description

Female

HEAD. Clypeal process somewhat elongate, semicircular at the apex, apex broadly rounded; dorsally flat, margins dropping off vertically; in profile evenly sloping, nearly straight. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons punctation obscured by microsculpture. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture minutely colliculate, appearing dull at low magnification but with each cellule shining. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from

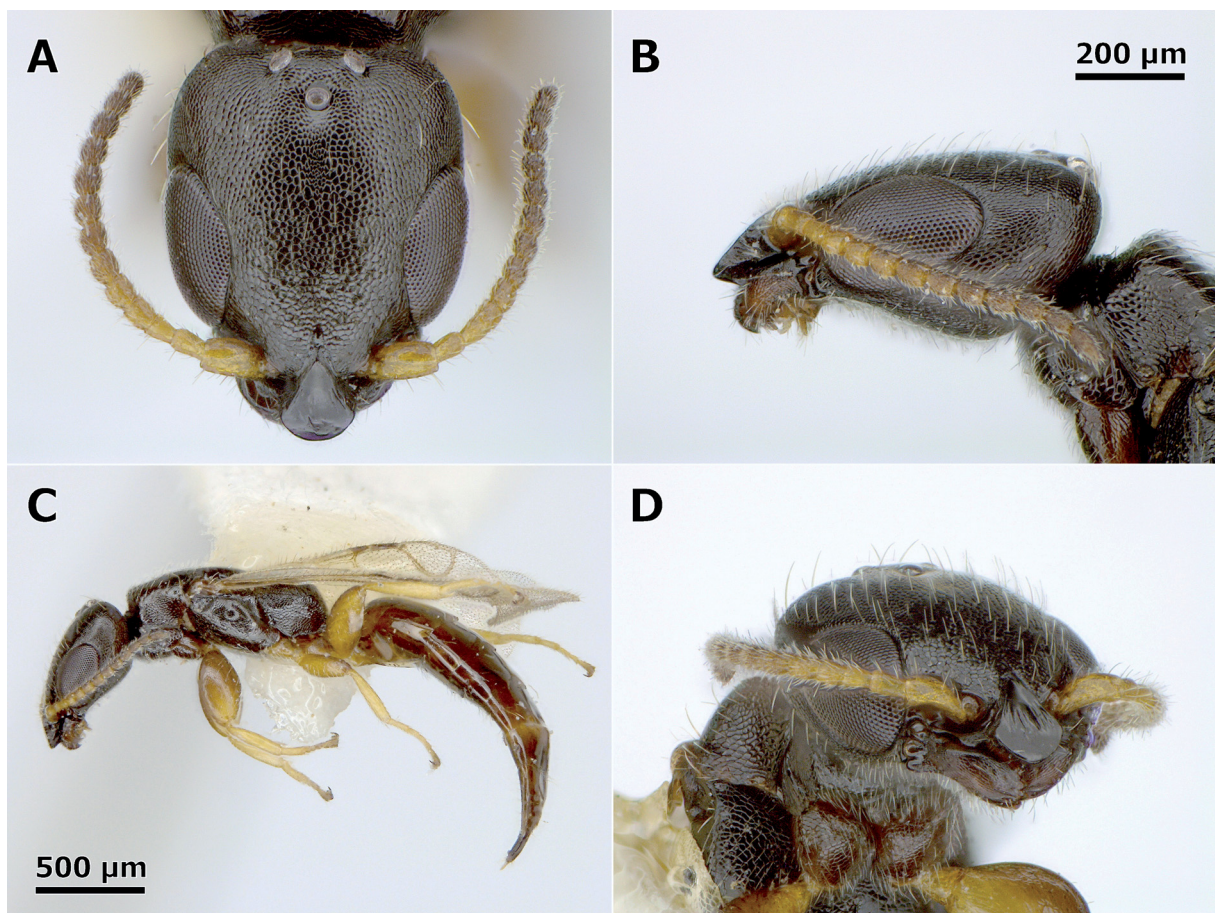


Fig. 158. *Sierola planirostris* sp. nov., holotype, ♀ (ANIC 32-154867). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression narrow but distinct, V-shaped. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc slightly concave. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black to reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

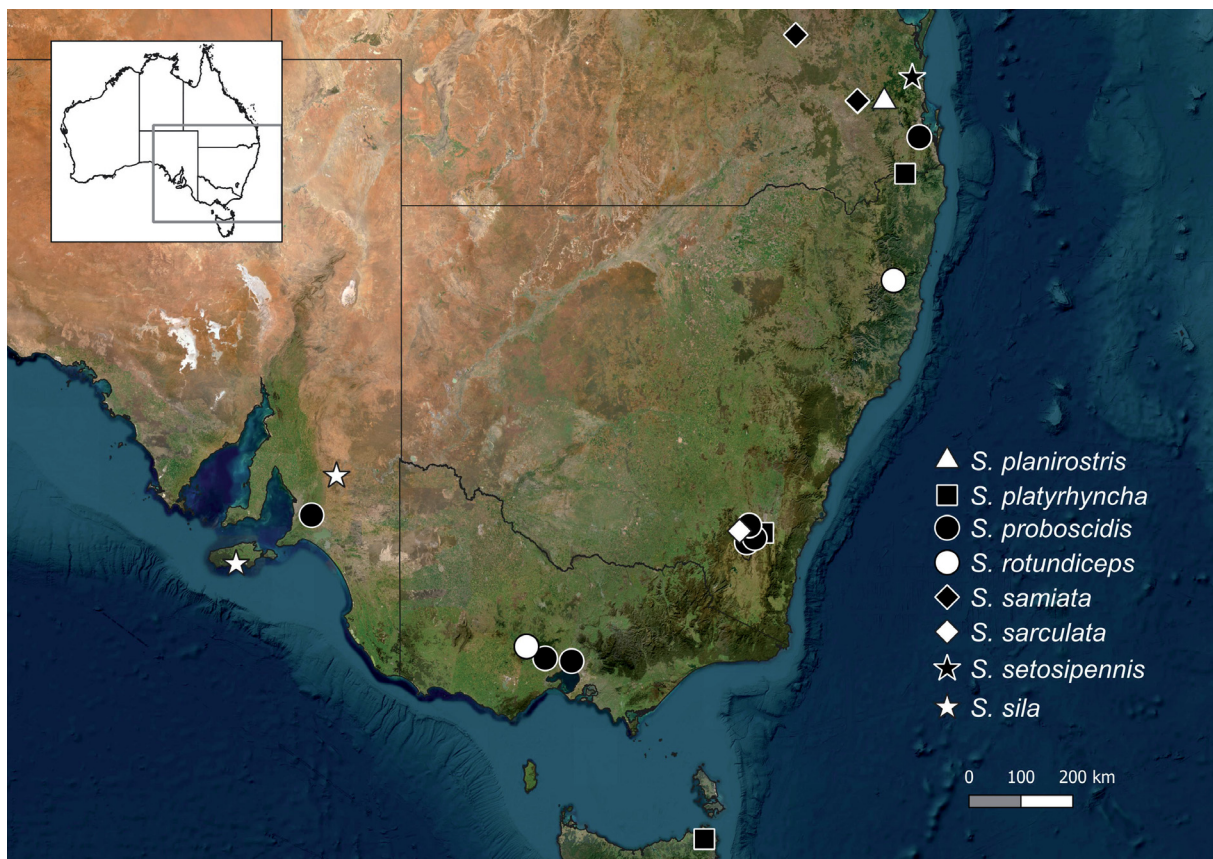


Fig. 159. Map of collection records of *Sierola planirostris* sp. nov., *S. platyrhyncha* sp. nov., *S. proboscidis* sp. nov., *S. rotundiceps* sp. nov., *S. samiata* sp. nov., *S. sarculata* sp. nov., *S. setosipennis* sp. nov., and *S. sila* sp. nov.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.95 mm; LM 0.98 mm; WH/LH 0.76; DH/LH 0.48; EV/HE 0.67; EV/WF 0.69; WF/HE 0.98; WH/WF 1.83; OOL/WOT 1.26; DM/LM 0.40; FL/FW 1.84; HFL/HFW 2.08; A3 L/W 1.17; 2R1 L/W 2.25.

Distribution

Queensland; known only from the holotype, collected in the southeast.

Sierola platyrhyncha sp. nov.

urn:lsid:zoobank.org:act:E7F6D989-BBCA-42A6-8A0A-24725D0B4E19

Figs 159–160

Diagnosis

Part of a species complex with *S. koala* sp. nov. and *S. samiata* sp. nov., characterized by the broad, flat clypeus which is curved in profile, highly polished, and largely impunctate; head broad and compressed; and vertex concave in dorsal view. Separated from the former by having the basal wing cells nearly glabrous rather than sparsely setose, frons scarcely broader than an eye length, ocellar triangle anterior angle strongly obtuse, and propodeum with a broad polished strip; and from the latter by the black mandible and more compressed head.

Etymology

From the Greek ‘*platy*’, ‘flat’, + ‘*rhynchos*’, ‘nose’, referring to the flattened clypeus.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 1 km SSE of Gladstone; 40°58' S, 148°01' E; 29 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154868.

Paratypes

AUSTRALIA – **New South Wales** • 1 ♀; Donaldson State Forest via Woodenbong; 30 Dec. 1979; I.D. Naumann leg.; ANIC • 1 ♀; Whiskers, 7 km WNW of Hoskinstown; 35°24' S, 149°23' E; 8 Sep. 1992; M.S. Upton leg.; ANIC.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded; dorsally flat, margins dropping off vertically; in profile elongate, evenly curved, apex acute. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with ventral tooth largest, three dorsal teeth equal. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse

setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture coriaceous ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

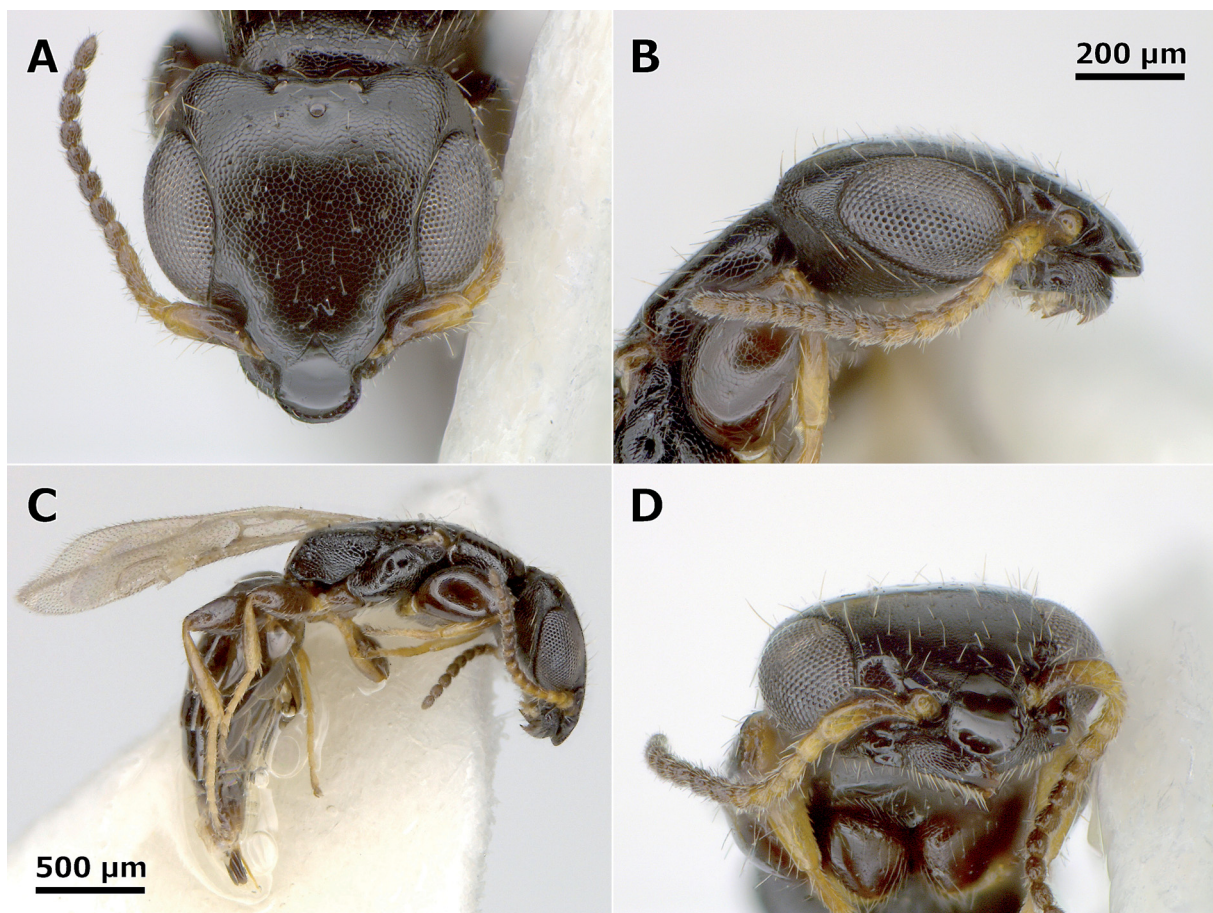


Fig. 160. *Sierola platyrhyncha* sp. nov., holotype, ♀ (ANIC 32-154868). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.58 mm; LM 0.92 mm (0.92–0.98); WH/LH 0.96 (0.96–1.00); DH/LH 0.44 (0.44–0.47); EV/HE 0.36 (0.35–0.39); EV/WF 0.34 (0.33–0.35); WF/HE 1.06 (1.06–1.09); WH/WF 1.79 (1.79–1.84); OOL/WOT 0.98 (0.96–1.12); DM/LM 0.34; FL/FW 1.73 (1.73–1.86); HFL/HFW 2.13 (2.09–2.21); A3 L/W 1.48 (1.17–1.48); 2R1 L/W 2.73. N = 3.

Distribution

New South Wales and Tasmania. Known from three widely separated collections; probably occurring in Queensland and Victoria as well.

Remarks

This species may be conspecific with *S. samiata* sp. nov., as they differ mainly in mandible color. Although the ranges are nearly sympatric, the records of *S. samiata* are from drier, more inland sites than *S. platyrhyncha* sp. nov.

Sierola pontilis sp. nov.

urn:lsid:zoobank.org:act:D11BFD1B-A655-42C5-A446-F1137CAA07E8

Figs 161, 163

Diagnosis

Part of a cluster of species with the clypeus dorsally with a low, sharp carina, evenly curved in profile; head moderately deep (DH/LH ~0.59) and convex dorsally; lateral ocelli nearly touching the vertex crest; and basal wing cells densely setose. Distinguished by the strongly obtuse ocellar triangle and posterior corners of the head strongly rounded off, appearing ovate rather than quadrate in dorsal view. The head is also rather strongly convex dorsally.

Etymology

From the Latin '*pontilis*', 'of a bridge', referring to the holotype collection site. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Intake Bridge; 41°19' S, 147°56' E; 13 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154869.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; Elephant Pass; 41°38' S, 148°13' E; 28 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately

punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to coriaceous, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with moderately dense setae laterally.

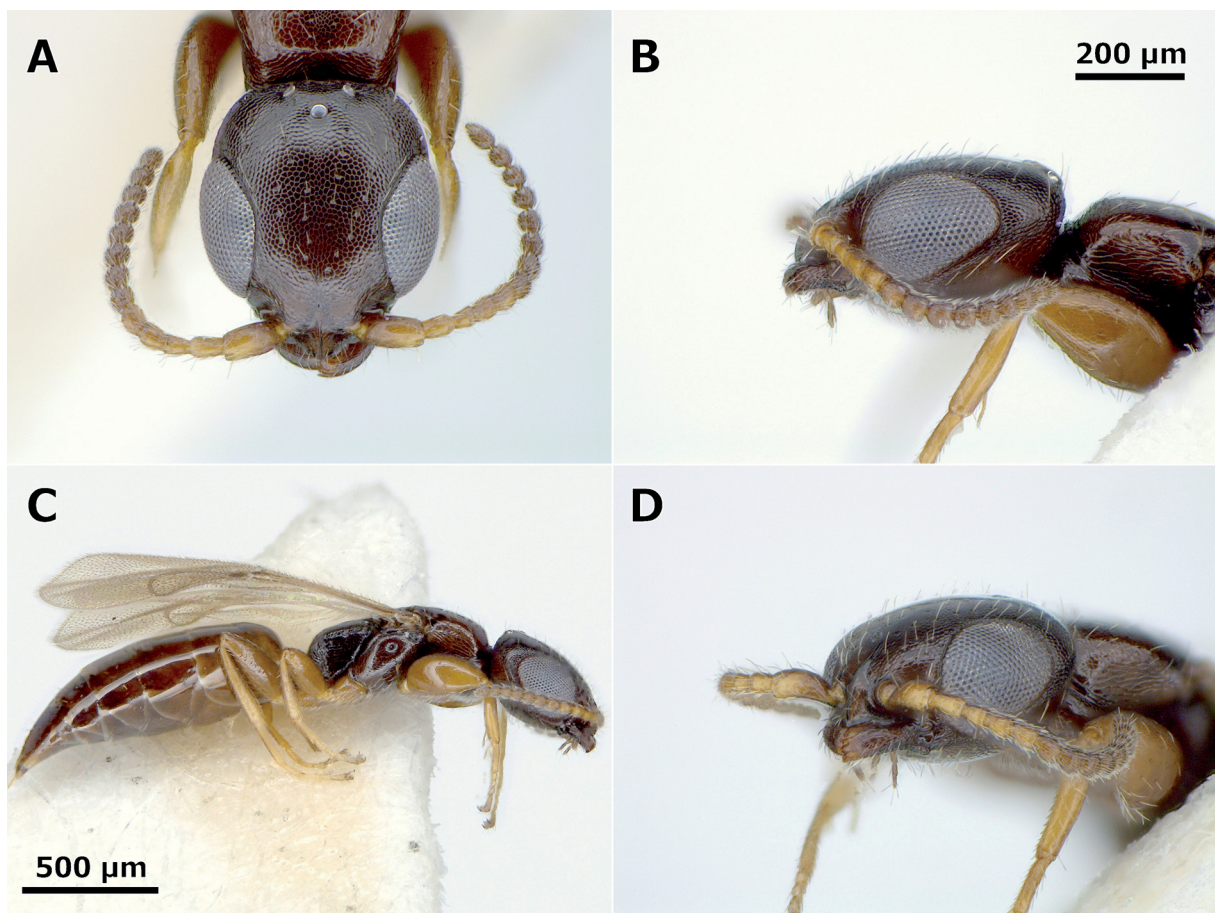


Fig. 161. *Sierola pontilis* sp. nov., holotype, ♀ (ANIC 32-154869). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora brown, all tibiae and tarsi yellow-brown.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.45 mm; LM 0.72 mm; WH/LH 0.87; DH/LH 0.59; EV/HE 0.46; EV/WF 0.55; WF/HE 0.84; WH/WF 1.97; OOL/WOT 1.08; DM/LM 0.42; FL/FW 2.06; HFL/HFW 2.59; A3 L/W 1.30; 2R1 L/W 3.08.

Distribution

Tasmania; known only from two specimens.

Sierola porticola sp. nov.

urn:lsid:zoobank.org:act:A21D64F0-BC50-4157-B1EB-66249EDA1D66

Figs 162–163

Diagnosis

Among species with the basal wing cells glabrous, head convex dorsally, and clypeus evenly curved in profile, distinguished by the orange-brown mandible, flattened head, and S6 evenly covered with short, anteriorly-directed setae. Some specimens of *S. carinifrons* sp. nov. also have the mandible pale, but also have the propodeum with a broad median polished strip extending the full length of the dorsal surface and frons microsculpture smooth; in *S. porticola* sp. nov. the propodeum is polished only in a triangle covering the basal $\frac{1}{3}$ and the frons microsculpture coriaceous.

Etymology

From the Latin ‘*portus*’, ‘harbor’, + ‘*-cola*’, ‘dweller’, referring to the collection of this species near Waterloo Bay.

Type material

Holotype

AUSTRALIA – South Australia • ♀; Elliston; 14 Nov. 1992; L.S. and R.B. Kimsey leg.; UCDC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart (largely obscured by microsculpture). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate

microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity (smooth but faintly microreticulate back to declivity); transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum evenly covered with short, anteriorly-directed setae.

COLOR. Body entirely dark brown to black. Antenna with scape brown basally, otherwise nearly all yellow. Mandible mostly orange-brown, basal third black. Coxae, trochanters, and femora dark brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

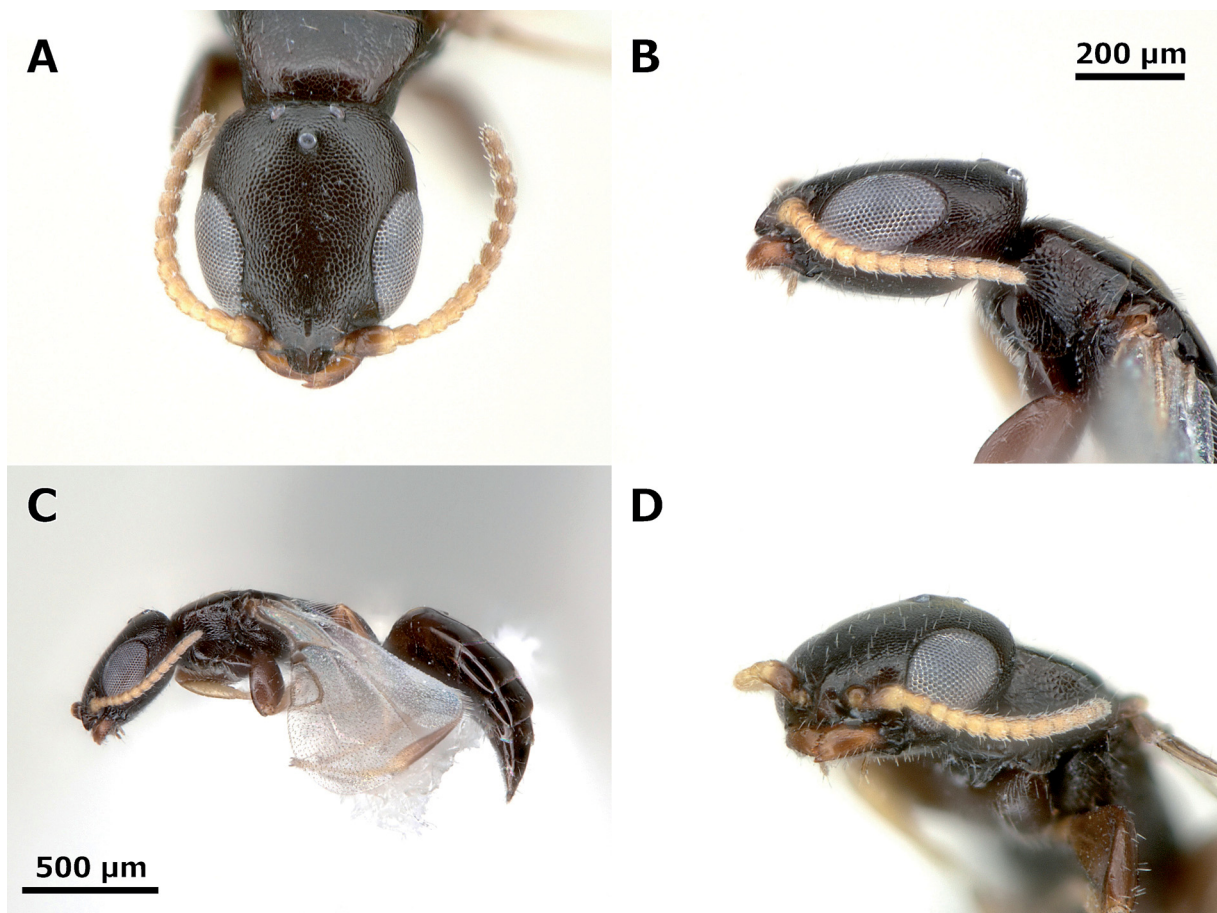


Fig. 162. *Sierola porticola* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

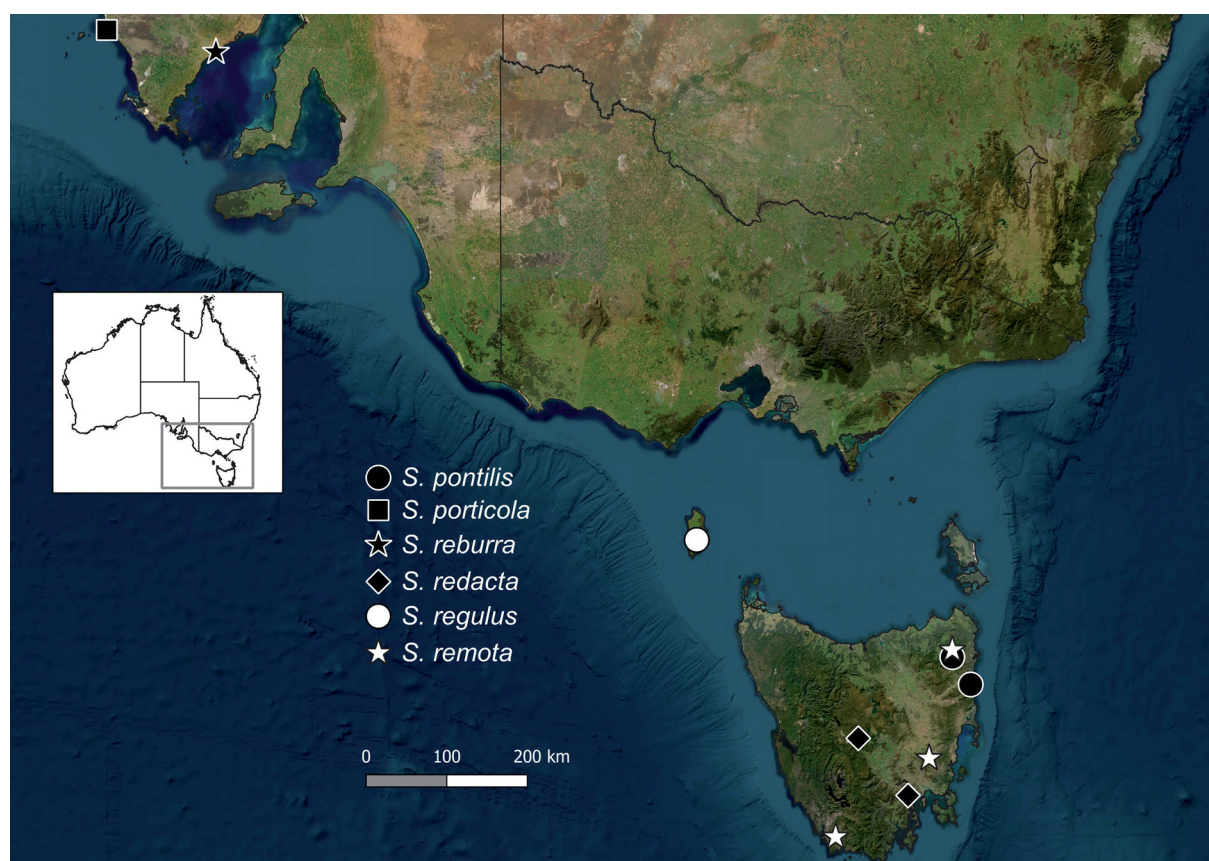


Fig. 163. Map of collection records of *Sierola pontilis* sp. nov., *S. porticola* sp. nov., *S. reburra* sp. nov., *S. redacta* sp. nov., *S. regulus* sp. nov., and *S. remota* sp. nov.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle (apex of Rs faint or absent but last segment of C clearly present and pigmented).

MEASUREMENTS. LFW 1.57 mm; LM 0.82 mm; WH/LH 0.84; DH/LH 0.52; EV/HE 0.62; EV/WF 0.72; WF/HE 0.86; WH/WF 1.87; OOL/WOT 1.15; DM/LM 0.32; FL/FW 2.00; HFL/HFW 2.08; A3 L/W 0.91; 2R1 L/W 2.56.

Distribution

South Australia; known only from the holotype, collected on the Eyre Peninsula.

Sierola proboscidis sp. nov.

urn:lsid:zoobank.org:act:1579CF03-94AA-4C6C-8786-4C07163D8B9D

Figs 159, 164

Diagnosis

Easily separated from nearly all other *Sierola* by the elongate trapezoidal clypeus, which is narrowly truncate apically and strongly convex dorsally. Closest to *S. redacta* sp. nov., distinguished by the narrower clypeus which is strongly curved in profile; broader head, with OOL/WOT much less (1.13–1.33 vs ~1.75); elongate setae of the vertex and gena; and sparsely setose basal wing cells. The form of

the clypeus resembles some species from Hawaii such as *S. winiwini* Magnacca, but in all those seen the clypeus is either flat or at least weakly carinate, not convex.

Etymology

From the Latin '*proboscidis*', 'snout', referring to the elongate, narrow clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Australian Capital Territory** • ♀; Honeysuckle Creek; 35°35' S, 149°00' E; 11–22 Apr. 1985; I.D. Naumann and J.C. Cardale leg.; Malaise trap/ethanol; ANIC 32-154870.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra, Cook, 8 Moss Street; 35.261° S, 149.0591° E; elev. 632 m; 9 Oct. 2010; C. Carr, P. Hebert, S. Kirk, J. McCormick and J. Sones leg.; BOLD: process ID HYAT264-11, BIN ABA1054; ANIC • 1 ♀; same data as for preceding; 30 Oct. 2010; BOLD: process ID HYAS784-11, BIN ABA1054; ANIC • 3 ♀♀; same data as for preceding; 18–24 Oct. 2011; P. Hebert leg.; Malaise trap; BOLD: process IDs AACTA1114-20, AACTA1145-20, AACTA1632-20, BIN ABA1054; ANIC. – **New South Wales** • 2 ♀♀; Royalla; 29 Mar. 1961; D.H. Colless leg.; ANIC. – **Queensland** • 1 ♀; Blunder Creek, Brisbane; 2–9 Oct. 1979; A. Hook and H.E. and M.A. Evans leg.; QM • 1 ♀; same data as for preceding; 1–7 Nov. 1979; QM. – **South Australia** • 1 ♀; Mt Barker; 12 Dec. 1989–2 Jan. 1990; A.D. Austin and R. Wharton leg.; SAMA. – **Victoria** • 1 ♀; Parkville, Melbourne; 18 Feb. 1985; K. Walker leg.; on *Eucalyptus*; MVMA HYM-86596 • 1 ♀; Melbourne, Roadside, Reids Road; 37°44' S, 144°20' E; 19 May 1993; B. Van Praagh and P. Lillywhite leg.; Melbourne Western Region Survey, canopy fogging grey box woodland. rep. 1; MVMA HYM-86619.

Description

Female

HEAD. Clypeal process elongate trapezoidal to rounded triangular, apex truncate; dorsally with a broad, rounded ridge; in profile elongate, evenly curved, apex acute. Mandible moderately narrow, more or less parallel-sided to slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture evident but smooth and shining to finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight or very slightly concave; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye flat, with a broad area of distinct tessellate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent, median area with

a narrow polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane hyaline or weakly infusate. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle (rarely faint at apex or not reaching wing margin).

MEASUREMENTS. LFW 1.71 mm; LM 0.94 mm (0.78–1.11); WH/LH 0.87 (0.83–0.92); DH/LH 0.51 (0.49–0.55); EV/HE 0.52 (0.43–0.58); EV/WF 0.52 (0.43–0.58); WF/HE 1.00 (0.95–1.03); WH/WF

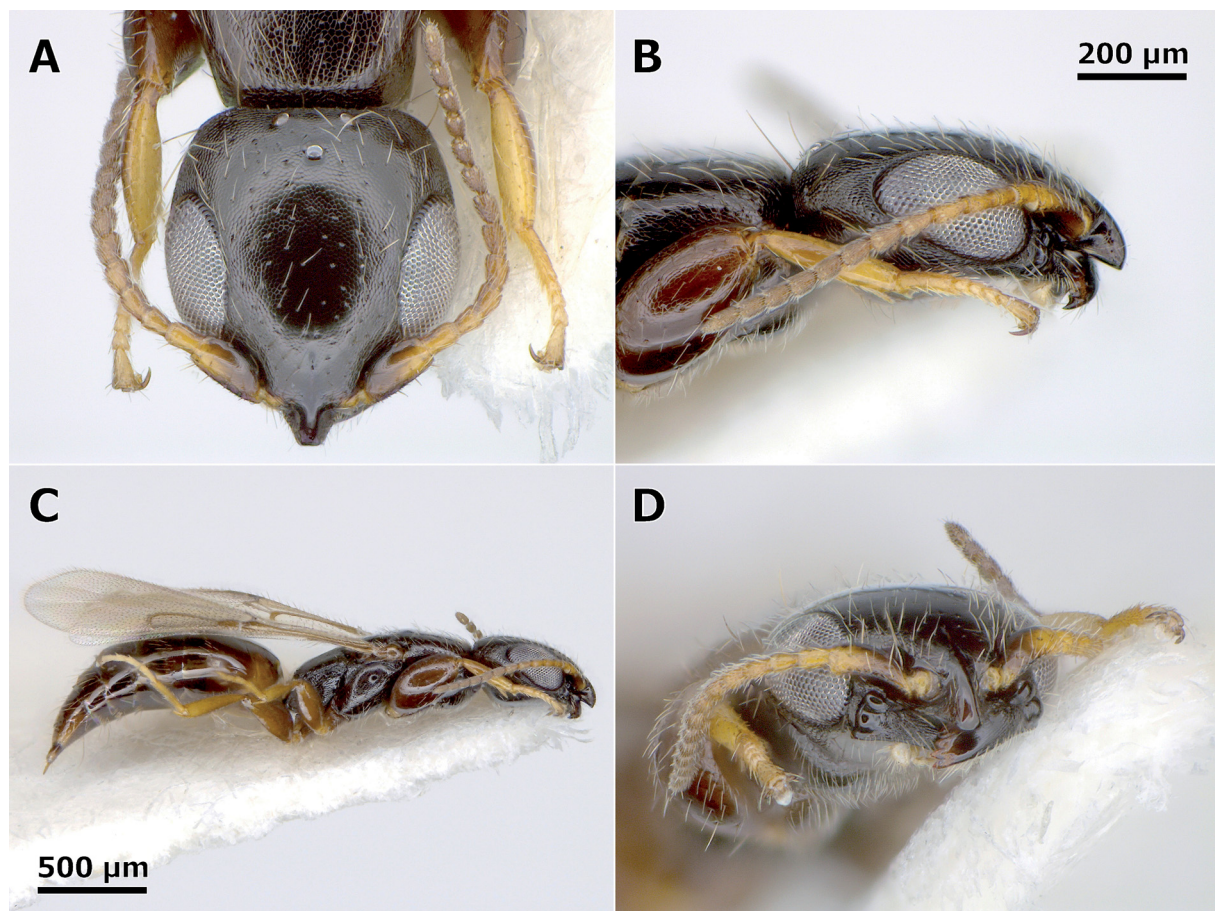


Fig. 164. *Sierola proboscidis* sp. nov., holotype, ♀ (ANIC 32-154870). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

1.79 (1.77–1.85); OOL/WOT 1.15 (1.13–1.33); DM/LM 0.38; FL/FW 1.96 (1.83–1.97); HFL/HFW 2.17 (2.16–2.31); A3 L/W 1.30 (1.11–1.33); 2R1 L/W 3.14. N = 13.

Distribution

Queensland, New South Wales, Australian Capital Territory, Victoria, and South Australia. Widespread across the southeast.

Remarks

In smaller specimens where the mandibles are partly opened, the size and shape of the clypeus may not be as clearly observed. However, the peculiar dorsal ridge (somewhat broad, flat or broadly convex, and shiny) is very distinctive. The apex of Rs is somewhat variable; in most specimens it clearly reaches the wing margin, but sometimes is weakly pigmented distally, and in one specimen clearly ends short, with the poststigmatal abscissa of R1 also absent. The last is part of a series of specimens collected together and sequenced, and all are identical in DNA. In one of the Queensland specimens cell 1M is unusually small and narrow, but the other collected with it is normal.

Sierola pumila sp. nov.

urn:lsid:zoobank.org:act:D79345A7-BB33-4002-8E52-538AEB9C410B

Figs 165, 190

Diagnosis

Part of the large complex of species with the head convex dorsally, basal wing cells setose, and head compressed. Separated from similar species by the elongate vertex and gena setae, strongly compressed head (DH/LH ~0.48), carinate occipital margin, and sparsely setose basal wing cells.

Etymology

From the Latin '*pumilis*', 'small', referring to the diminutive size.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Cockatoo Creek; 11°39' S, 142°27' E; 20 Apr.–20 May 1994; P. Zborowski leg.; flight intercept trap; ANIC 32-154871.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; Bramston Beach; 17°21' S, 146°01' E; 14 Dec. 1991; C.J. Burwell leg.; ex ethanol; QM.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly polished, smooth, shining; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view slightly convex; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly

convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to anterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible orange. Procoxa and femur yellow except dorsal margin of femur, meso- and metafemora brown, tibiae, tarsi, and trochanters yellow.



Fig. 165. *Sierola pumila* sp. nov., holotype, ♀ (ANIC 32-154871). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.01 mm; LM 0.59 mm; WH/LH 0.80; DH/LH 0.45; EV/HE 0.71; EV/WF 0.68; WF/HE 1.04; WH/WF 1.70; OOL/WOT 1.30; DM/LM 0.31; FL/FW 1.83; HFL/HFW 2.00; A3 L/W 0.75; 2R1 L/W 3.09.

Distribution

Queensland; known from two specimens collected in the Cairns and Cape York regions.

Sierola reburra sp. nov.

urn:lsid:zoobank.org:act:88873A82-4C6E-4EB7-9485-1641C9FD2882

Figs 163, 166

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, dense frons punctation, and the basal wing cells very densely setose. Close to *S. vulsa* sp. nov. in having the long setae yellow-brown rather than black; joined with *S. dolichotrrix* sp. nov. in having the head narrow and a sharp, thin, laminate clypeal carina, continuous from the anterior to dorsal surface between the antennal sockets, distinguished by the black mandible and metasomal T4–6 with faint but distinct dorsal microreticulation.

Etymology

From the Latin '*reburrus*', 'bristling', referring to the long setae of the head.

Type material

Holotype

AUSTRALIA – South Australia • ♀; Arno Bay; elev. 20 m; 9–19 Jan. 2019; J.L. Holder leg.; MABJH2, sand dune, small bowl shaped area, lots of flowering shrubs and some *Eucalyptus* and *Acacia* plants near by, tied to dead tree near thorn bush; SAMA.

Description

Female

HEAD. Clypeal process triangular, apex pointed; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile strongly arched, vertical or slightly recurved at apex, carina extending above antennal sockets. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with shallow, close punctures, mostly about 1 pit width apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous

ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining with faint microsculpture laterally, T4–6 with faint microsculpture dorsally. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum evenly pilose, with dense short erect setae.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora dark brown to black, tibiae brown except at base and apex, trochanters and tarsi yellow.

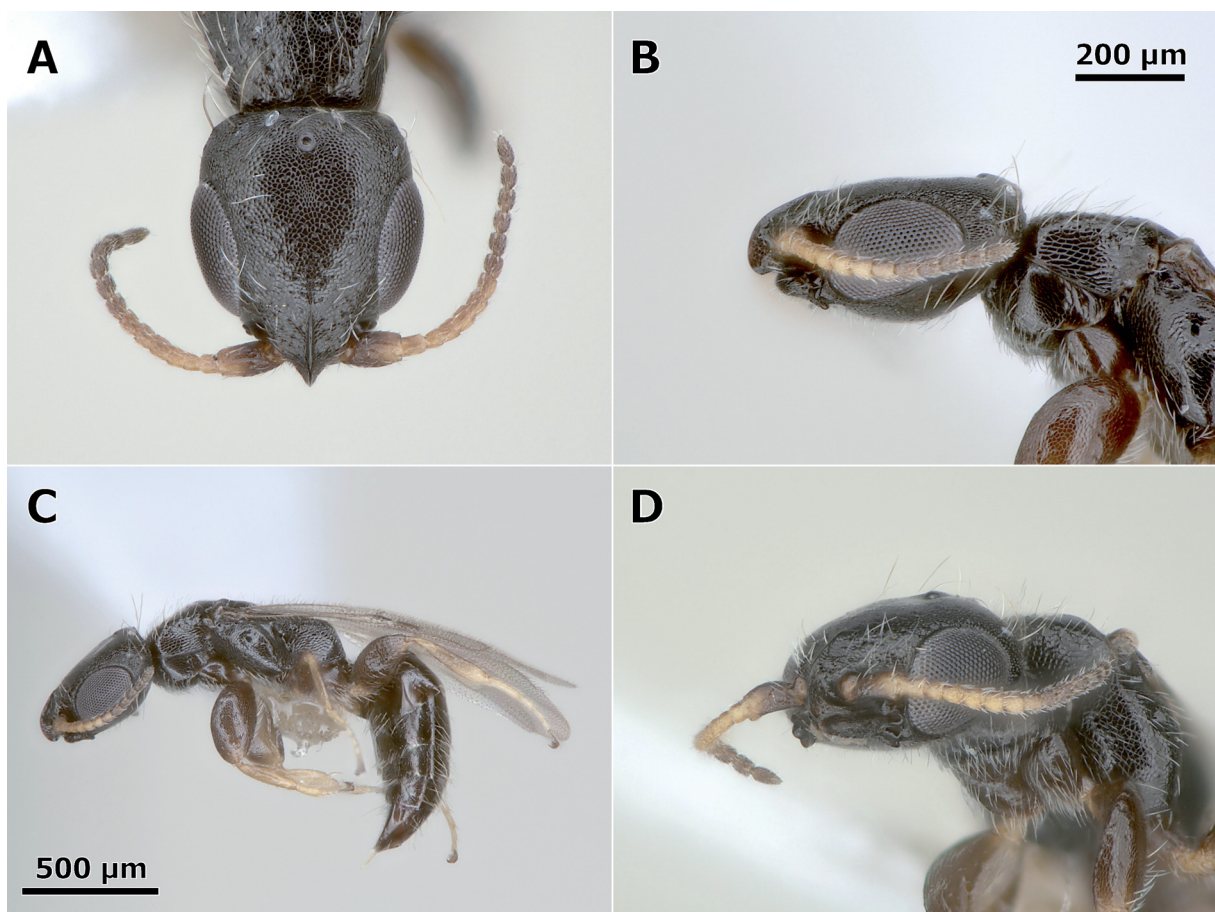


Fig. 166. *Sierola reburra* sp. nov., holotype, ♀ (SAMA). A. Head, dorsal. B. Head, lateral. C. Lateral habitus. D. Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.45 mm; LM 0.80 mm; WH/LH 0.82; DH/LH 0.53; EV/HE 0.47; EV/WF 0.50; WF/HE 0.95; WH/WF 1.74; OOL/WOT 1.00; DM/LM 0.36; FL/FW 1.82; HFL/HFW 1.86; A3 L/W 1.00; 2R1 L/W 2.79.

Distribution

South Australia; known only from the holotype, collected on the Eyre Peninsula.

Sierola redacta sp. nov.

urn:lsid:zoobank.org:act:B8F83255-FEED-4FFC-A95D-0E19A9A7D5DC

Figs 163, 167

Diagnosis

Easily separated from nearly all other *Sierola* by the elongate trapezoidal clypeus, which is narrowly truncate apically and strongly convex dorsally. Closest to *S. proboscidis* sp. nov., distinguished by the broader clypeus which is weakly curved in profile; narrower head, with OOL/WOT much greater (1.60–1.90 vs 1.00–1.30); short vertex and gena setae; and densely setose basal wing cells.

Etymology

From the Latin '*redactus*', 'shortened', referring to the truncate clypeus.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 14 km S of Bronte Park; 42°15' S, 146°29' E; 15 Jan.–3 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154872.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; Shoobridge Bend, Mt Wellington; 42°54' S, 147°15' E; 5 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description

Female

HEAD. Clypeal process elongate trapezoidal, apex truncate; dorsally rounded, convex, lacking a carina; in profile elongate, evenly curved, apex acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous to finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye flat, with a broad area of distinct tessellate

microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Head and mesosoma black, metasoma brownish. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

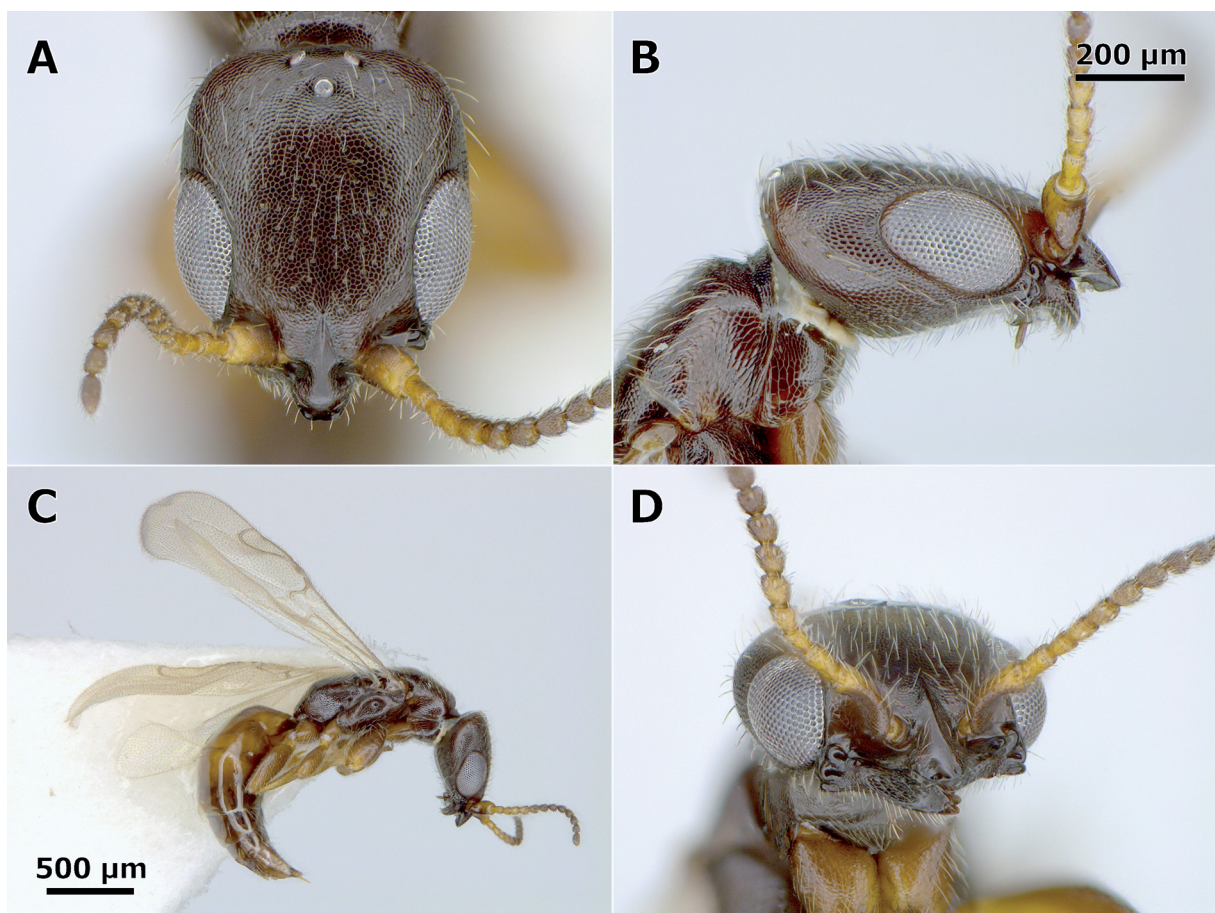


Fig. 167. *Sierola redacta* sp. nov., holotype, ♀ (ANIC 32-154872). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.02 mm; LM 0.95 mm; WH/LH 0.80; DH/LH 0.47; EV/HE 0.74; EV/WF 0.64; WF/HE 1.15; WH/WF 1.69; OOL/WOT 1.75; DM/LM 0.37; FL/FW 2.08; HFL/HFW 2.30; A3 L/W 1.06; 2R1 L/W 2.84.

Distribution

Tasmania; known from two specimens taken in the southern half of the island.

Sierola regulus sp. nov.

urn:lsid:zoobank.org:act:C406842A-0FB6-4EF9-800F-4B1F3DCD1CE0

Figs 163, 168

Diagnosis

Among species with the head convex dorsally, basal wing cells setose, and mandible black, easily recognized by the combination of cell 2R1 open (vein Rs not reaching the wing margin) and ocellar triangle strongly obtuse. Closest to *S. gingera* sp. nov., sharing the ocellar triangle, but differing in having the vertex and gena setae are not so strong and in the wing venation. Also similar to *S. crinita* sp. nov., differing in the elongate vertex and gena setae, broader head, and ocellar triangle.

Etymology

From the Latin '*regulus*', 'diminutive of king', from the collection of the unique type on the small King Island.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; King Is., Pegarah Nature Reserve; 39.9441° S, 143.9905° E; 19 Nov.–16 Dec. 2023; S.J. Grove, L. Cambra and M. Beattie leg.; Malaise trap series 3; TMAG F180575.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view distinctly elbowed externally, internal margin nearly straight. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle present posteriorly, not prominent, head relatively flat. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present laterally, obsolete medially; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S4–6 each with a pair of long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown to black. Mandible black. Legs all dark brown to black.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

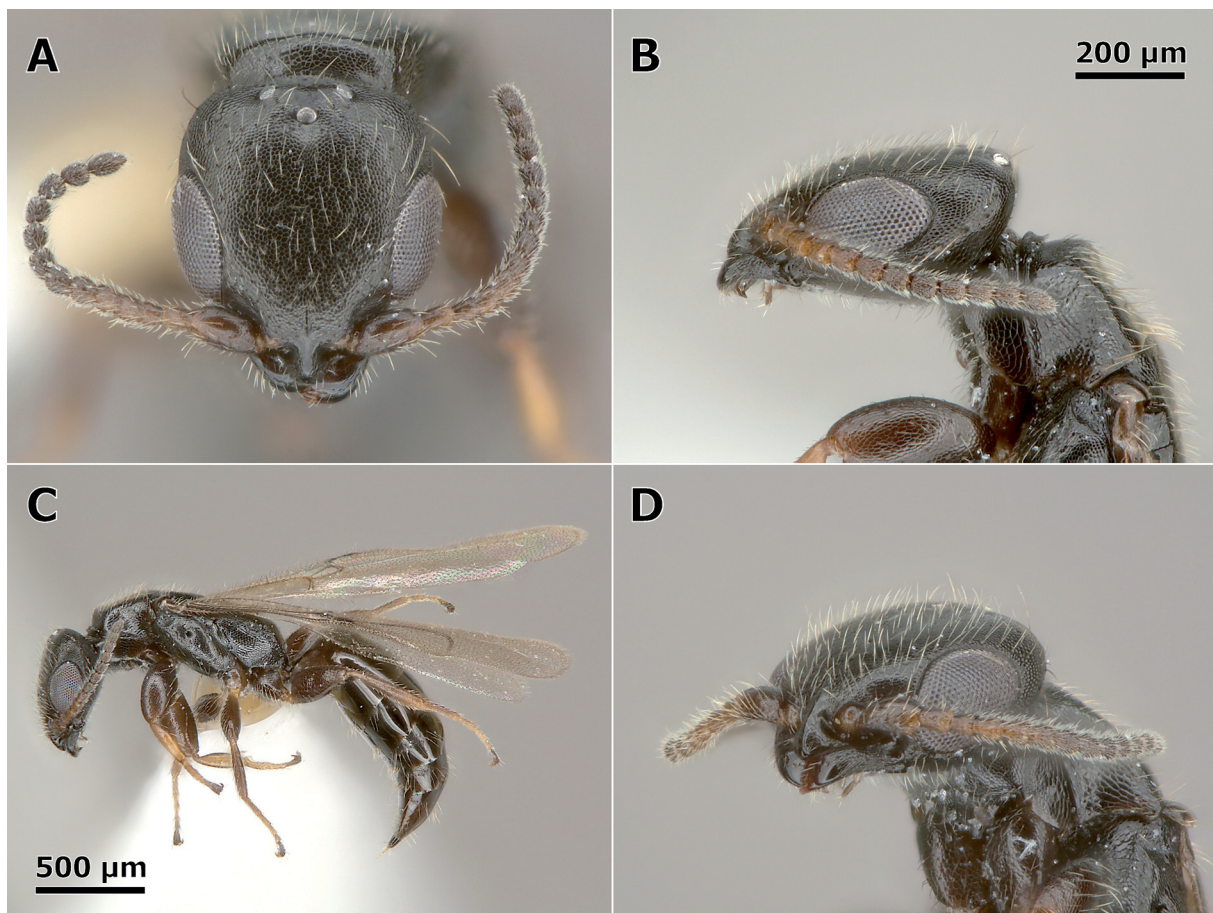


Fig. 168. *Sierola regulus* sp. nov., holotype, ♀ (TMAG F180575). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.99 mm; LM 0.98 mm; WH/LH 0.89; DH/LH 0.52; EV/HE 0.56; EV/WF 0.50; WF/HE 1.13; WH/WF 1.64; OOL/WOT 1.00; DM/LM 0.37; FL/FW 1.96; HFL/HFW 2.13; A3 L/W 1.00; 2R1 L/W 3.20.

Distribution

Tasmania; known only from the holotype, collected on King Island.

Sierola remota sp. nov.

urn:lsid:zoobank.org:act:1F9C8388-0DCF-45FE-BC2B-24D1F863A88D

Figs 163, 169

Diagnosis

Distinguished by the combination of the head moderately deep (DH/LH ~0.55) and convex dorsally; mandible narrow, parallel-sided, strongly convex outwardly, and black to reddish brown; ocellar triangle strongly acute; and basal wing cells densely setose. Closest to *S. bidawal* sp. nov., but the clypeus is distinctly curved in profile and dorsally smoothly convex, not carinate or angulate, the mandible is very different, and the head much more convex ventrally.

Etymology

Referring to the type locality in the southwest of Tasmania, accessible only by boat or a long foot journey.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Claytons, Bathurst Harbor; 43°22' S, 146°08' E; 3 Dec. 1990–15 Jan. 1991; Nielsen and Edwards leg.; Malaise trap; ANIC 32-154873.

Paratypes

AUSTRALIA – **Tasmania** • 1 ♀; 4 km SE of Weldsborough; 41°14' S, 147°56' E; 13 Jan.–7 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC • 1 ♀; Woodsdale; 42.479° S, 147.576° E; 8 Oct. 1986; R. Bashford leg.; Malaise trap; TMAG F151430.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex broadly rounded; dorsally rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining near apex, remainder coriaceous; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Genal angle broadly rounded, or head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate

sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with moderately dense setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black to reddish brown. Coxae and femora dark brown to black, all tibiae and tarsi yellow-brown.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

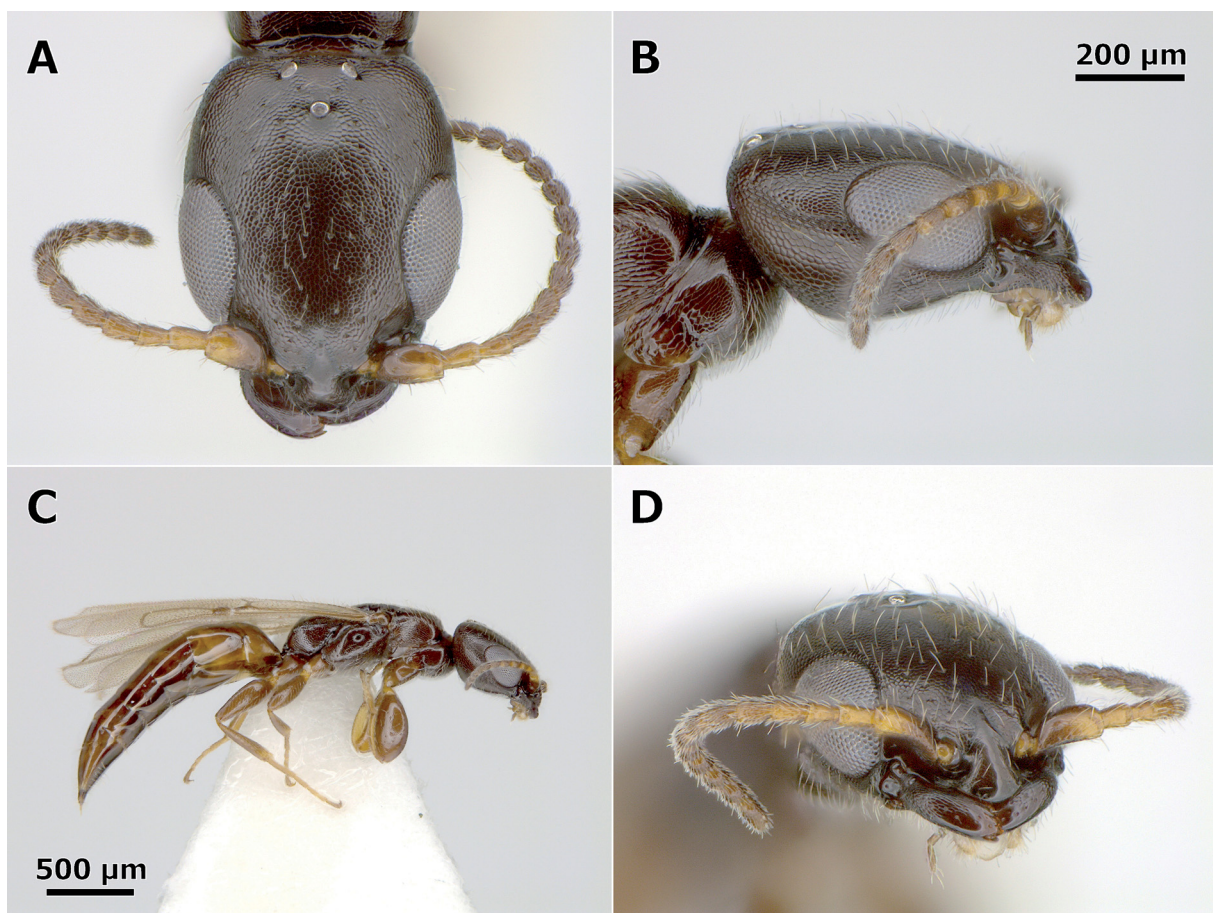


Fig. 169. *Sierola remota* sp. nov., holotype, ♀ (ANIC 32-154873). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.93 mm; LM 0.95 mm (0.94–1.00); WH/LH 0.79 (0.76–0.79); DH/LH 0.55 (0.53–0.55); EV/HE 0.74 (0.74–0.82); EV/WF 0.71 (0.71–0.78); WF/HE 1.04 (1.00–1.08); WH/WF 1.77 (1.73–1.80); OOL/WOT 1.48 (1.42–1.50); DM/LM 0.40; FL/FW 1.83 (1.83–1.93); HFL/HFW 2.57 (2.48–2.57); A3 L/W 1.60 (1.48–1.60); 2R1 L/W 3.00. N = 3.

Distribution

Tasmania; known from three widely separated specimens, one each from the northeast, east-central, and southwest areas.

Remarks

The Woodsdale paratype has the mandible distinctly reddish brown, rather than black as in the other two specimens, but is otherwise identical.

Sierola rotundiceps sp. nov.

urn:lsid:zoobank.org:act:A2F6D57D-E7C9-466C-9A9F-48A22FAABDEC

Figs 159, 170

Diagnosis

Distinguished from most other species by having the head both broad and deep, strongly convex dorsally and ventrally. Closest to *S. elasson* sp. nov. and *S. stilboparia* sp. nov.; separated from the former by having the head broadly convex ventrally and lacking the median propodeal carina, from the latter by the deeper head (DH/LH 0.62–0.64), and from both by the strongly acute ocellar triangle, narrow metafemur, and entirely coriaceous gena.

Etymology

Referring to the strongly rounded head, in both dorsal and lateral view.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Ballarat; emerged 29 Oct. 1980; B.J. Iles leg.; ex *Narycia* [= *Lepidoscia*] *cataphracta*; ANIC 32-154874.

Paratypes

AUSTRALIA – **New South Wales** • 1 ♀; Toms Cabin, New England National Park; 30°30' S, 152°24' E; 2–15 Oct. 1984; I.D. Naumann and J.C. Cardale leg.; Malaise trap/ethanol; ANIC. – **Victoria** • 2 ♀♀, 2 ♂♂; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical or very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli

distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

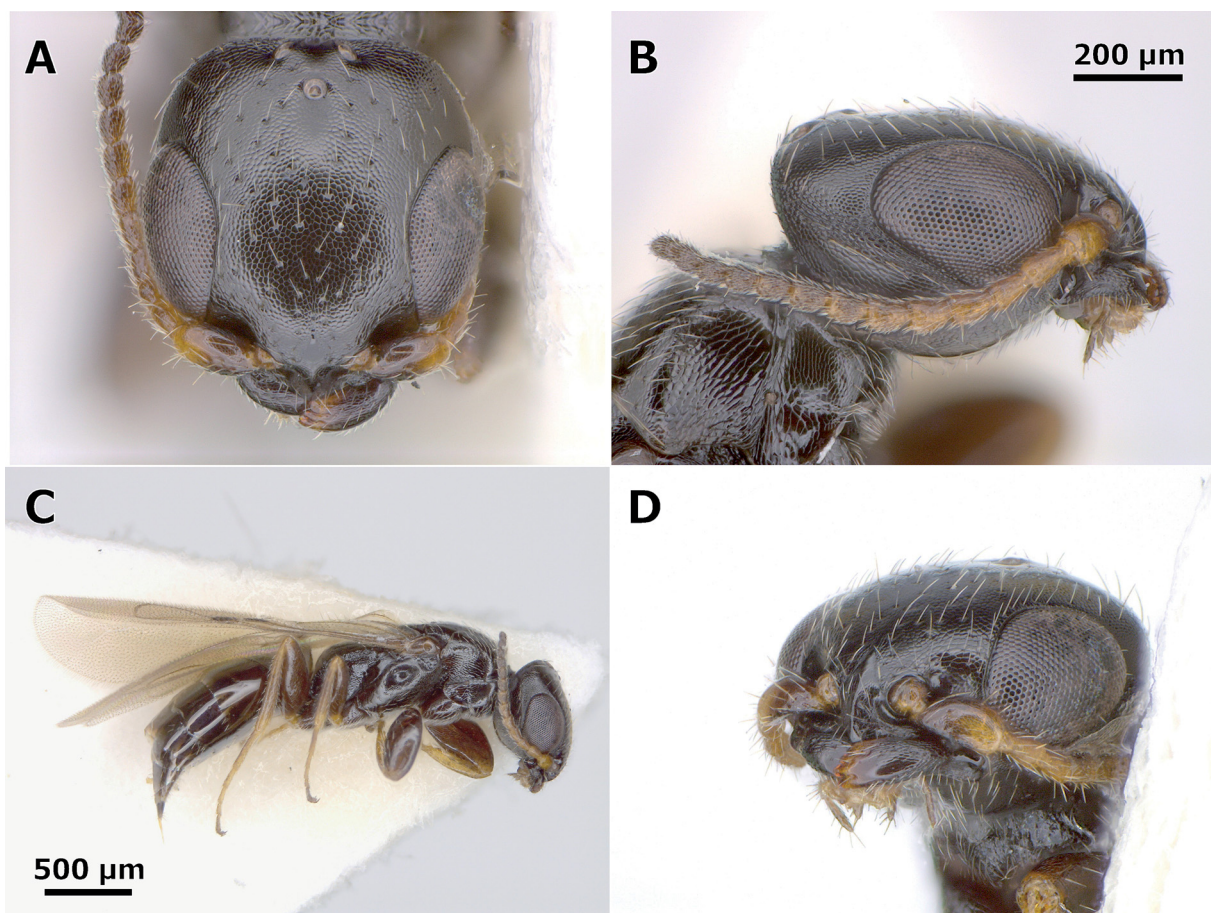


Fig. 170. *Sierola rotundiceps* sp. nov., holotype, ♀ (ANIC 32-154874). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora dark brown to black, tibiae dark brown, trochanters, tarsi, and bands at bases and apices of tibiae orange.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.40 mm; LM 1.19 mm (0.97–1.19); WH/LH 0.95 (0.92–0.95); DH/LH 0.64 (0.62–0.64); EV/HE 0.49 (0.49–0.57); EV/WF 0.47 (0.47–0.58); WF/HE 1.04 (0.95–1.04); WH/WF 1.84 (1.82–1.86); OOL/WOT 1.42 (1.40–1.42); DM/LM 0.42; FL/FW 2.00 (2.00–2.10); HFL/HFW 2.69 (2.69–2.82); A3 L/W 1.51 (1.50–1.51); 2R1 L/W 2.73. N = 4.

Male

Similar to female with the following exceptions. *Head.* Moderately convex dorsally. *Color.* Antenna yellow on scape and basal half of flagellum, apical half brown. Mandible yellow.

MEASUREMENTS. LFW 1.79–1.86 mm; LM 0.89–0.95 mm; WH/LH 0.92–0.98; DH/LH 0.59–0.65; EV/HE 0.51–0.55; EV/WF 0.51–0.55; WF/HE 1.00; WH/WF 1.85; OOL/WOT 1.19–1.24; DM/LM 0.40; FL/FW 2.26–2.33; HFL/HFW 2.89–2.90; A3 L/W 1.50–1.57; 2R1 L/W 2.56–2.58.

Distribution

New South Wales and Victoria; known from two collections.

Ecology

The type series was reared from *Lepidoscia cataphracta* (Meyrick, 1893) (Psychidae Boisduval, 1828), a case-making moth that feeds on lichens (Zborowski & Edwards 2007).

Sierola samiata sp. nov.

urn:lsid:zoobank.org:act:B4CB7A60-78C4-4F42-BDC4-F0874AC6C271

Figs 159, 171

Diagnosis

Part of a species complex with *S. koala* sp. nov. and *S. platyrhyncha* sp. nov., characterized by the broad, flat clypeus which is curved in profile, highly polished, and largely impunctate; head broad and compressed; and vertex concave in dorsal view. Separated from the former by having the basal wing cells nearly glabrous rather than sparsely setose, frons scarcely broader than an eye length, ocellar triangle anterior angle strongly obtuse, and propodeum with a broad polished strip; and from the latter by the reddish brown to orange mandible and slightly deeper head.

Etymology

From the Latin '*samiatus*', 'polished', referring to the strongly shining clypeus.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; near Westcott Plain, Bunya Mts National Park; 26°52' S, 151°34' E; 6–7 Oct. 1984; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154875.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Boggomoss 30 via Taroom; 25°29' S, 150°08' E; 14 Nov. 1996–Jan. 1997; D. Cook and G. Monteith leg.; baited flight intercept 057; QM T33421 • 1 ♀; Bunya Mts National Park, Cherry Plain Picnic Area; 26°51'04" S, 151°33'42" E; 18–19 Dec. 2002; J. Munro leg.; YPT [yellow pan trap]; UCRC 126809.

Description

Female

HEAD. Clypeal process somewhat elongate, semicircular at the apex, apex rounded; dorsally flat, not carinate, slightly convex only laterally; in profile steep and short, evenly curved. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible strongly oblique, with ventral tooth relatively large, second moderate, two dorsal teeth tiny. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view broadly, shallowly concave; occipital margin carinate. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with

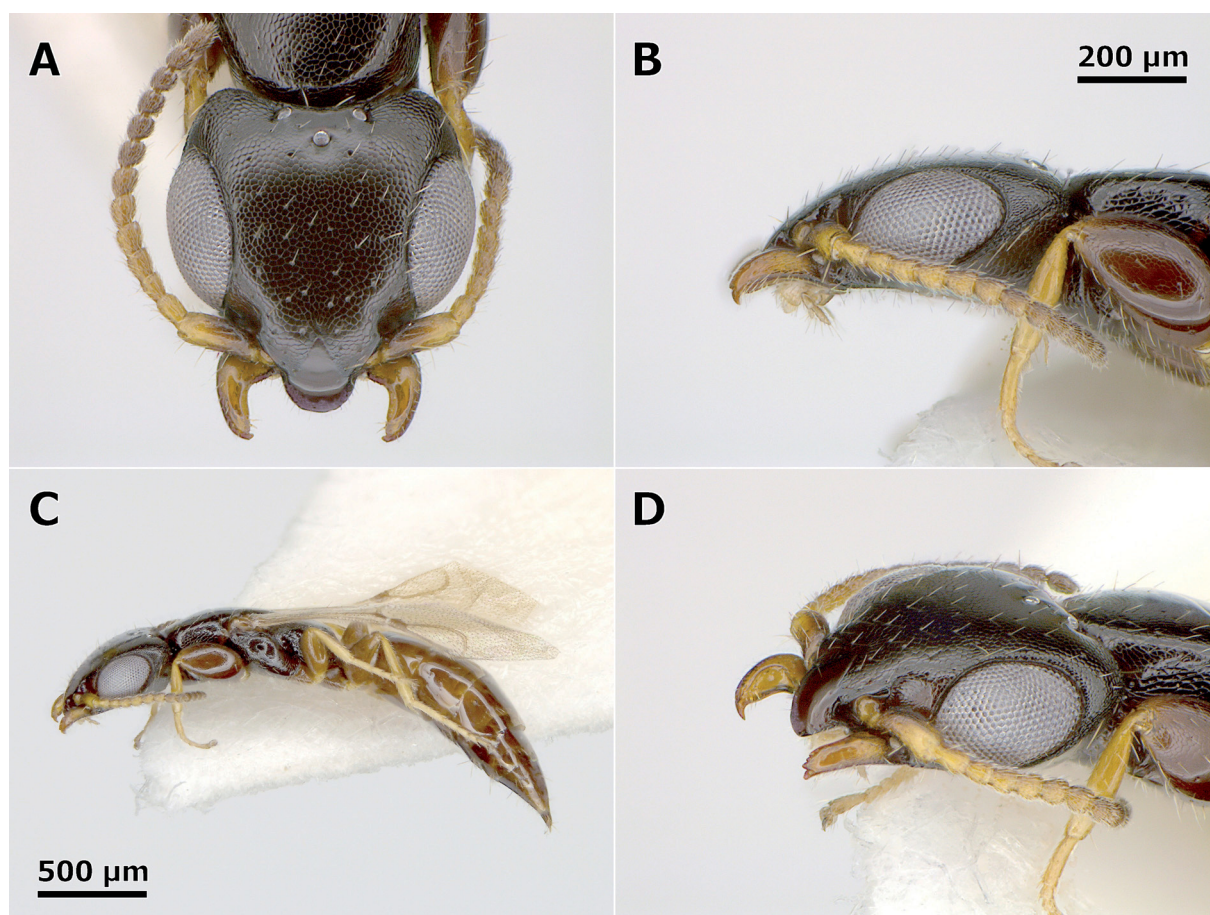


Fig. 171. *Sierola samiata* sp. nov., holotype, ♀ (ANIC 32-154875). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

relatively sparse setae. Genal angle present posteriorly, not prominent, head relatively flat. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression broad, shallow, V-shaped. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.55 mm; LM 0.89 mm (0.72–0.94); WH/LH 0.99 (0.97–0.99); DH/LH 0.49 (0.45–0.51); EV/HE 0.39 (0.36–0.39); EV/WF 0.37 (0.36–0.37); WF/HE 1.05 (1.00–1.05); WH/WF 1.84 (1.81–1.88); OOL/WOT 0.85 (0.83–1.02); DM/LM 0.34; FL/FW 1.91 (1.79–1.91); HFL/HFW 2.10 (2.10–2.23); A3 L/W 1.30 (1.23–1.30); 2R1 L/W 3.00. N = 3.

Distribution

Queensland; known from three specimens taken in the southeast.

Remarks

See Remarks under *S. platyrhyncha* sp. nov.

Sierola sarculata sp. nov.

urn:lsid:zoobank.org:act:5FD18322-0D0C-47F6-B716-3E64DFFD6CDA

Figs 159, 172

Diagnosis

A very distinctive species, with a very broad, flat clypeus, deep head which is strongly convex dorsally and angulate ventrally, twisted mandible, and densely setose basal wing cells. The unusual slightly upturned clypeal apex is shared with *S. nasuta* sp. nov., but they differ in most other respects.

Etymology

From the Latin ‘*sarculum*’, ‘hoe’, referring to the resemblance of the enlarged, flattened clypeus to the gardening implement.

Type material

Holotype

AUSTRALIA – Australian Capital Territory • ♀; Blundells Creek; 35°22' S, 148°50' E; Feb. 1987; D.H. Colless leg.; ANIC 32-154876.

Description

Female

HEAD. Clypeal process broad, elongate, semicircular at the apex, apex broadly rounded; dorsally flat, margins sharp; in profile straight, slightly upturned at apex. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; slightly bent ventrad and twisted, outwardly polished, smooth, shining; in ventral view obtusely elbowed. Apex of mandible vertical, with three subequal apical teeth and one small preapical ventral tooth. Malar space $\frac{1}{2}$ as long as width of base of mandible. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, close punctures, mostly about 1 pit width apart (sparser posterior of eyes). Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining, coarsely reticulate and dull laterally between eyes and vertex. Vertex in dorsal view very slightly concave; occipital margin narrowly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle very strongly acute. Head narrowed posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view

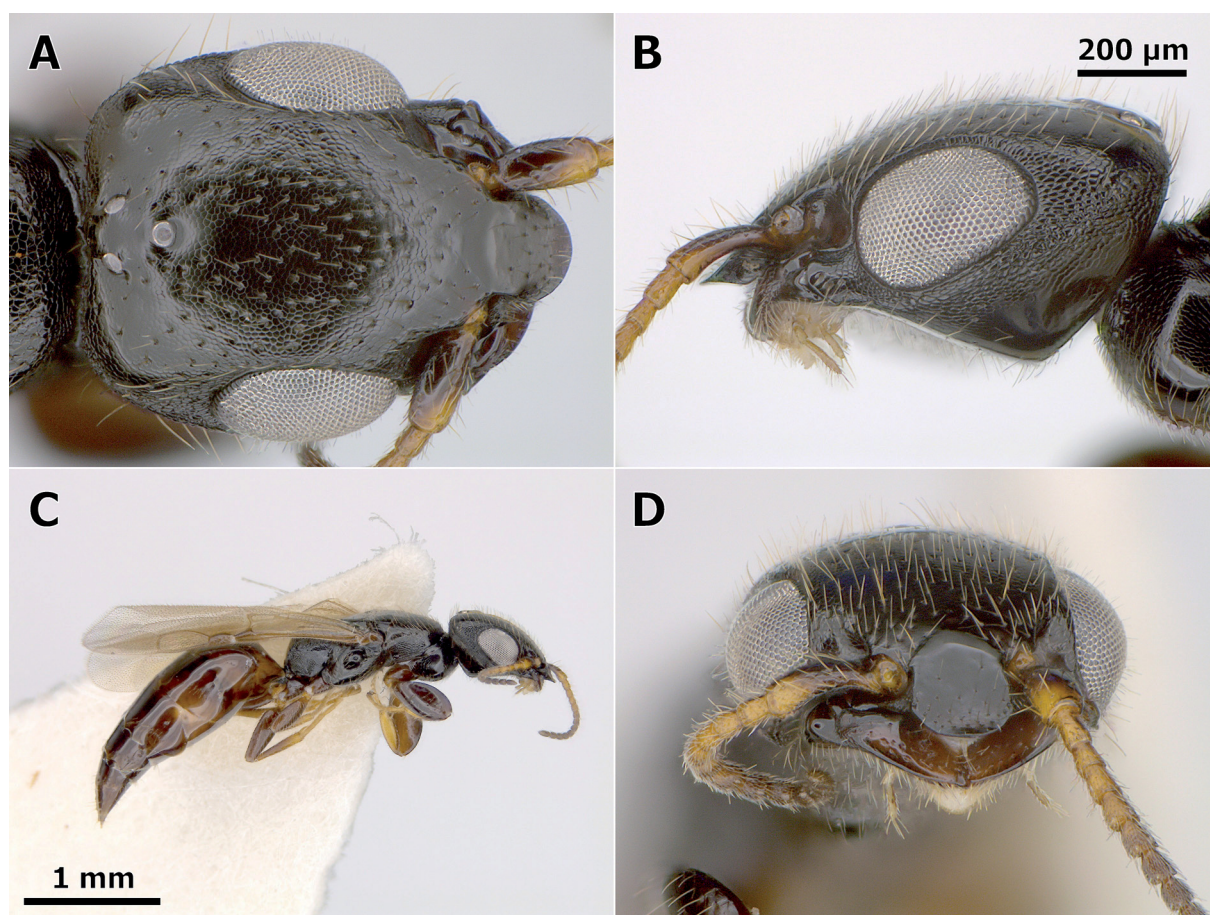


Fig. 172. *Sierola sarculata* sp. nov., holotype, ♀ (ANIC 32-154876). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

strongly convex, head deepest on line through eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture smooth and polished posterolaterally, reticulate ventrally and along posterior eye margin. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina distinct; transverse carina present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–6 each with a pair of long erect setae, those on S5–6 about twice as long as preceding. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.24 mm; LM 1.23 mm; WH/LH 0.81; DH/LH 0.55; EV/HE 0.69; EV/WF 0.52; WF/HE 1.38; WH/WF 1.58; OOL/WOT 1.84; DM/LM 0.38; FL/FW 1.94; HFL/HFW 2.13; A3 L/W 0.91; 2R1 L/W 2.26.

Distribution

Australian Capital Territory; known only from the holotype.

Sierola scaphogenia sp. nov.

urn:lsid:zoobank.org:act:AD756E2D-FE67-4E68-A8B6-BE8BA1A27FB9

Figs 153, 173

Diagnosis

A very distinctive species, immediately recognizable by the shape of the head in lateral view, with the venter posterior of the mouthparts strongly concave. The frons microsculpture is also unusual, colliculate anteriorly changing to coriaceous posterior of the eyes, obscuring the punctation.

Etymology

From the Greek ‘*skaphe*’, ‘hollowed’, + ‘*geneion*’, ‘chin’, referring to the shape of the venter of the head. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Ludlow; 33°37' S, 115°29' E; 2 Nov.–23 Dec. 1981; S.J. Curry leg.; Malaise/Tuart forest; ANIC 32-154877.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally rounded, convex, lacking a carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, more or less parallel-sided but slightly broader medially than at base or apex; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view distinctly elbowed externally, internal margin nearly straight. Apex of mandible slightly oblique, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons appearing impunctate (setae arising from shallow pits that are only visible at low angles). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture minutely colliculate between eyes, coriaceous posteriorly. Vertex in dorsal view slightly sinuate around ocellar triangle; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible very strongly concave in lateral view, with relatively sparse setae. Genal angle prominent, pointing slightly anteriorly. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side

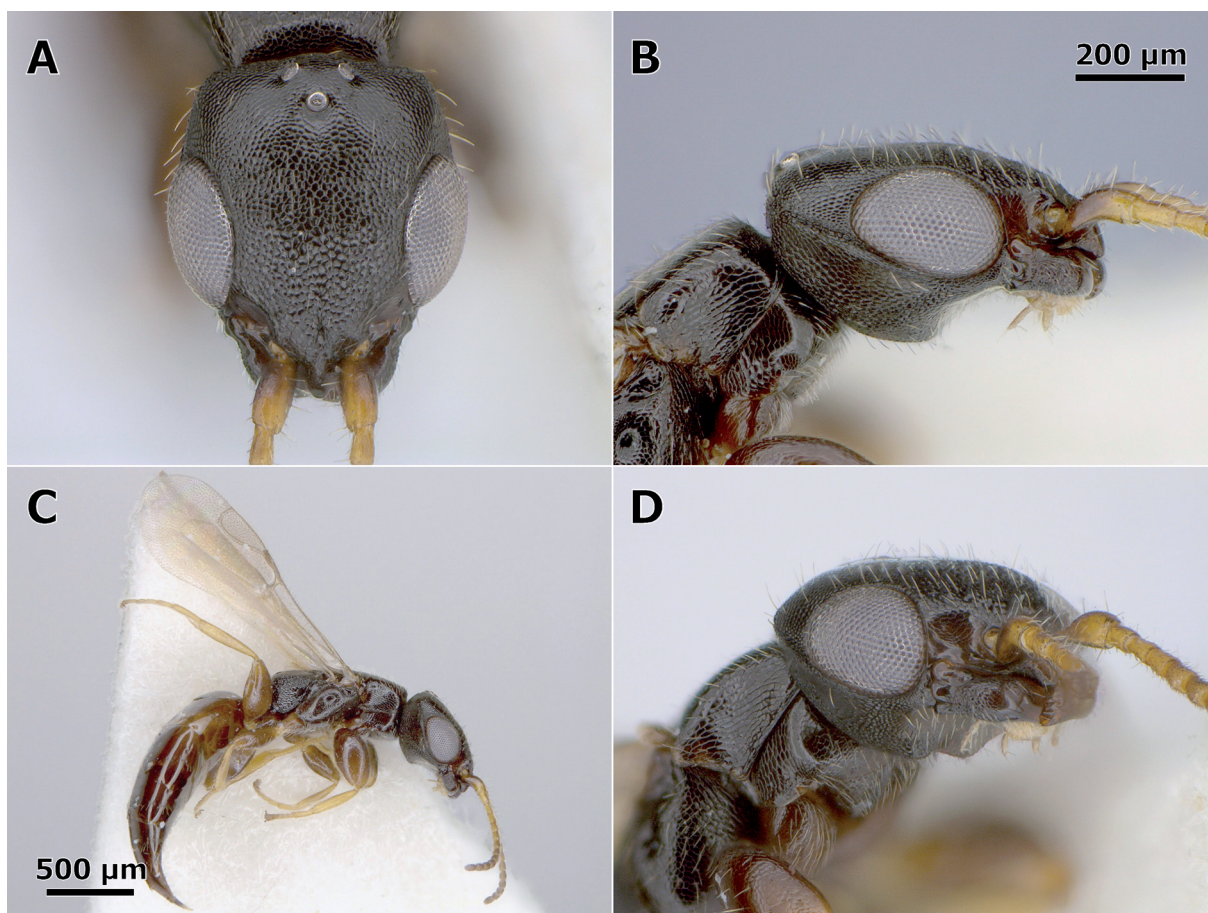


Fig. 173. *Sierola scaphogenia* sp. nov., holotype, ♀ (ANIC 32-154877). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate. Pronotal setae short, inconspicuous. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and apex brown, middle flagellomeres brown dorsally and orange ventrally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.68 mm; LM 0.89 mm; WH/LH 0.88; DH/LH 0.58; EV/HE 0.55; EV/WF 0.52; WF/HE 1.05; WH/WF 1.83; OOL/WOT 1.49; DM/LM 0.39; FL/FW 1.93; HFL/HFW 2.21; A3 L/W 1.43; 2R1 L/W 2.33.

Distribution

Western Australia; known only from the holotype taken in the far southwest.

Sierola scutula sp. nov.

urn:lsid:zoobank.org:act:B64FC83F-C96D-4F4A-BF14-B7DE56F08505

Figs 153, 174

Diagnosis

Among species with a strongly compressed body and flat head, separated from the *compressa* group by the relatively long, narrow, quadrate head. Closest to *S. antipoda*, distinguished by the sparsely setose basal wing cells and moderately narrow, parallel-sided mandible, smooth frons microsculpture, and head longer posterior of the eyes.

Etymology

From the Latin '*scutula*', 'lozenge', referring to the shape of the head. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; 22 km N of Eneabba; 29°38' S, 115°14' E; 13 Jun. 1995; L.S. and R.B. Kimsey leg.; ex *Eucalyptus*; UCDC 10108.

Description

Female

HEAD. Clypeal process semi-elliptical to very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from

base to apex, apical angle slightly acute. Mandible narrow to moderately narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina

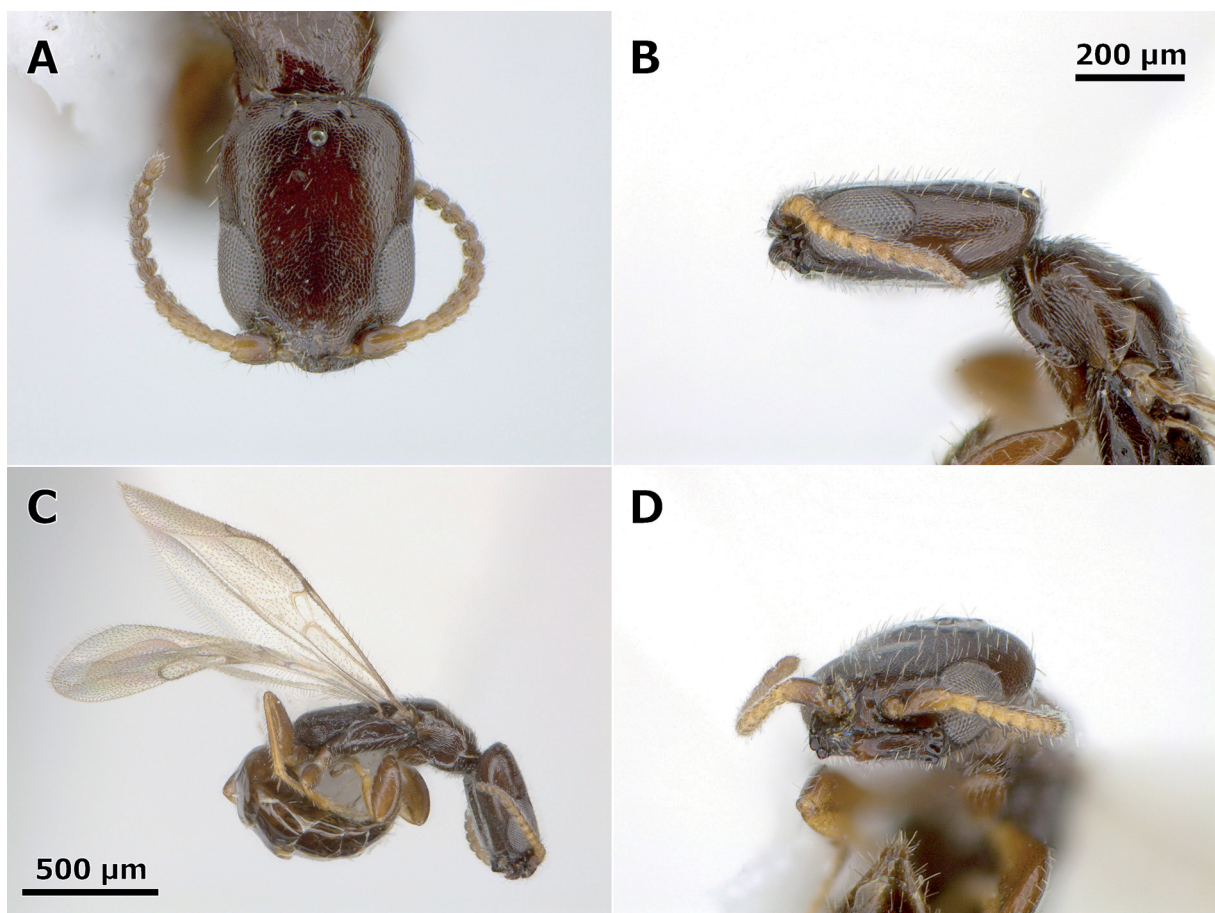


Fig. 174. *Sierola scutula* sp. nov., holotype, ♀ (UCDC 10108). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus (image flipped horizontally). **D.** Head, frontal.

absent, brow of declivity broadly rounded; metapleural carinae nearly absent, visible only beyond propodeal declivity. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible black. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.38 mm; LM 0.70 mm; WH/LH 0.71; DH/LH 0.37; EV/HE 1.11; EV/WF 1.08; WF/HE 1.02; WH/WF 1.75; OOL/WOT 1.49; DM/LM 0.25; FL/FW 2.24; HFL/HFW 2.17; A3 L/W 0.87; 2R1 L/W 2.83.

Distribution

Western Australia; known only from the holotype, collected near the west coast.

Sierola setosipennis sp. nov.

urn:lsid:zoobank.org:act:1803DA57-6F4C-462A-8429-BA776A29C164

Figs 159, 175

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, and basal wing cells sparsely setose; belonging to the subgroup with the ocellar triangle weakly acute to obtuse and head shorter posterior to the eyes. Closest to *S. trachycephala* sp. nov. in having the mandible weakly convex outwardly and basal wing cells densely setose; separated by having the clypeus evenly curved in profile and legs all yellow. The head is also slightly convex dorsally and ventrally, not narrowing anteriorly in lateral view as is typical in this group.

Etymology

From the Latin ‘*saetosus*’, ‘bristly’, + ‘*penna*’, ‘wing’, referring to the very dense setation of the basal wing cells.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; near Pomona; 27 Oct. 1965; E.M. Exley leg.; *Tristania suaveolens*; QM T262172.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad to moderately narrow, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex

and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture evenly coriaceous. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a sparse apical row of setae and a few additional erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

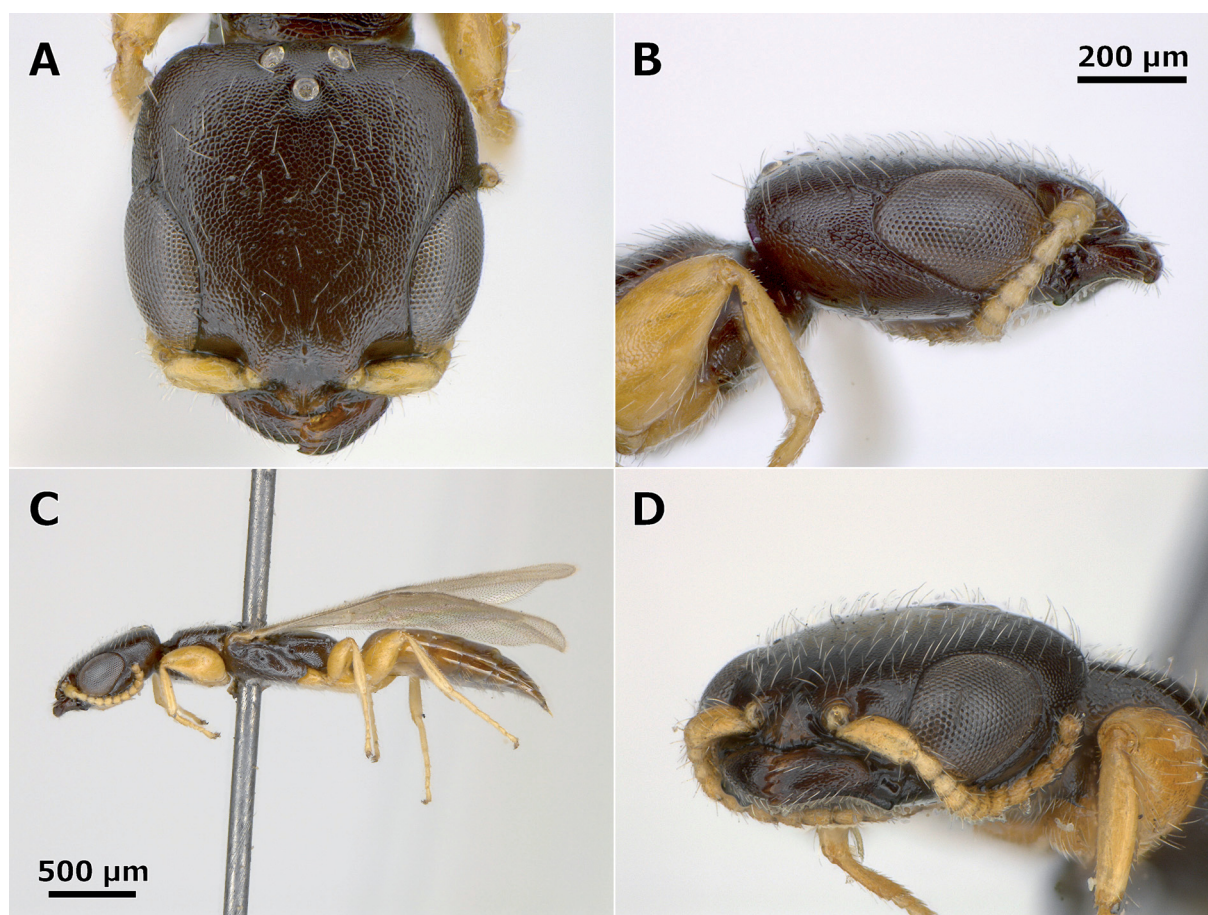


Fig. 175. *Sierola setosipennis* sp. nov., holotype, ♀ (QM T262172). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna bright yellow. Mandible black. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.03 mm; LM 1.07 mm; WH/LH 0.95; DH/LH 0.43; EV/HE 0.72; EV/WF 0.63; WF/HE 1.13; WH/WF 1.74; OOL/WOT 1.63; DM/LM 0.28; FL/FW 2.07; HFL/HFW 2.16; A3 L/W 1.00; 2R1 L/W 2.57.

Distribution

Queensland; known only from the holotype, collected in the southeast.

Remarks

Based on the more parallel-sided head this species may be more closely related to the *megacephala* group.

***Sierola sila* sp. nov.**

urn:lsid:zoobank.org:act:93D0D8FE-17F7-4F07-BFBF-639B21948211

Figs 159, 176

Diagnosis

Among species with the head moderately broad and more or less flat dorsally and ventrally, unusual in having the clypeus very short and completely flat, without a trace of a carina. Closest to *S. stipulata* sp. nov., separated by the lack of a clypeal carina, nearly glabrous basal wing cells, and much smaller size.

Etymology

From the Latin '*silus*', 'snub-nosed', referring to the short, blunt clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Brookfield Conservation Park; 34°19' S, 139°30' E; 2 Dec. 1991–2 Jan. 1992; J. Stelman and S. Williams leg.; Malaise #1 mallee with *Triodia*; ANIC 32-154878.

Paratype

AUSTRALIA – **South Australia** • 1 ♀; Vivionne Bay, Kangaroo Is.; 1926; Mus. Exp. 2; SAMA 32-42936.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded or truncate; dorsally flat, not carinate, slightly convex only laterally; in profile very short, nearly straight. Mandible broad, not narrowed from base, ventral margin nearly straight; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view strongly elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less

straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with very faint microreticulation over posterior terga. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

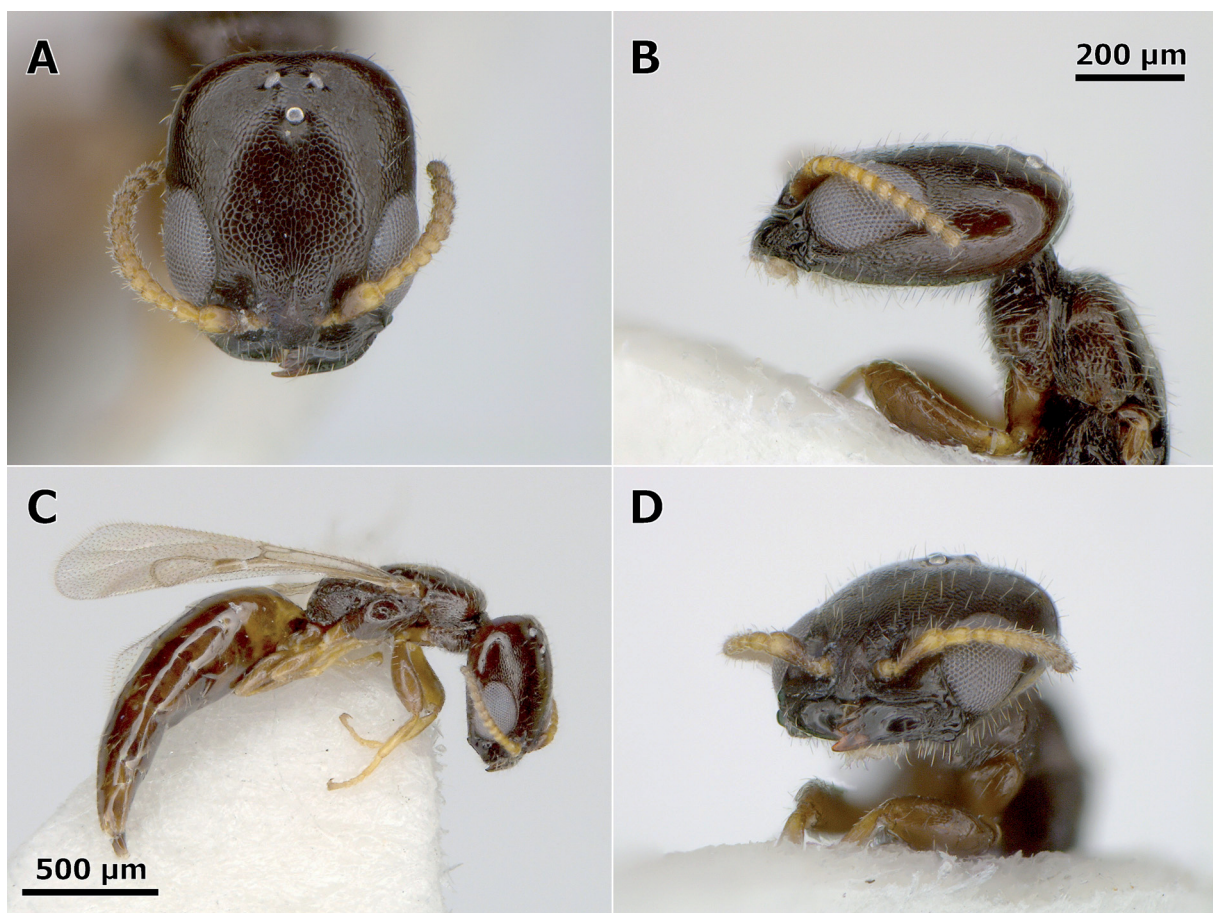


Fig. 176. *Sierola sila* sp. nov., holotype, ♀ (ANIC 32-154878). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.33 mm; LM 0.66 mm; WH/LH 0.86; DH/LH 0.49; EV/HE 1.03; EV/WF 0.86; WF/HE 1.20; WH/WF 1.72; OOL/WOT 2.00; DM/LM 0.39; FL/FW 2.38; HFL/HFW 2.33; A3 L/W 1.00; 2R1 L/W 1.88.

Distribution

South Australia; known from two collections.

Remarks

The relationships of this species are unknown; it is probably more closely related to *S. limitata* sp. nov. than the *megacephala* group, but the flat clypeus is unusual for either.

Sierola sinuata sp. nov.

urn:lsid:zoobank.org:act:06698D9D-0070-4182-AD6B-9BA19DFE849D

Figs 177, 179

Diagnosis

The unusual sinuate mandible (bent mesally near the base to form an outward concavity, apical half convex and swollen immediately) distinguish this species together with its sister species *S. corynognatha* sp. nov. Distinguished from the latter by the absence of modified sculpture on the frons, head dorsally not so strongly convex, lateral ocelli distinctly separate from the vertex crest, coxae and femora dark brown to black, and in the head dimensions.

Etymology

From the Latin ‘*sinuo*’, ‘bending’, referring to the mandibles.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; 12 [km?] NW of Adaminaby; 8 Nov. 1961; E.F. Riek leg.; ANIC 32-154879.

Paratypes

AUSTRALIA – New South Wales • 1 ♀; The Creel, Kosciusko; 8 Nov. 1961; E.F. Riek leg.; ANIC. – Tasmania • 1 ♀; Cardigan River, 23 km E by S of Queenstown; 42°07' S, 145°50' E; 10 Dec. 1981; I.D. Naumann leg.; ex ethanol; ANIC • 1 ♀; 5 km NW of Mt Mueller; 42°46' S, 146°25' E; 11 Dec. 1981; I.D. Naumann leg.; ex ethanol; ANIC • 1 ♀; 6 km W of Miena; 41°59' S, 146°39' E; 20 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 9 km WSW of Derwent Bridge; 42°10' S, 146°08' E; 21 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 18 km SW by W of Derwent Bridge; 42°13' S, 146°02' E; 22 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; Franklin River; 42°13' S, 146°01' E; 22 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 7 km W by S of Buckland; 42°38' S, 147°38' E; 27 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex weakly pointed; dorsally with a sharp carina, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly

curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; bent inwards and conspicuously concave externally just past base, apical half outwardly convex and slightly swollen, outwardly coriaceous in median concavity, polished at base, apex somewhat shining but with distinct, fine microsculpture; in ventral view sinuate. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

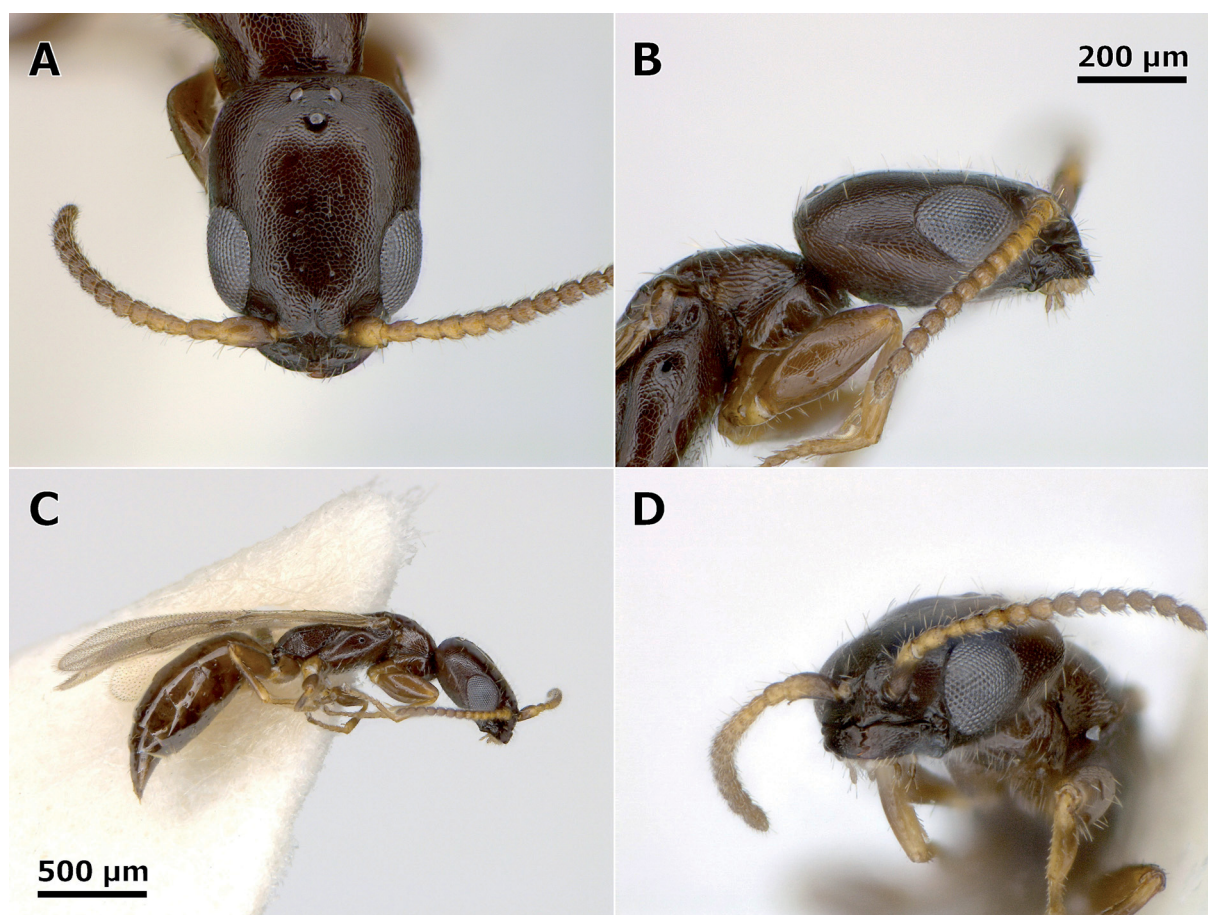


Fig. 177. *Sierola sinuata* sp. nov., holotype, ♀ (ANIC 32-154879). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora dark brown to black, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, cell R somewhat densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.49 mm; LM 1.19 mm (0.88–1.19); WH/LH 0.93 (0.86–0.93); DH/LH 0.60 (0.57–0.61); EV/HE 0.64 (0.64–0.79); EV/WF 0.57 (0.57–0.69); WF/HE 1.13 (1.05–1.19); WH/WF 1.70 (1.67–1.76); OOL/WOT 1.53 (1.43–1.63); DM/LM 0.44; FL/FW 2.30 (2.20–2.41); HFL/HFW 2.32 (2.32–2.52); A3 L/W 1.34 (1.14–1.34); 2R1 L/W 2.21. N = 9.

Distribution

Tasmania and New South Wales; presumably occurring in Victoria and Australian Capital Territory as well. Known from a number of locations, mostly at higher elevations.

Sierola solitaria sp. nov.

urn:lsid:zoobank.org:act:4870D880-EEC2-46A6-9C28-4DB226520D80

Figs 178–179

Diagnosis

Part of the *ficicola* species group, with the head flat dorsally, moderately narrow and compressed, and frons narrow. Closest to *S. marginalis* sp. nov. in having nearly glabrous basal wing cells; separated by having the head slightly narrower and deeper (WH/LH 0.74, DH/LH 0.46 vs 0.70 and 0.52 respectively), clypeus evenly sloping in profile, mandible slightly twisted, and lateral ocelli distinctly separated from the vertex crest. The antennae are also long, reaching the posterior pronotal margin, whereas all other members have short antenna.

Etymology

Named for the holotype being the only specimen of its species taken in an area where *S. pelion* is abundant.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Pelion Hut, 3 km S of Mt Oakleigh; 41°50' S, 146°03' E; 5–9 Apr. 1991; J.A. Berry leg.; ANIC 32-154880.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; Colinsvale, near Hobart; 8 Oct. 1989; U.F. Eastop [?] leg.; sweeping rushes; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each

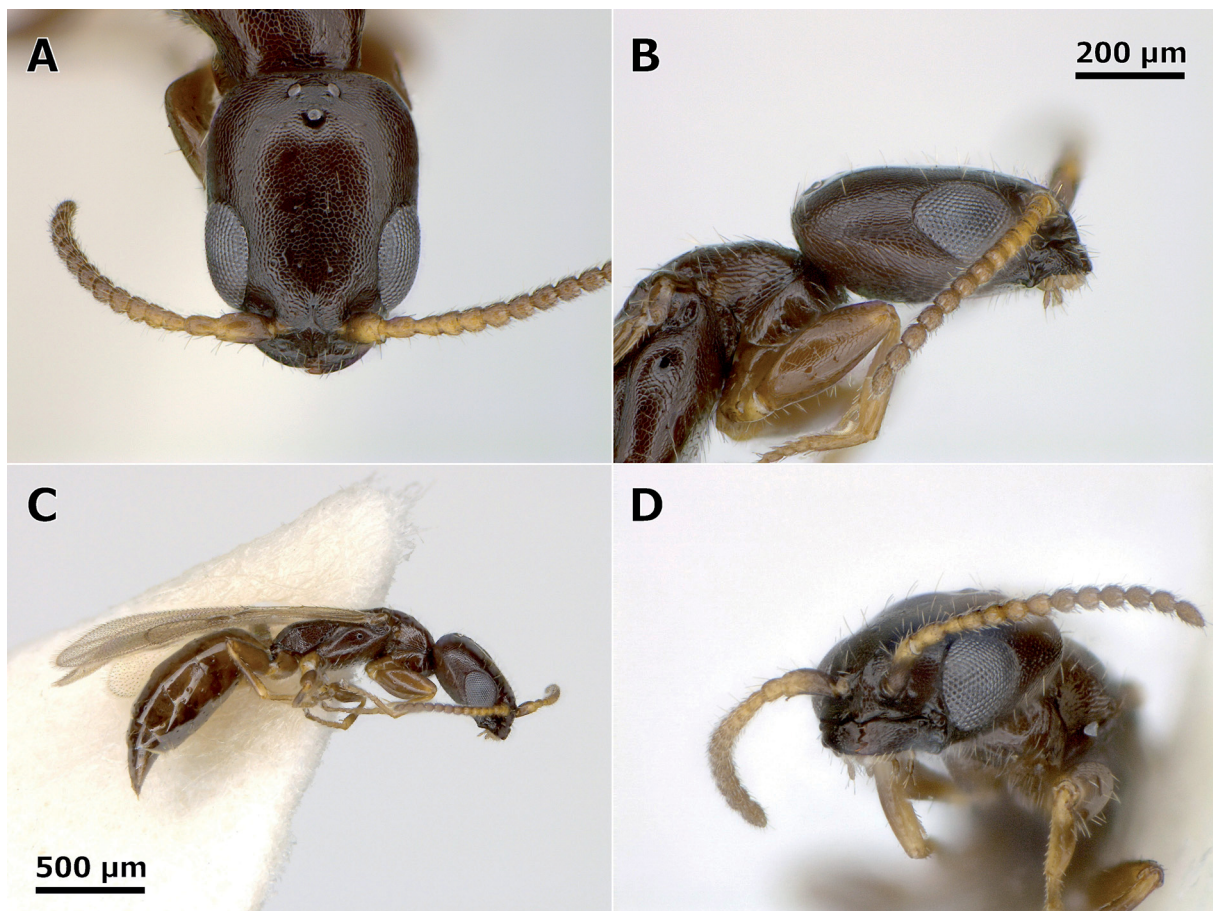


Fig. 178. *Sierola solitaria* sp. nov., holotype, ♀ (ANIC 32-154880). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view almost evenly sloping, weakly curved. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

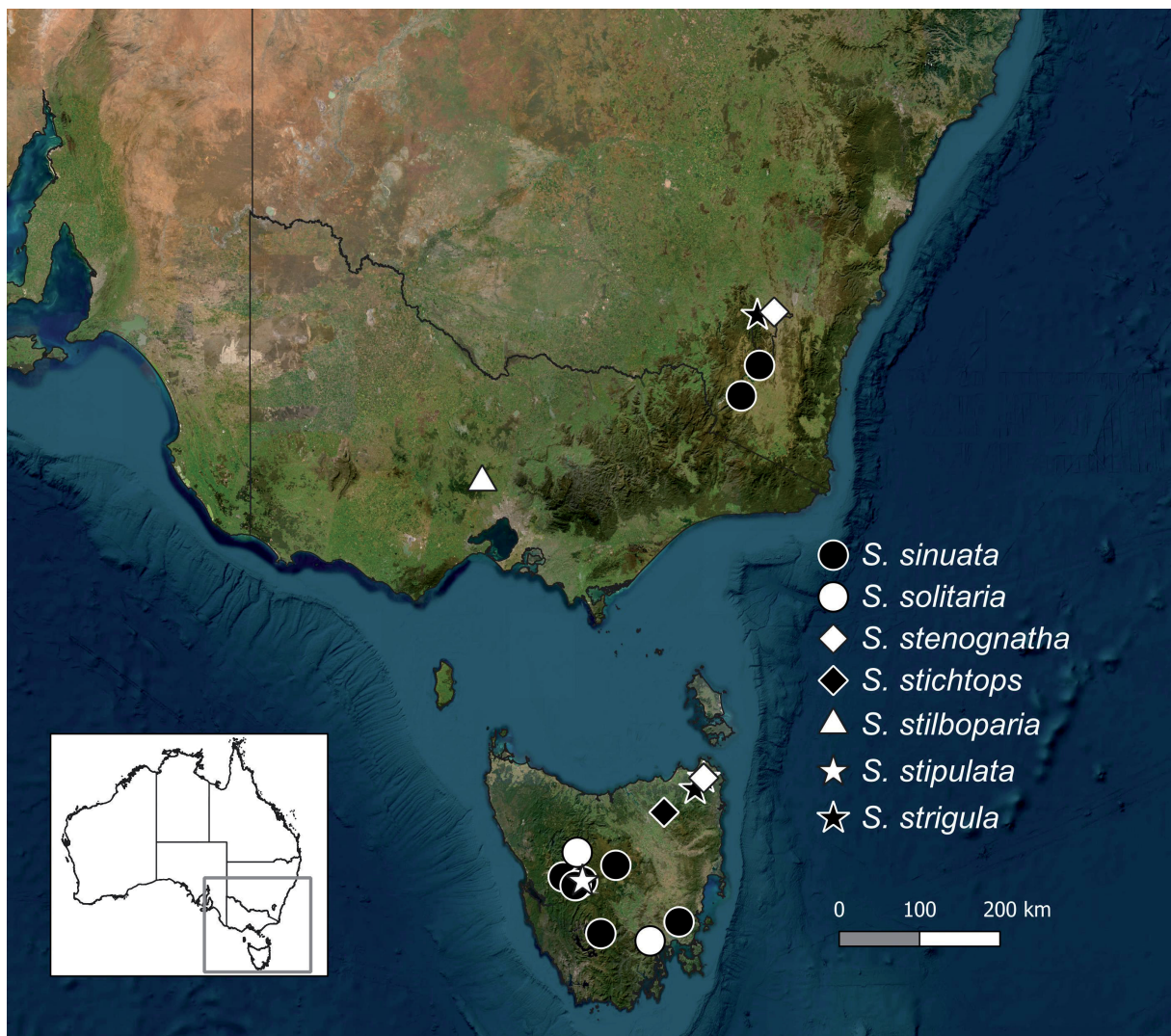


Fig. 179. Map of collection records of *Sierola sinuata* sp. nov., *S. solitaria* sp. nov., *S. stenognatha* sp. nov., *S. stichtops* sp. nov., *S. stilboparia* sp. nov., *S. stipulata* sp. nov., and *S. strigula* sp. nov.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose to nearly glabrous. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.55 mm; LM 0.78 mm; WH/LH 0.74; DH/LH 0.46; EV/HE 1.07; EV/WF 0.91; WF/HE 1.10; WH/WF 1.71; OOL/WOT 2.21; DM/LM 0.34; FL/FW 2.36; HFL/HFW 2.69; A3 L/W 1.43; 2R1 L/W 2.81.

Distribution

Tasmania; known only from two specimens.

Sierola specularis sp. nov.

urn:lsid:zoobank.org:act:1803760E-5269-4362-8293-8E8BCF88A047

Figs 26, 180

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, and basal wing cells sparsely setose; belonging to the subgroup with the ocellar triangle weakly acute to obtuse and head shorter posterior to the eyes. Closest to *S. furtiva* sp. nov. in having the mandible strongly convex outwardly and basal wing cells sparsely setose; separated by the obtuse ocellar triangle with the lateral ocelli touching the vertex crest, smoother frons microsculpture, and posterior margin of cell 1M distinctly convex with the distal corner rounded.

Etymology

From the Latin '*specularis*', 'mirror', referring to the near-identity of this species to *S. amputator* sp. nov. from the opposite side of the continent.

Type material

Holotype

AUSTRALIA – Northern Territory • ♀; Acacia; 25 Aug. 2012; L.J. Cookson leg.; MVMA HYM-86592.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles, or with a sharp carina; in profile evenly curved from base to apex, apical angle slightly acute or rounded and recurved at apex. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye

to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture evenly, weakly microreticulate. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc slightly concave. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur strongly broadened, less than twice as long as wide.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dull yellow. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose or with intermediate setation. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.



Fig. 180. *Sierola specularis* sp. nov., holotype, ♀ (MVMA HYM-86592). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

MEASUREMENTS. LFW 1.60 mm; LM 0.93 mm; WH/LH 0.84; DH/LH 0.37; EV/HE 0.80; EV/WF 0.70; WF/HE 1.14; WH/WF 1.70; OOL/WOT 1.39; DM/LM 0.26; FL/FW 1.75; HFL/HFW 1.63; A3 L/W 0.63; 2R1 L/W 3.12.

Distribution

Northern Territory; known only from the holotype.

Remarks

The type locality is highly uncertain; “Acacia” appears to refer to a locality rather than the plant but no locality by that name alone can be found.

Sierola spheonocephala sp. nov.

urn:lsid:zoobank.org:act:895A79FF-5A45-499A-BFB2-E1AE5DEAE612

Figs 181, 183

Diagnosis

This is a very distinctive species, with an unusual broad, truncate, dorsally flat, moderate-length clypeus combined with a very narrow, somewhat flat head. This combination alone will separate it from all others. The propodeum is also unique in being elongate and narrow, over $0.4 \times$ the length of the entire mesosoma, with a distinct transverse carina and the disc slightly longer than the basal width (much narrower than the width at the transverse carina). Typically the propodeum is about a third of the mesosoma length; in the few species where it is longer, it is much wider than the length to the declivity, and the transverse carina is usually absent. The profemur is also among the most narrow in the genus.

Etymology

From the Greek ‘*sphen*’, ‘wedge’, + ‘*kephalon*’, ‘head’, referring to the shape of the clypeus and head and its probable function.

Type material

Holotype

AUSTRALIA – New South Wales • ♀; Warrumbungles National Park, via Coonabarabran; 17 Dec. 1974; I. Naumann leg.; sweeping grass by creek; dry sclerophyll forest; QM T262173.

Paratype

AUSTRALIA – New South Wales • 1 ♀; same data as for holotype; QM.

Description

Female

HEAD. Clypeal process short, broad, transverse, rounded laterally, apex truncate; dorsally flat, not carinate, slightly convex only laterally; in profile evenly sloping, dorsal margin nearly straight or slightly concave. Mandible moderately narrow, more or less parallel-sided except at base; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{2}{3}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons punctation obscured by microsculpture. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture minutely colliculate between eyes, coriaceous posteriorly. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly to weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly

convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded, pronotal disc distinctly flattened. Pronotal setae short, inconspicuous. Propodeum elongate, longer than wide and nearly as long as remainder of mesosoma. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum broadly glabrous medially, with sparse setae laterally.



Fig. 181. *Sierola sphenoccephala* sp. nov., holotype, ♀ (QM T262173). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna with scape and apex brown, middle flagellomeres brown dorsally and orange ventrally. Mandible black. Coxae and femora dark brown to black, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M elongate triangular, posterodistal corner extended into a point. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.77 mm; LM 1.07 mm; WH/LH 0.75; DH/LH 0.47; EV/HE 0.68; EV/WF 0.62; WF/HE 1.11; WH/WF 1.54; OOL/WOT 1.55; DM/LM 0.30; FL/FW 2.60; HFL/HFW 2.78; A3 L/W 1.43; 2R1 L/W 3.60.

Distribution

New South Wales; known only from one collection.

Sierola splendida sp. nov.

urn:lsid:zoobank.org:act:847C4523-EEB1-42E9-AD10-0246918372A3

Figs 182–183

Diagnosis

Part of the species cluster with the clypeus evenly convex dorsally without any carina or ridge, frons shining with smooth reticulation, and head broad. Separated from *S. mucronervis* sp. nov. and other similar species by having the head not quite as wide as long, mandible black, and cell R of the fore wing with a distinct distal cluster of setae.

Etymology

From the Latin ‘*splendidus*’, ‘lustrous’ or ‘glorious’, referring to both the polished head and the type locality.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Mt Glorious; 22 Jun.–18 Oct. 1982; A. Hiller leg.; Malaise trap, “R.F.”; QM T262174.

Paratypes

AUSTRALIA – **Queensland** • 1 ♀; Hurdle Gully, 14.8 km WSW of Monto; 24°55′ S, 150°59′ E; elev. 460 m; 20 Dec. 1997–26 Apr. 1998; G. Monteith leg.; open forest pitfall trap; QM. – **Victoria** • 1 ♀; Barbara Baehr’s pitfall 8 Ned’s Corner Bush Blitz; 34°07′28″ S, 141°17′50.1″ E; 23–29 Nov. 2011; B. Baehr leg.; BBNC 716, pitfall trap; MVMA HYM-61042.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally flat, not carinate, slightly convex only laterally; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed

anterior. Frons microsculpture evident but smooth, shining. Vertex in dorsal view very slightly concave; occipital margin narrowly carinate posterior of ocelli, becoming broadly rounded laterally. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible concave in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture mostly even, small area of colliculate sculpture along ventral eye margin. Postgenal depression deep, distinct, broad. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S4–6 each with a pair of moderately long erect setae, those on S6 twice as long as others. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

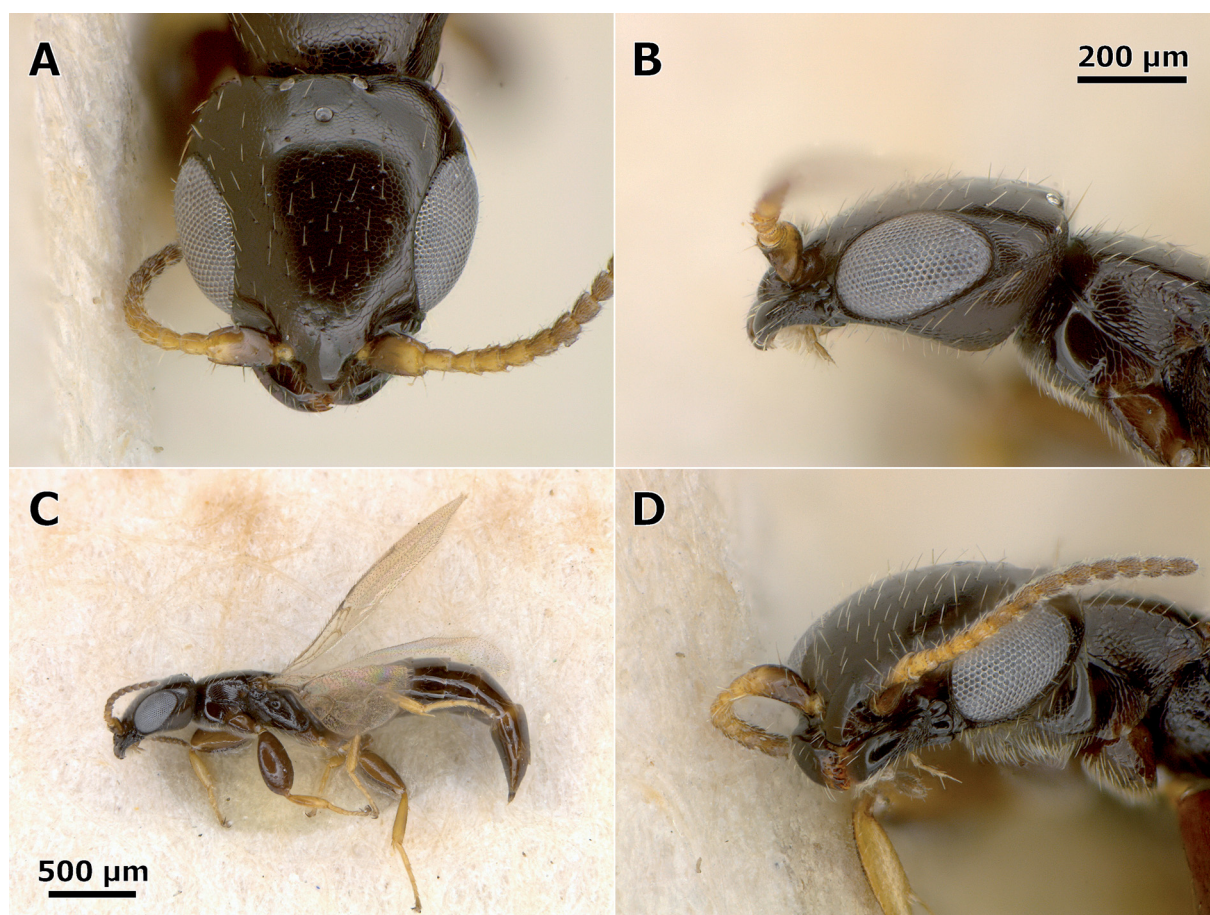


Fig. 182. *Sierola splendida* sp. nov., holotype, ♀ (QM T262174). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing mostly glabrous, cell R densely setose apically. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.70 mm; LM 0.92 mm (0.92–0.98); WH/LH 0.95 (0.94–0.97); DH/LH 0.53 (0.51–0.53); EV/HE 0.44 (0.43–0.44); EV/WF 0.42 (0.42–0.43); WF/HE 1.05 (1.02–1.05); WH/WF 1.73 (1.73–1.81); OOL/WOT 1.09 (1.02–1.09); DM/LM 0.37; FL/FW 1.89 (1.78–1.89); HFL/HFW 2.33 (2.25–2.33); A3 L/W 1.18 (1.18–1.30); 2R1 L/W 2.69. N = 3.

Distribution

Queensland and Victoria; known from three specimens.

Remarks

The Victoria specimen was collected far away from and in much drier habitat than the Queensland ones, but matches them in all respects.

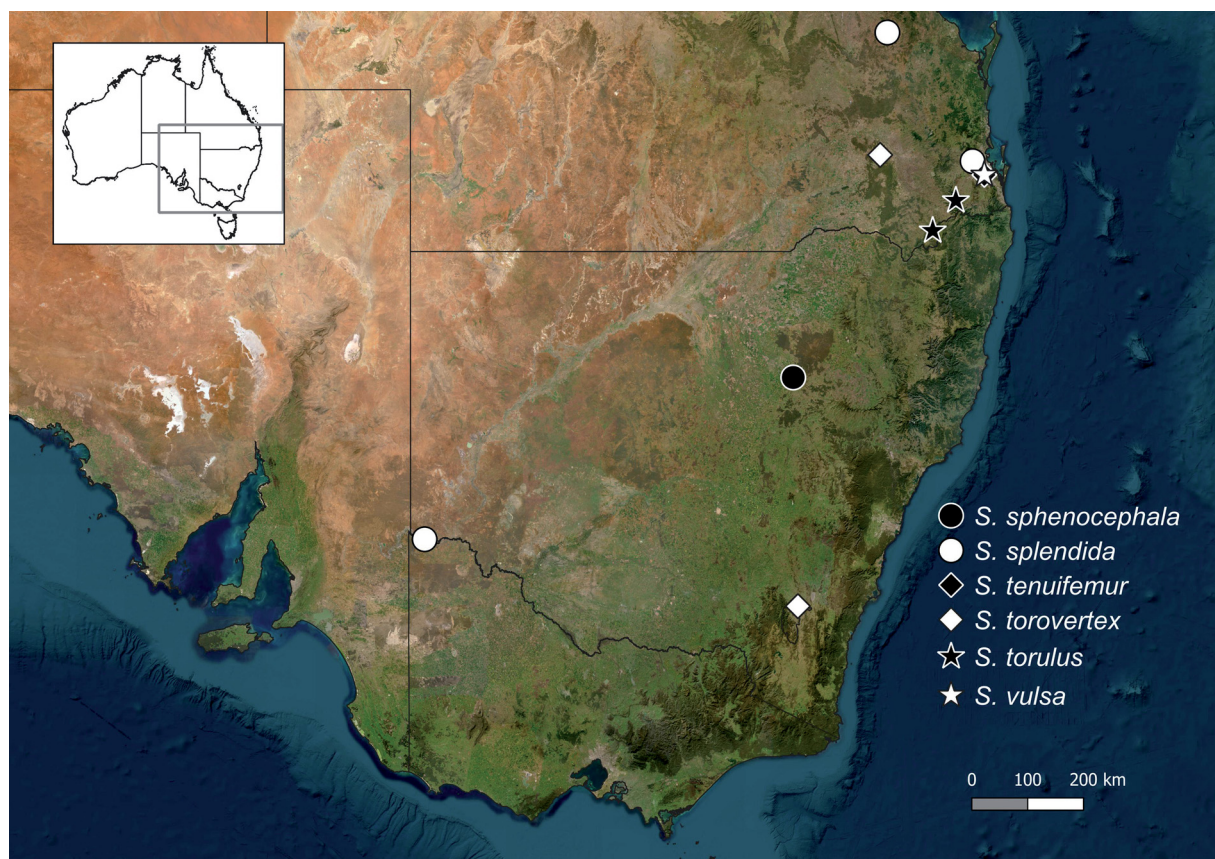


Fig. 183. Map of collection records of *Sierola sphenocephala* sp. nov., *S. splendida* sp. nov., *S. tenuifemur* sp. nov., *S. torovertex* sp. nov., *S. torulus* sp. nov., and *S. vulsa* sp. nov.

Sierola stenognatha sp. nov.

urn:lsid:zoobank.org:act:BA6B7DF5-0A22-4799-9D59-99648838C5F2

Figs 179, 184

Diagnosis

Unique in the Australian fauna in having the mandible very narrow and slightly bent ventrad near the middle. The mandible is orange-brown, clypeus convex dorsally with no trace of a carina, and vertex and gena setae elongate and conspicuous. Closest to some Hawaii species such as *S. kumumu* Magnacca, 2020 of Oahu, differing in the form of the clypeus and other respects.

Etymology

From the Greek ‘*steno*’, ‘narrow’, + ‘*gnathos*’, ‘jaw’, referring to the unusually thin mandibles. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 1 km SSE of Gladstone; 40°58' S, 148°01' E; 29 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154881.

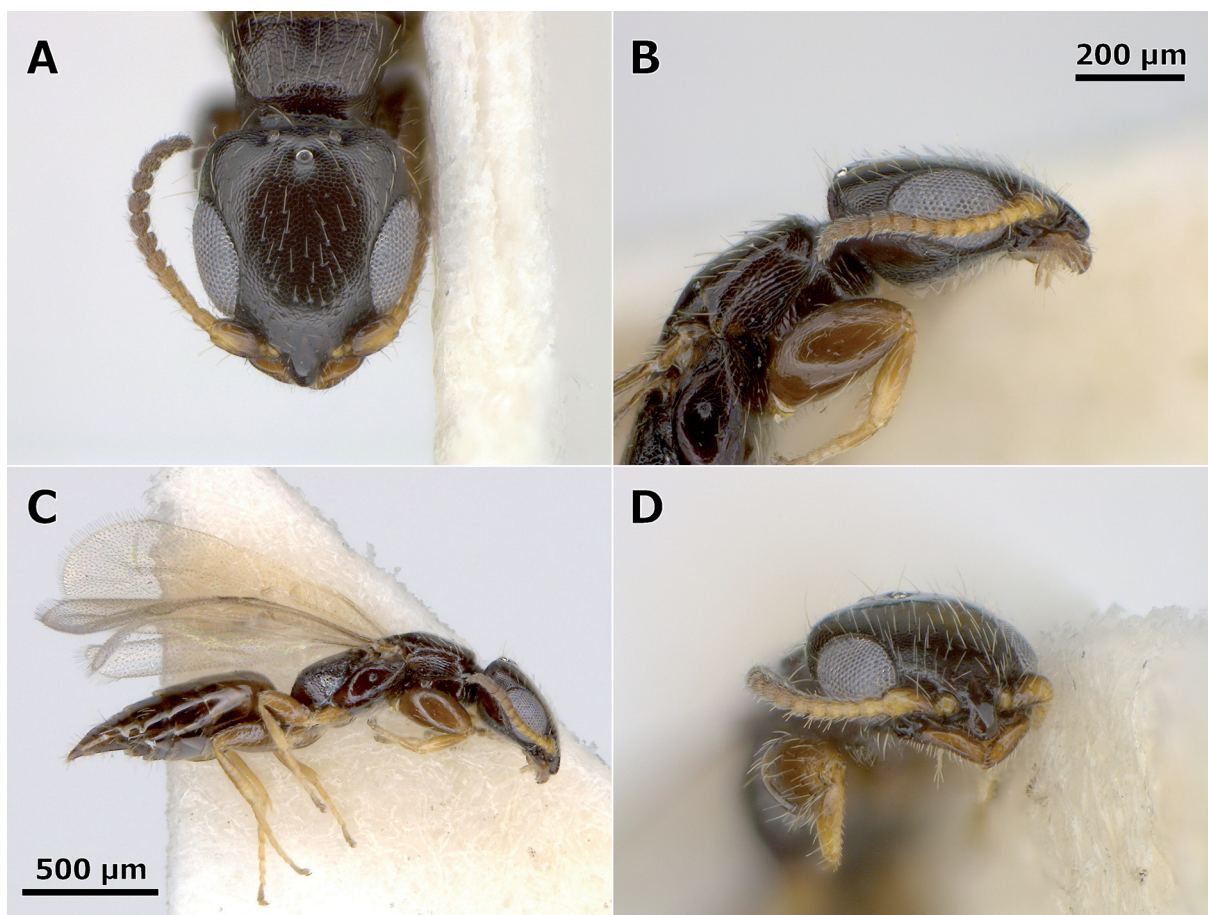


Fig. 184. *Sierola stenognatha* sp. nov., holotype, ♀ (ANIC 32-154881). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra, CSIRO, behind CSIRO; 35.275° S, 149.1109° E; elev. 590 m; 2 Apr. 2011; P. Hebert, R. Labbee, V. Levesque-Beaudin, J. McCormick, J. Sones and J. Webb leg.; BOLD: process ID MCCA8851-20, BIN AED4305; ANIC. – **Tasmania** • 2 ♀♀; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally rounded, convex, lacking a carina; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible very narrow, including at base; slightly bent ventrad near middle, outwardly polished, smooth, shining; in ventral view obtusely elbowed. Apex of mandible vertical, with small, indistinct teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head narrowed posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with a pair of moderately long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible reddish brown to orange. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing with intermediate setation, or densely setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.36 mm; LM 0.73 mm (0.73–0.80); WH/LH 0.86 (0.86–0.88); DH/LH 0.50 (0.50–0.54); EV/HE 0.53 (0.45–0.53); EV/WF 0.53 (0.44–0.54); WF/HE 1.00 (0.94–1.03); WH/WF 1.78 (1.76–1.88); OOL/WOT 1.00 (1.00–1.05); DM/LM 0.33; FL/FW 2.05 (1.91–2.05); HFL/HFW 2.00 (1.96–2.22); A3 L/W 1.15 (1.00–1.25); 2R1 L/W 2.94. N = 4.

Distribution

Tasmania and Australian Capital Territory; known from two collections.

Remarks

The Canberra specimen differs in having the vertex setae elongate but not as conspicuous, occipital margin broadly rounded, ocellar triangle more strongly obtuse, basal wing cells slightly more densely setose, and eye setae short. It may represent a distinct cryptic species, but these differences do not seem sufficient to separate it at this time.

***Sierola stichtops* sp. nov.**

urn:lsid:zoobank.org:act:1E5A8A33-163C-417A-AFB8-62B5BDFCCB3F

Figs 179, 185

Diagnosis

A unique species, immediately recognizable by the deep, close, even punctures of the lower frons, abruptly changing to normal, sparser punctation posterior of the middle of the eye. The head is also very densely setose ventrally, with longer setae posteriorly.

Etymology

From the Greek ‘*stichtos*’, ‘punctured’, + ‘*ops*’, ‘face’, referring to the unusual deep, dense punctures of the lower frons. It is a noun in apposition.

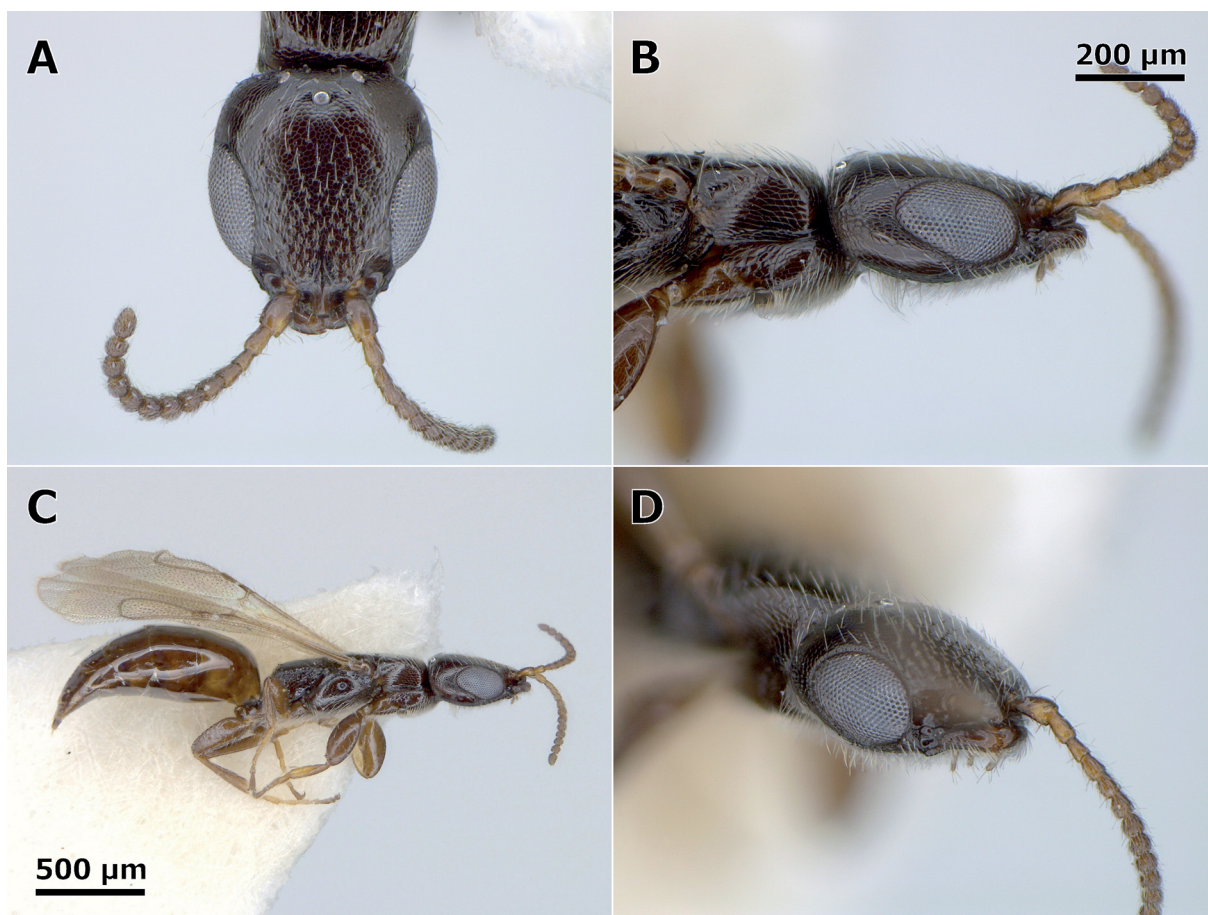


Fig. 185. *Sierola stichtops* sp. nov., holotype, ♀ (ANIC 32-154882). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 10 km ENE of Nunamara; 41°22' S, 147°24' E; 12 Jan.–6 Feb. 1983; I.D. Naumann and J.C. Cardale leg.; Malaise/ethanol; ANIC 32-154882.

Paratype

AUSTRALIA – **Tasmania** • 1 ♀; same data as for holotype; ANIC.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally with a sharp or rounded carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly polished and shining near apex, remainder coriaceous; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{3}$ as long as width of base of mandible. Dorsal setae of head very short on anterior half, longer than flagellar width posterior of middle of inner eye margin. Frons with dense, deep punctures between antennae and midpoint of eyes, less than 1 pit width apart, abruptly sparser posteriorly, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view slightly sinuate around ocellar triangle; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, convex around ocellar triangle, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, covered with dense pubescence, with longer setae along posterior margin. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head, ventrally densely punctate. Postgenal depression absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Legs all brown.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.57 mm; LM 0.79 mm; WH/LH 0.92; DH/LH 0.52; EV/HE 0.52; EV/WF 0.52; WF/HE 1.00; WH/WF 1.79; OOL/WOT 0.88; DM/LM 0.35; FL/FW 2.00; HFL/HFW 2.36; A3 L/W 1.25; 2R1 L/W 2.71.

Distribution

Tasmania; known only from two specimens collected together.

Sierola stilboparia sp. nov.

urn:lsid:zoobank.org:act:F5DC72E6-A430-42D8-A87D-23FC28C2C40C

Figs 179, 186

Diagnosis

Distinguished from most other species by having the head both broad and deep, strongly convex dorsally and ventrally. Closest to *S. elasson* sp. nov., united in having the frons coriaceous, head not quite as wide as long, moderately broad metafemur, and gena with a distinctive smooth polished area between the eye and a band of coarsely tessellate ventral sculpture. Differing in having the vertex crest slightly but distinctly emarginate between the ocelli, head ventrally evenly convex, and lacking a median carina or anterior raised triangular area on the propodeum.

Etymology

From the Greek ‘*stilbo*’, ‘shine’, + ‘*pareion*’, ‘cheek’, referring to the highly polished gena. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Victoria** • ♀; Macedon State Forest; 37.4035° S, 144.5725° E; 14 Dec. 2019; K. Magnacca leg.; sweeping *Acacia*; ANIC 32-154883.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view shallowly emarginate between ocelli, otherwise straight, corners strongly rounded off; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture smooth and polished posterolaterally, finely microreticulate ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice

as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum evenly pilose, with dense short erect setae.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae yellow tinged with brown, tarsi and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 2.08 mm; LM 1.08 mm; WH/LH 0.92; DH/LH 0.60; EV/HE 0.43; EV/WF 0.48; WF/HE 0.89; WH/WF 1.98; OOL/WOT 0.93; DM/LM 0.39; FL/FW 2.07; HFL/HFW 2.36; A3 L/W 1.43; 2R1 L/W 2.57.

Distribution

Victoria; known only from the holotype.

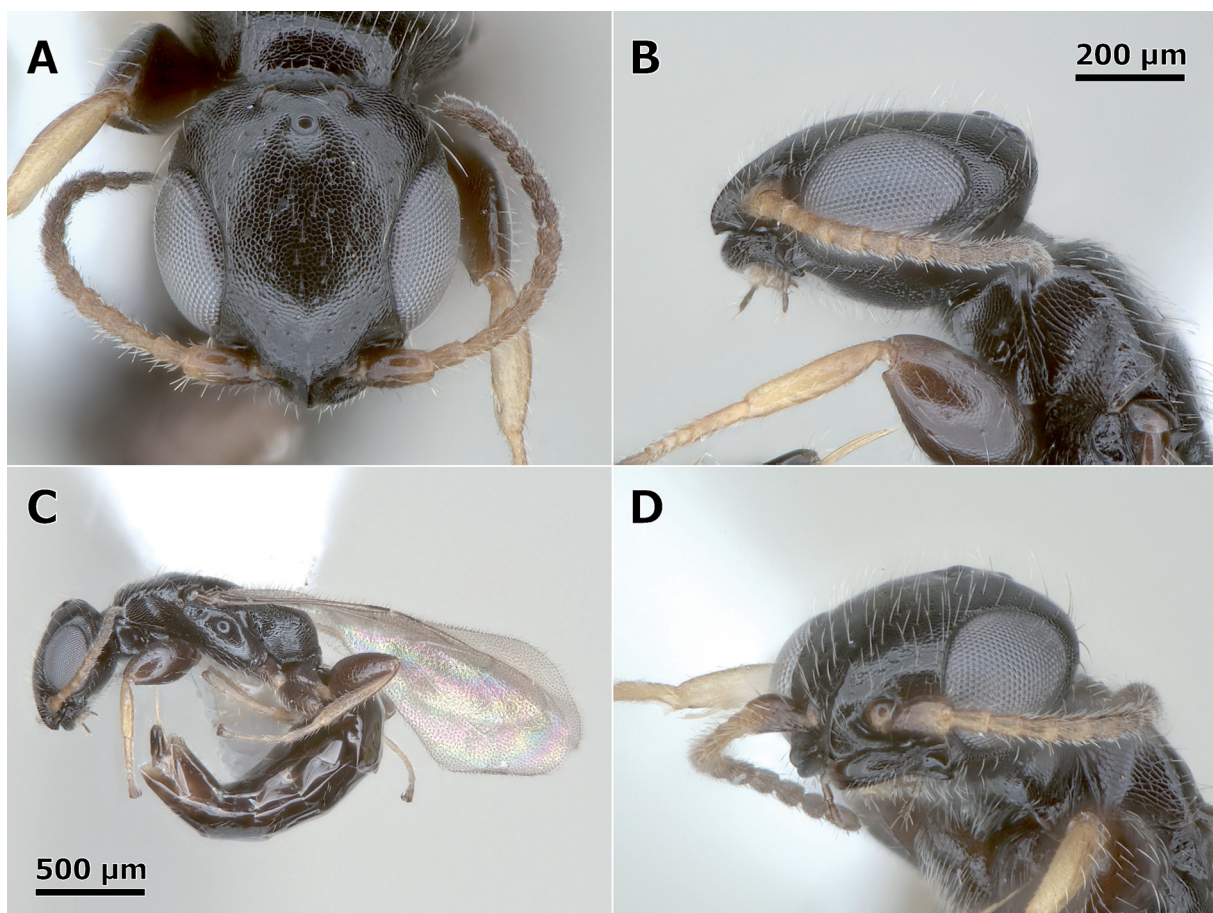


Fig. 186. *Sierola stilboparia* sp. nov., holotype, ♀ (ANIC 32-154883). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Remarks

See Remarks under *S. elasson* sp. nov.

Sierola stipulata sp. nov.

urn:lsid:zoobank.org:act:DB7F8649-D7E8-4FAD-900E-04760680E123

Figs 179, 187

Diagnosis

A member of the *megacephala* group, with the head large and flat dorsally and ventrally, frons very broad, clypeus short with a low carina, and ocelli well removed from the vertex crest. Closely related to *S. leeuwinensis* and *S. stipulata* sp. nov. with the femora dark, head posterior of the eyes convex, and ocelli separated from the vertex by 2–3 ocellus lengths. Separated from all other similar species by the short, dense ventral setae of the head. The sympatric *S. disjuncta* sp. nov. is similar but lacks the ventral head setae and has the ocelli close to the vertex.

Etymology

From the Latin ‘*stipula*’, ‘stubble’, referring to the short, dense ventral setae of the head.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 9 km WSW of Derwent Bridge; 42°10' S, 146°08' E; 21 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154884.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded to truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; slightly twisted, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, completely covered with short, dense setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete.

Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.37 mm; LM 1.13 mm; WH/LH 0.79; DH/LH 0.49; EV/HE 1.34; EV/WF 0.95; WF/HE 1.41; WH/WF 1.60; OOL/WOT 2.06; DM/LM 0.40; FL/FW 2.43; HFL/HFW 2.48; A3 L/W 0.93; 2R1 L/W 2.43.

Distribution

Tasmania; known only from the holotype.

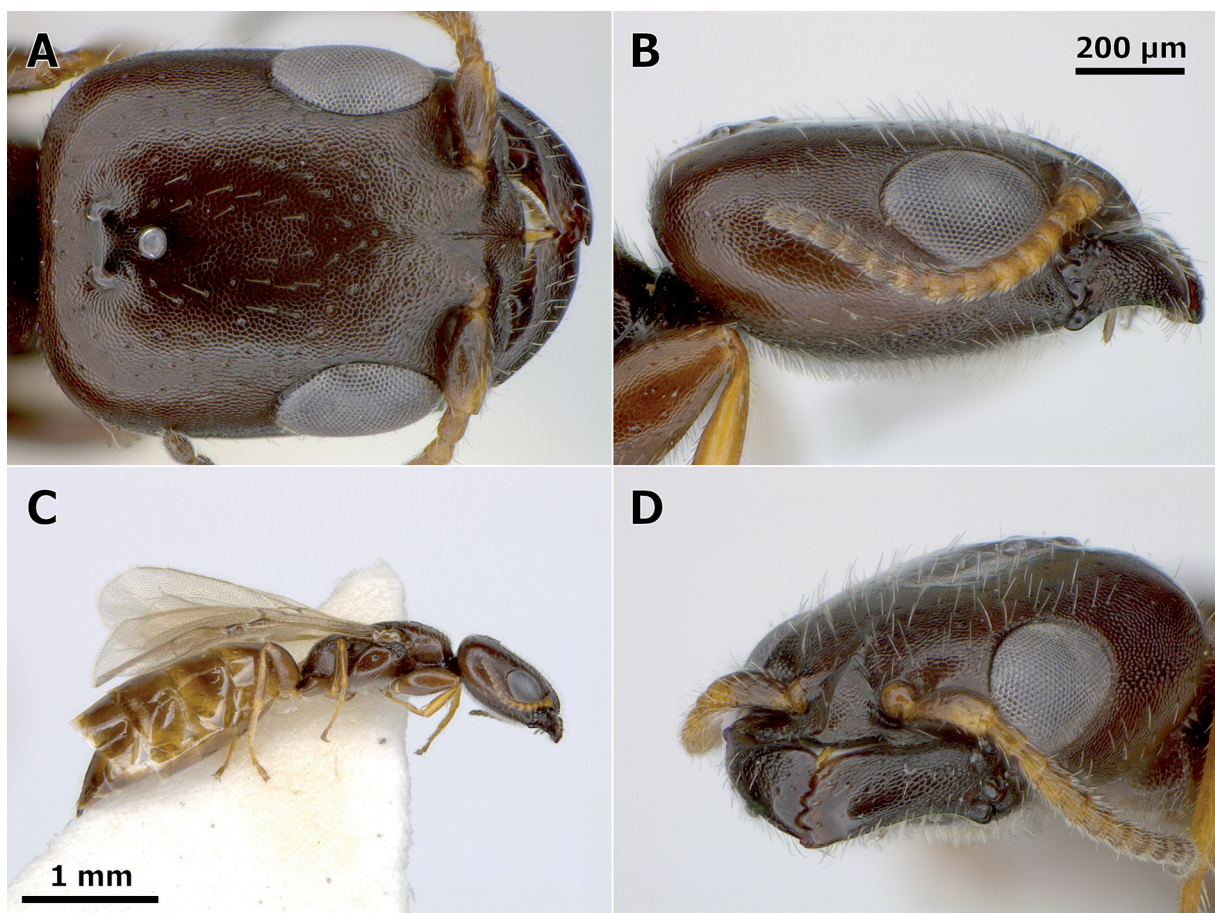


Fig. 187. *Sierola stipulata* sp. nov., holotype, ♀ (ANIC 32-154884). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

***Sierola strigula* sp. nov.**

urn:lsid:zoobank.org:act:27B3FCCF-8C21-4697-94B6-3A59BEA4D9B3

Figs 179, 188

Diagnosis

Forming a distinctive species pair with *S. ancognatha* sp. nov., sharing the strongly convex dorsum of the head, strongly elbowed mandible with a large ventral tooth, strongly acute clypeus in profile, and nearly glabrous basal wing cells. Separated by the nearly parallel-sided mandible which is only slightly twisted, head slightly angulate ventrally rather than evenly convex, and unusual frons microsculpture, scutellate with large cells anteriorly and minutely scutellate posteriorly, obscuring the punctation.

Etymology

From the Latin ‘*strigula*’, ‘small ridge’, referring to the low carina of the clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 1 km SSE of Gladstone; 40°58′ S, 148°01′ E; 29 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154885.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Wombat Creek, 6 km NE of Piccadilly Circus; 35°19′ S, 148°51′ E; elev. 750 m; May 1984; Weir, Lawrence and Johnson leg.; flight intercept window/trough trap; ANIC. – **Tasmania** • 1 ♀; 1 km E by N of Herrick; 41°06′ S, 147°53′ E; 29–30 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC.

Description

Female

HEAD. Clypeal process rounded triangular, apex rounded; dorsally flat, with a trace of a low carina; in profile elongate, evenly curved, apex acute. Mandible narrow, slightly broadened at base and apex, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons appearing impunctate (setae arising from shallow pits that are only visible at low angles). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture smoothly scutellate anteriorly, becoming colliculate from posterior third of eyes. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Genal angle broadly rounded. Side of head posterior to eye flat, with a broad area of distinct tessellate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina faintly present; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.49 mm; LM 0.83 mm (0.82–0.86); WH/LH 0.82 (0.81–0.83); DH/LH 0.57 (0.55–0.57); EV/HE 0.51 (0.48–0.51); EV/WF 0.57 (0.54–0.60); WF/HE 0.89 (0.83–0.89); WH/WF 1.84 (1.84–1.87); OOL/WOT 1.32 (1.32–1.49); DM/LM 0.40; FL/FW 1.88 (1.88–1.96); HFL/HFW 2.53 (2.43–2.58); A3 L/W 1.30 (1.30–1.40); 2R1 L/W 2.73. N = 3.

Distribution

Tasmania and Australian Capital Territory; probably also found in New South Wales and Victoria. Known from three specimens.

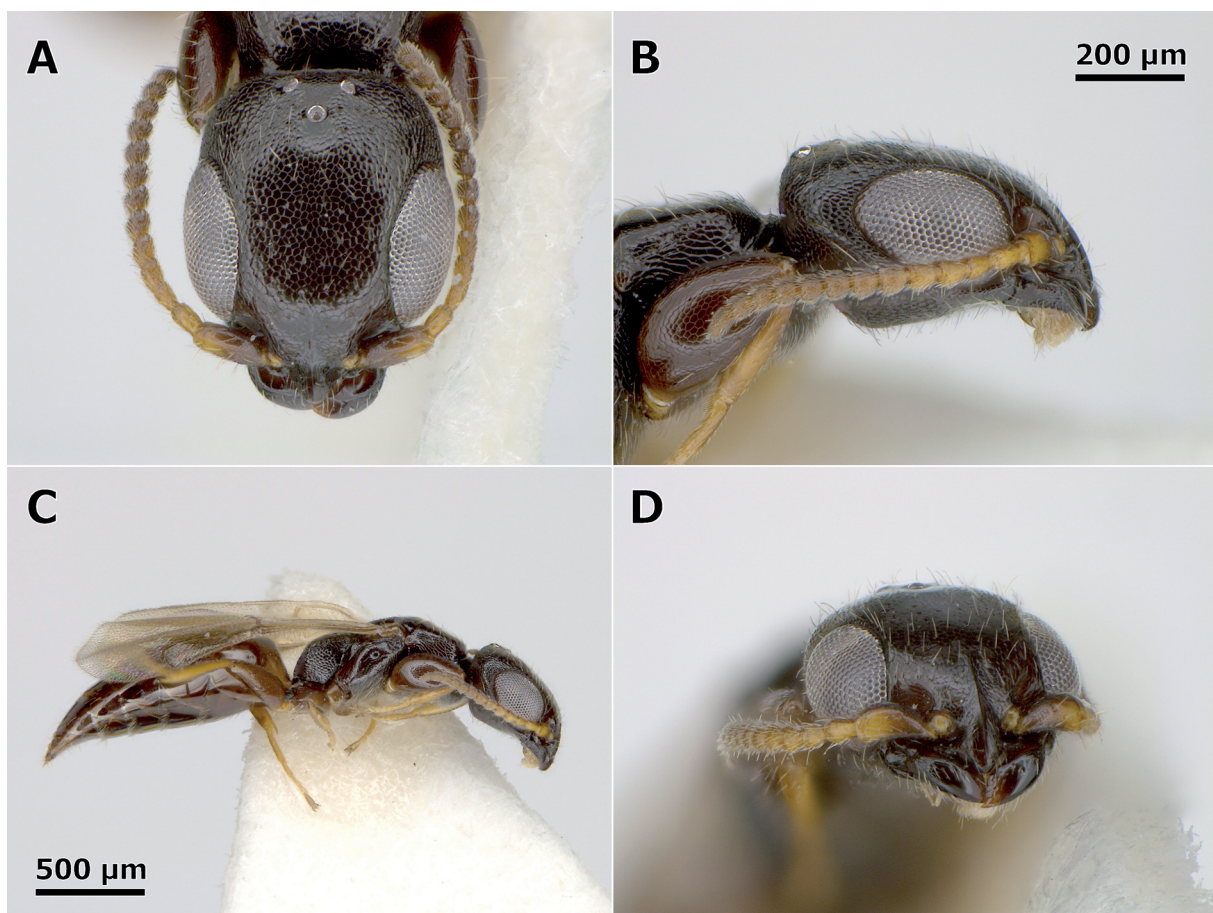


Fig. 188. *Sierola strigula* sp. nov., holotype, ♀ (ANIC 32-154885). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Remarks

The ACT specimen has OOL/WOT distinctly greater than the two from Tasmania, but is otherwise identical.

***Sierola subcontracta* sp. nov.**

urn:lsid:zoobank.org:act:D7CBCEB1-0CE4-427B-9D31-F2CBF2694B28

Figs 189–190

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between, and eyes large, head short posteriorly. United with *S. confecta* sp. nov., *S. contracta* sp. nov., *S. parallela* sp. nov., *S. paracontracta* sp. nov., and *S. pericontracta* sp. nov. in having the scrobal carinae converging but not fused, clypeus dorsally a flat-topped ridge, and vein Rs ending short of the anterior wing margin. Separated from the others by lacking any trace of a carina on the anterior frons which is slightly concave in lateral view, mandible yellowish apically, and fore wing with a transverse band of infuscation between the parastigma and apex of Rs.

Etymology

Referring to the similarity of this species to *S. contracta* sp. nov.

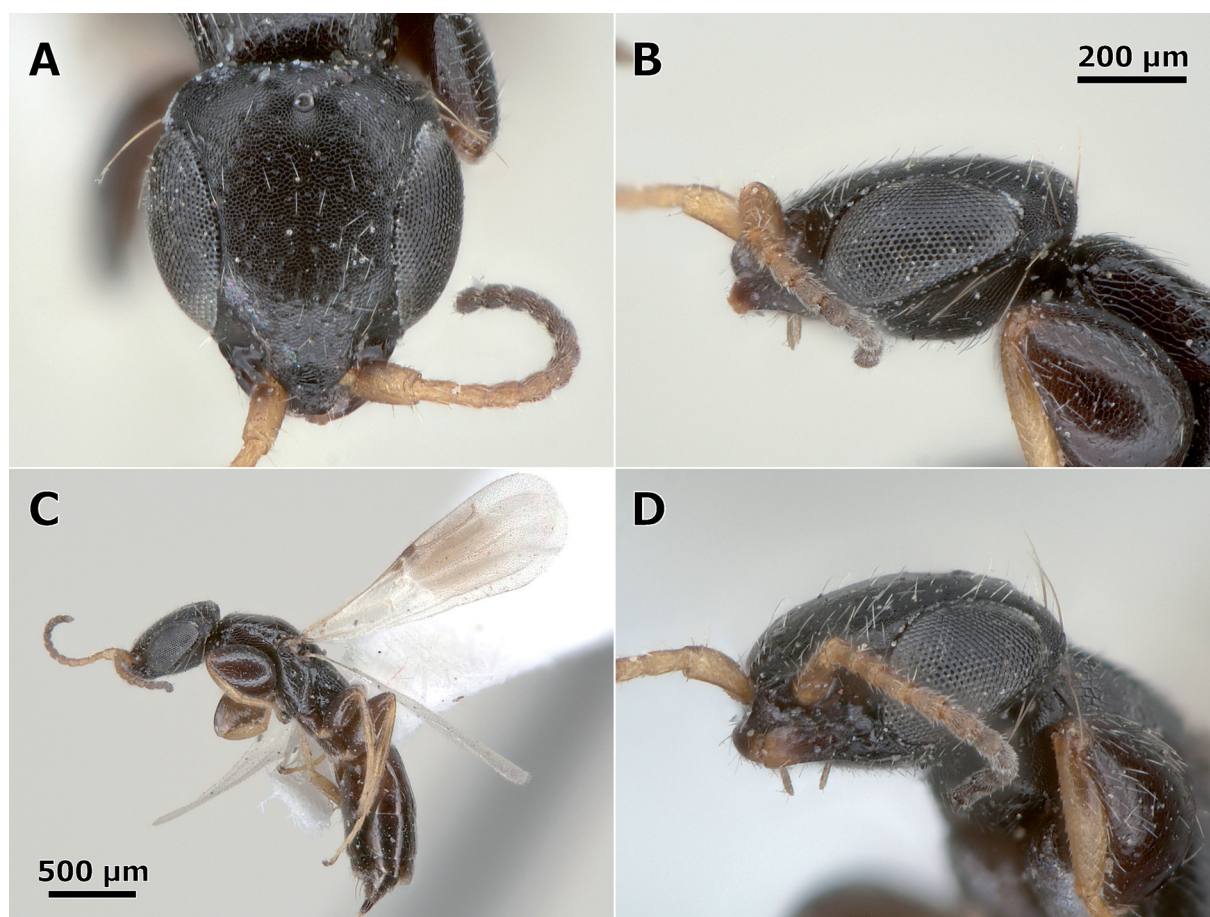


Fig. 189. *Sierola subcontracta* sp. nov., holotype, ♀ (UCDC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Hwy 1 Sarina–St Lawrence; 31 Aug. 1986; E.A. Sugden leg.; [car net?]; UCDC.

Description

Female

HEAD. Clypeal process trapezoidal, apex truncate; dorsally with a narrow flat-topped ridge, becoming rounded toward apex; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or

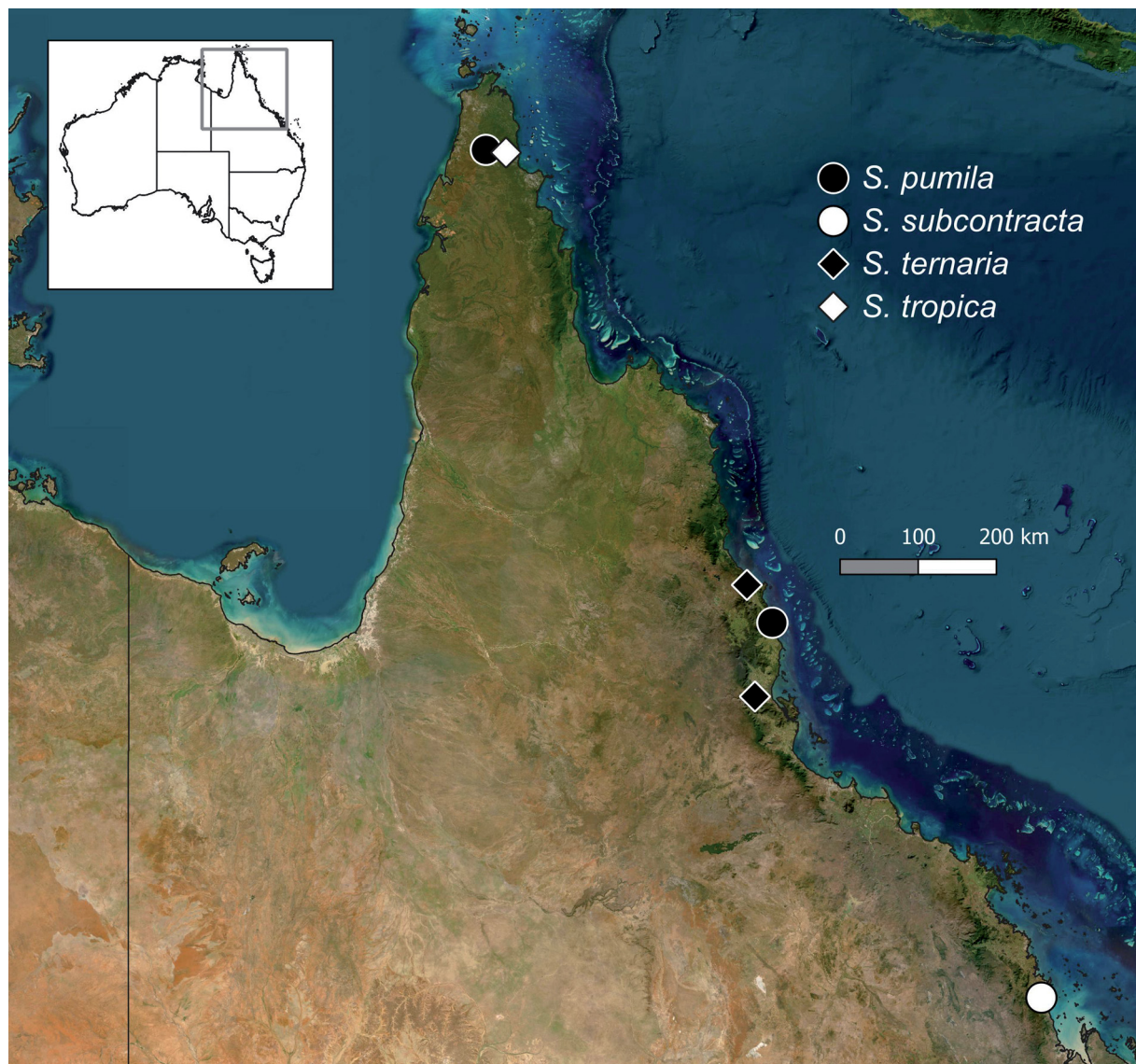


Fig. 190. Map of collection records of *Sierola pumila* sp. nov., *S. subcontracta* sp. nov., *S. ternaria* sp. nov., and *S. tropica* sp. nov.

scarcely longer. Frons with relatively regular, moderately close punctures, 1–2 pit widths apart. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina faintly present; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga, apical tergites punctate laterally. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible apical third yellow, grading to black at base. Coxae and femora dark brown to black, protibia and tarsus and all trochanters yellow, meso- and metatibiae and tarsi brownish.

WINGS. Membrane with a transverse band of faint infuscation between stigma and apex of Rs. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.85 mm; LM 1.03 mm; WH/LH 0.90; DH/LH 0.52; EV/HE 0.30; EV/WF 0.37; WF/HE 0.80; WH/WF 1.90; OOL/WOT 0.81; DM/LM 0.39; FL/FW 1.66; HFL/HFW 2.21; A3 L/W 1.23; 2R1 L/W 3.17.

Distribution

Queensland; known only from the holotype, collected on the central coast.

Remarks

The infuscate band of the wing is so far unique in the genus; all other species have the wing evenly colored. In the related *S. pericontracta* sp. nov. the wing is weakly infuscated and slightly darker in this region, but the contrast is not nearly as clear.

Sierola tenuifemur sp. nov.

urn:lsid:zoobank.org:act:2BDA9A9E-9ABF-4C5D-BB0A-0CADBB32B6FF

Figs 183, 191

Diagnosis

Part of a complex of species with the head compressed and weakly convex dorsally and ventrally, frons broad, mandible pale and distinctly concave ventrally, and lateral ocelli separated from the vertex crest.

Distinguished from similar species by the extremely narrow profemur, the most extreme seen in the genus so far. The antenna is also elongate, A3 L/W ≥ 1.5 .

Etymology

From the Latin '*tenuis*', 'thin', + '*femur*', 'thigh', referring to the extremely narrow profemur, the proportionally narrowest known in the genus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Acacia Ridge, Brisbane; Oct. 1976; E.C. Dahms leg.; Malaise trap; QM T262175.

Description

Female

HEAD. Clypeal process semi-elliptical, apex rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space almost

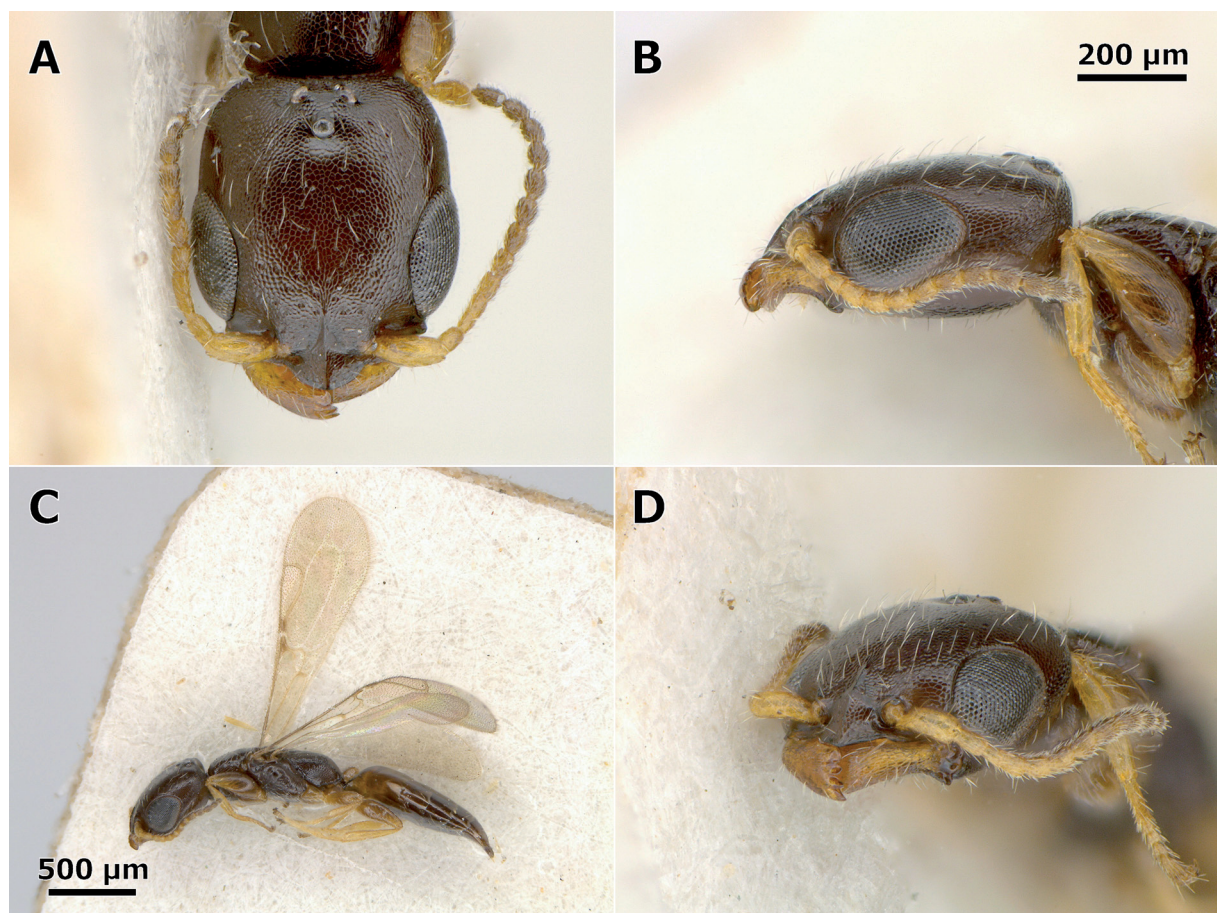


Fig. 191. *Sierola tenuifemur* sp. nov., holotype, ♀ (QM T262175). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur narrow, over 2.5 times as long as wide.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae (possibly with erect setae that are broken off on the unique holotype). Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible orange to yellow. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely or sparsely setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.58 mm; LM 0.80 mm; WH/LH 0.85; DH/LH 0.51; EV/HE 0.76; EV/WF 0.62; WF/HE 1.23; WH/WF 1.58; OOL/WOT 1.54; DM/LM 0.35; FL/FW 2.87; HFL/HFW 2.50; A3 L/W 1.65; 2R1 L/W 2.73.

Distribution

Queensland; known only from the holotype, collected in Brisbane.

Sierola ternaria sp. nov.

urn:lsid:zoobank.org:act:1DBFF943-1E72-423B-A503-78FBE29BBFB3

Figs 190, 192

Diagnosis

Among species with the head convex dorsally and basal wing cells setose, distinguished by the elongate vertex and gena setae, posterior corners of the head strongly rounded, and semicircular to semi-elliptical clypeus which is weakly carinate dorsally. Closest to *S. stilboparia* sp. nov., separated by the elongate vertex setae, slightly broader head, and propodeum with an anterior triangular polished area.

Etymology

From the Latin ‘*ternarius*’, ‘three’, referring to the three collectors listed for the holotype.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Kirrama Range, Douglas Creek Road; elev. 800 m; 15 Dec. 1986–11 Jan. 1987; Monteith, Thompson and Hamlet leg.; intercept trap; ANIC 32-154886.

Paratype

AUSTRALIA – Queensland • ♀; Cairns dist.; A.M. Lea leg.; SAMA 32-42930.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex broadly rounded; dorsally weakly carinate, or with a rounded carina; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head distinctly longer than flagellar width. Frons moderately punctate, about 2–3 pit

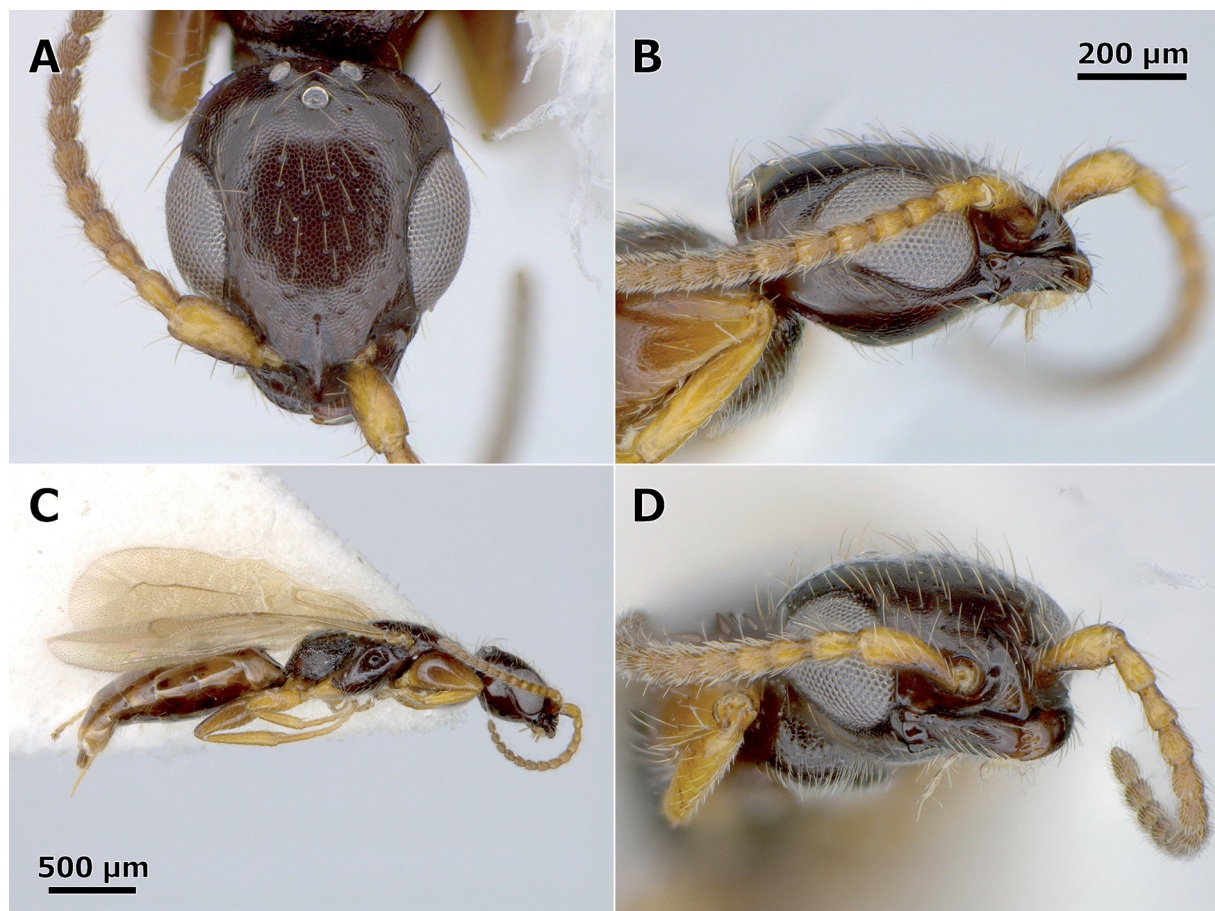


Fig. 192. *Sierola ternaria* sp. nov., holotype, ♀ (ANIC 32-154886). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

widths apart. Vertex and gena setae conspicuous, nearly twice as long as setae of frons and stronger, erect and directed anterior. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right to weakly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye flat; sculpture smooth and polished posterolaterally, reticulate ventrally and along posterior eye margin. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae elongate, twice as long as flagellar width or more. Propodeal disc laterally coarsely rugulose; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{3}$ distance from base to declivity; transverse carina faintly present; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane weakly infusate. Basal cells of fore wing with intermediate setation, each with two complete rows and a few additional setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmal abscissa of R1 indistinct.

MEASUREMENTS. LFW 2.09 mm; LM 1.07 mm; WH/LH 0.88; DH/LH 0.57; EV/HE 0.48; EV/WF 0.48; WF/HE 1.00; WH/WF 1.75; OOL/WOT 1.03; DM/LM 0.40; FL/FW 1.94; HFL/HFW 2.78; A3 L/W 1.43; 2R1 L/W 3.08.

Distribution

Queensland; known only from the holotype and one paratype, both collected in northern rainforest.

Sierola terpsilithus sp. nov.

urn:lsid:zoobank.org:act:1DD24760-AD0B-410C-8828-3064B52CC963

Figs 193, 195

Diagnosis

A somewhat nondescript species, identifiable by the combination of the head dorsally convex and compressed in lateral view (DH/LH ~0.48), frons not particularly broad, clypeus rounded and recurved apically, and basal wing cells sparsely setose. Closest to *S. badiorostris* sp. nov., differing in the setose basal wing cells, smooth frons microsculpture, long ventral setae on the metasomal sternites, and brown tinge of the mandible. Also similar to *S. helena* sp. nov., separated by the narrower, more parallel-sided head (WH/LH 0.79, OOL/WOT 1.39).

Etymology

From the Greek ‘*terpsis*’, ‘glad’, + ‘*lithos*’, ‘stone’, a literal translation of the type locality. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; 1 km SSE of Gladstone; 40°58′ S, 148°01′ E; 29 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154887.

Description

Female

HEAD. Clypeal process semicircular to semi-elliptical, apex broadly rounded; dorsally weakly carinate, or with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and

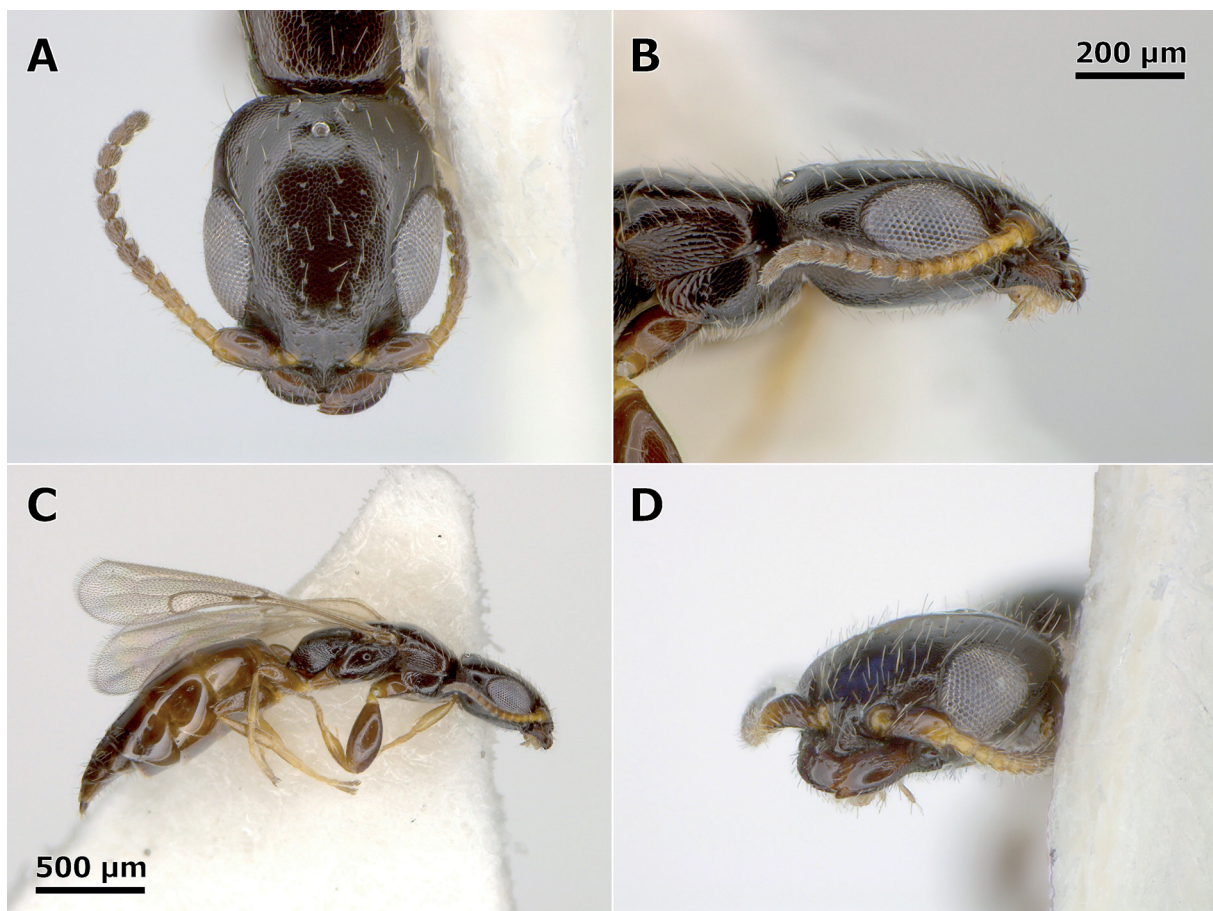


Fig. 193. *Sierola terpsilithus* sp. nov., holotype, ♀ (ANIC 32-154887). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle weakly acute to right. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye flat; sculpture shining and faintly reticulate ventrally and posterolaterally, with narrow band of tessellate-scutellate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–6 each with a pair of long erect setae, those on S5–6 about twice as long as preceding. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black to reddish brown. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.49 mm; LM 0.82 mm; WH/LH 0.79; DH/LH 0.48; EV/HE 0.66; EV/WF 0.68; WF/HE 0.97; WH/WF 1.79; OOL/WOT 1.39; DM/LM 0.34; FL/FW 2.14; HFL/HFW 2.20; A3 L/W 1.09; 2R1 L/W 2.90.

Distribution

Tasmania; known only from the holotype.

Sierola terrestris sp. nov.

urn:lsid:zoobank.org:act:D5076C19-B12A-4F12-A8F6-FA349BD90AAD

Figs 194–195

Diagnosis

A distinctive species, recognizable by the compact, boxy head, which is deep and about as wide as long (WH/LH 0.99–1.03, DH/LH 0.58–0.61), strongly convex dorsally in lateral view, and short and narrowed posterior of the eyes, thus appearing round in dorsal view. The basal wing cells are nearly glabrous.

Etymology

Named for the collection of the Victoria specimen in a pitfall trap. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Australian Capital Territory** • ♀; Canberra, CSIRO property; 35.275° S, 149.1109° E; elev. 588 m; 24–31 Oct. 2011; P. Hebert leg.; Malaise trap; BOLD: sample ID BIOUG53039-B10, process ID MCCA4748-20, BIN ABX1558; ANIC 32-154888.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; same data as for holotype; 18–24 Oct. 2011; BOLD: process ID MCCA2662-12, BIN ABX1558; ANIC • 1 ♀; same data as for holotype; 31 Oct.–7 Nov. 2011; BOLD: process ID MCCA482-12, BIN ABW6837 [pseudogene]; ANIC • 1 ♀; same data as for holotype; 14–21 Nov. 2011; BOLD: process ID MCCA1452-12, BIN ABX1558; ANIC. – **Victoria** • 1 ♀; Tidal River, above Botany Lab, Wilson’s Promontory Bioscan; 39°03’55” S, 146°19’23” E; 19–27 Oct. 2011; S. Hinkley, C. McPhee, P. Honan, M. Mackenzie and M. Patinathan leg.; pitfall trap, WPB 194; MVMA HYM-86616.

Description

Female

HEAD. Clypeal process rounded triangular to semicircular, apex rounded; dorsally weakly carinate; in profile steep and short, evenly curved. Mandible moderately narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in

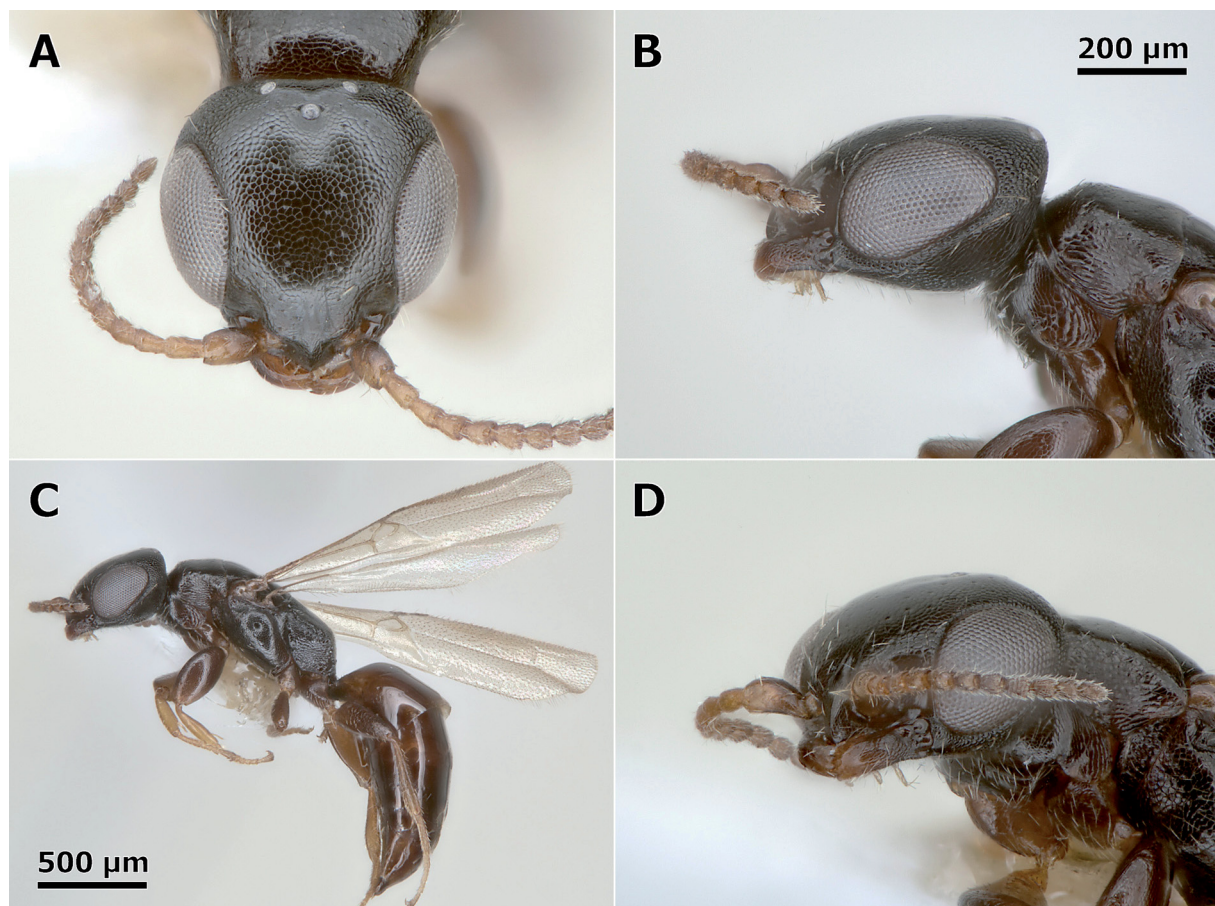


Fig. 194. *Sierola terrestris* sp. nov., holotype, ♀ (ANIC 32-154888). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart, or appearing impunctate (setae arising from shallow pits that are only visible at low angles). Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to coriaceous, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, median area with a broad polished strip extending from base to declivity; transverse carina faintly present laterally, obsolete medially; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

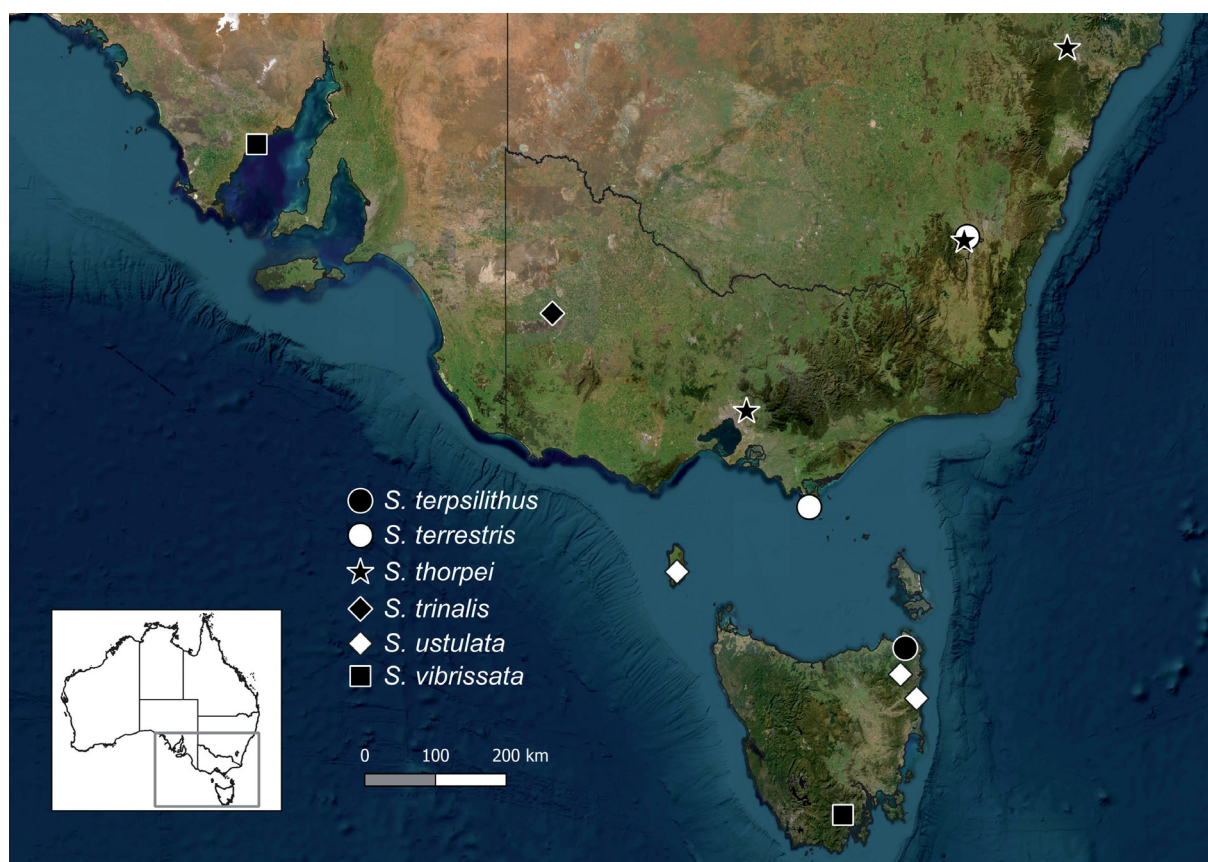


Fig. 195. Map of collection records of *Sierola terpsilithus* sp. nov., *S. terrestris* sp. nov., *S. thorpei* Magnacca, 2019, *S. trinalis* sp. nov., *S. ustulata* sp. nov., and *S. vibrissata* Ward, 2013.

METASOMA. Shining, with faint microsculpture laterally. S3–5 each with a pair of moderately long erect setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black. Coxae and femora brown, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.57 mm; LM 0.86 mm (0.86–0.95); WH/LH 0.99 (0.99–1.03); DH/LH 0.61 (0.58–0.62); EV/HE 0.36 (0.29–0.36); EV/WF 0.41 (0.30–0.41); WF/HE 0.89 (0.89–0.98); WH/WF 1.87 (1.81–1.90); OOL/WOT 0.77 (0.75–0.83); DM/LM 0.41; FL/FW 1.90 (1.90–1.97); HFL/HFW 2.20 (2.20–2.45); A3 L/W 1.52 (1.33–1.52); 2R1 L/W 2.40. N = 5.

Distribution

Victoria and Australian Capital Territory; all except the Victoria specimen collected sequentially in the same Malaise trap.

Remarks

One of the sequenced specimens from BOLD (sample id BIOUG02164-C01, process id MCCA482-12) is widely divergent from not only the other *S. terrestris* sp. nov. sequences but other *Sierola* in several conserved regions. The amplified sequence is probably a pseudogene (numt).

Sierola thorpei Magnacca, 2019
Figs 195–196

Sierola thorpei Magnacca, 2019: 18, fig. 3.

Diagnosis

The extremely short head posterior of the eyes, head about as wide or wider than long, infusate wings, and generally smooth microsculpture immediately separate this species from all others in the genus.

Type material

Holotype

NEW ZEALAND – **Auckland** • ♀; Auckland, suburb of Glen Innes, Point England, St John's; 15 Nov. 2014; S. Thorpe leg.; on *Lophostemon confertus*; NZAC.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♀; Canberra; 35.3314° S, 149.0582° E; 22 Sep. 2016; A. Wells leg.; in garden; ANIC.

NEW ZEALAND – **Auckland** • 1 ♀; Auckland, St John's, University of Auckland Tamaki campus; 26 Apr. 2016; S. Thorpe leg.; beating *Arthropodium cirratum*; BPBM.

Other material examined

AUSTRALIA – **New South Wales** • 1 ♀; Nadgee Reserve, Merrica Hut; 16 Jan. 1987; E.A. Sugden leg.; Malaise trap; UCDC • 1 ♀; Illawarra; H. Petersen leg.; NMNH. – **Victoria** • 1 ♀; Warrandyte; 31 Dec. 1993; L.J. Cookson leg.; MVMA HYM-86594 • 1 ♀; Victoria; MVMA HYM-86584.

Description**Female**

HEAD. Clypeal process semi-elliptical, apex weakly pointed; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, more or less parallel-sided except at base; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view evenly, moderately curved. Apex of mandible slightly oblique, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture finely microreticulate or evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head rounded shortly posterior to eyes. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Sculpture smooth and polished posterolaterally, finely microreticulate ventrally, with broad band of tessellate-colliculate sculpture

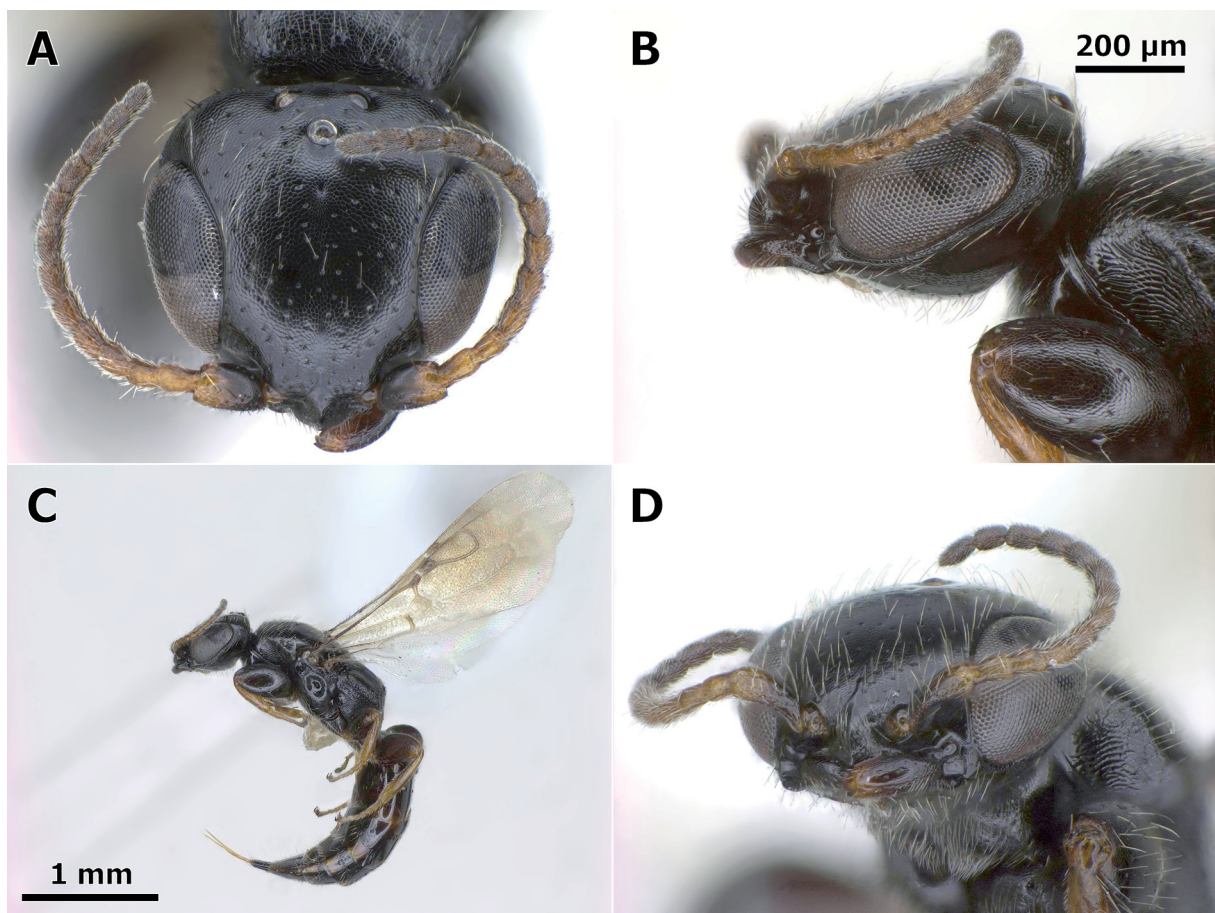


Fig. 196. *Sierola thorpei* Magnacca, 2019, holotype, ♀ (NZAC). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression shallow, rounded. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina distinct posteriorly, with a median triangular polished area covering anterior $\frac{1}{3}$; transverse carina distinct, complete; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites punctate laterally. S2–5 each with a somewhat dense apical row of short setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible black to reddish brown. Coxae and femora dark brown to black, tibiae, tarsi, and trochanters brownish orange.

WINGS. Membrane weakly infusate. Basal cells of fore wing densely and conspicuously setose, or sparsely setose with cell R densely setose apically. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 2.68 mm; LM 1.52 mm (1.17–1.55); WH/LH 1.03 (0.98–1.03); DH/LH 0.61 (0.60–0.63); EV/HE 0.33 (0.30–0.36); EV/WF 0.35 (0.32–0.38); WF/HE 0.94 (0.93–0.97); WH/WF 1.90 (1.82–1.90); OOL/WOT 1.07 (1.03–1.11); DM/LM 0.41; FL/FW 1.86 (1.83–1.90); HFL/HFW 1.90 (1.77–1.91); A3 L/W 1.38 (1.13–1.38); 2R1 L/W 2.27. N = 6.

Distribution

New South Wales, Australian Capital Territory, and Victoria; collected sparsely but widely across the southeast forest zone. Also found in New Zealand, where it is presumably introduced.

Remarks

The description here is largely repeated from Magnacca (2019), with slight modifications to take into account the range of variation and additional characters used in this work. The widespread, older collections in native vegetation appears to confirm the previous suspicion that it is a native Australian species that was introduced to New Zealand (Magnacca 2019). It is unusual in the genus in having the mesofemur distinctly broadened dorsoventrally and flattened like the pro- and metafemora, rather than cylindrical.

Sierola torovertex sp. nov.

urn:lsid:zoobank.org:act:6BE5BD3B-FB0A-4C67-9491-8ACE56F8A3D1

Figs 183, 197

Diagnosis

Part of the *kalarku* species group, with the mandible strongly twisted and shiny, head more or less triangular in dorsal view, vertex slightly concave, frons microsculpture smooth, and clypeus without any trace of a carina. Immediately distinguishable from all other species by the shape of the vertex crest, which has a bulge around the ocelli making the margin sinuate in dorsal view.

Etymology

From the Latin ‘*torus*’, ‘protuberance’ or ‘bulge’, + ‘*vertex*’, referring to the peculiar swelling posterior of the ocelli. It is a noun in apposition.

Type material**Holotype**

AUSTRALIA – **Australian Capital Territory** • ♀; Canberra, CSIRO, behind CSIRO; 35.275° S, 149.1109° E; elev. 590 m; 10 Apr. 2011; P. Hebert, R. Labbee, V. Levesque-Beaudin, J. McCormick, J. Sones and J. Webb leg.; BOLD: sample ID BIOUG53911-A03, process ID MCCA8549-20, BIN ABX1996; ANIC 32-154889.

Paratypes

AUSTRALIA – **Australian Capital Territory** • 1 ♂; Canberra, CSIRO property; 35.275° S, 149.1109° E; elev. 588 m; 24–31 Oct. 2011; P. Hebert leg.; Malaise trap; BOLD: process ID MCCA4715-20, BIN ABX1996; ANIC • 1 ♀; same data as for preceding; 14–21 Nov. 2011; BOLD: process ID MCCA1598-12, BIN ABX1996; ANIC. – **Queensland** • 1 ♂; Braemar State Forest via Kogan; 15–19 Oct. 1979; G. Monteith leg.; pyrethrum on *Petalostigma*; QM • 1 ♀; Braemar State Forest via Kogan; 27°13' S, 150°50' E; 18 Oct. 1979; G. Monteith leg.; QM Berlesate No. 218, open forest, sieved litter; QM.

Description**Female**

HEAD. Clypeal process semicircular, apex broadly rounded; dorsally flat, not carinate, slightly convex only laterally; in profile evenly sloping, nearly straight. Mandible narrow, more or less parallel-sided except at base; strongly twisted, outwardly polished and shining distal of bend, coriaceous and dull

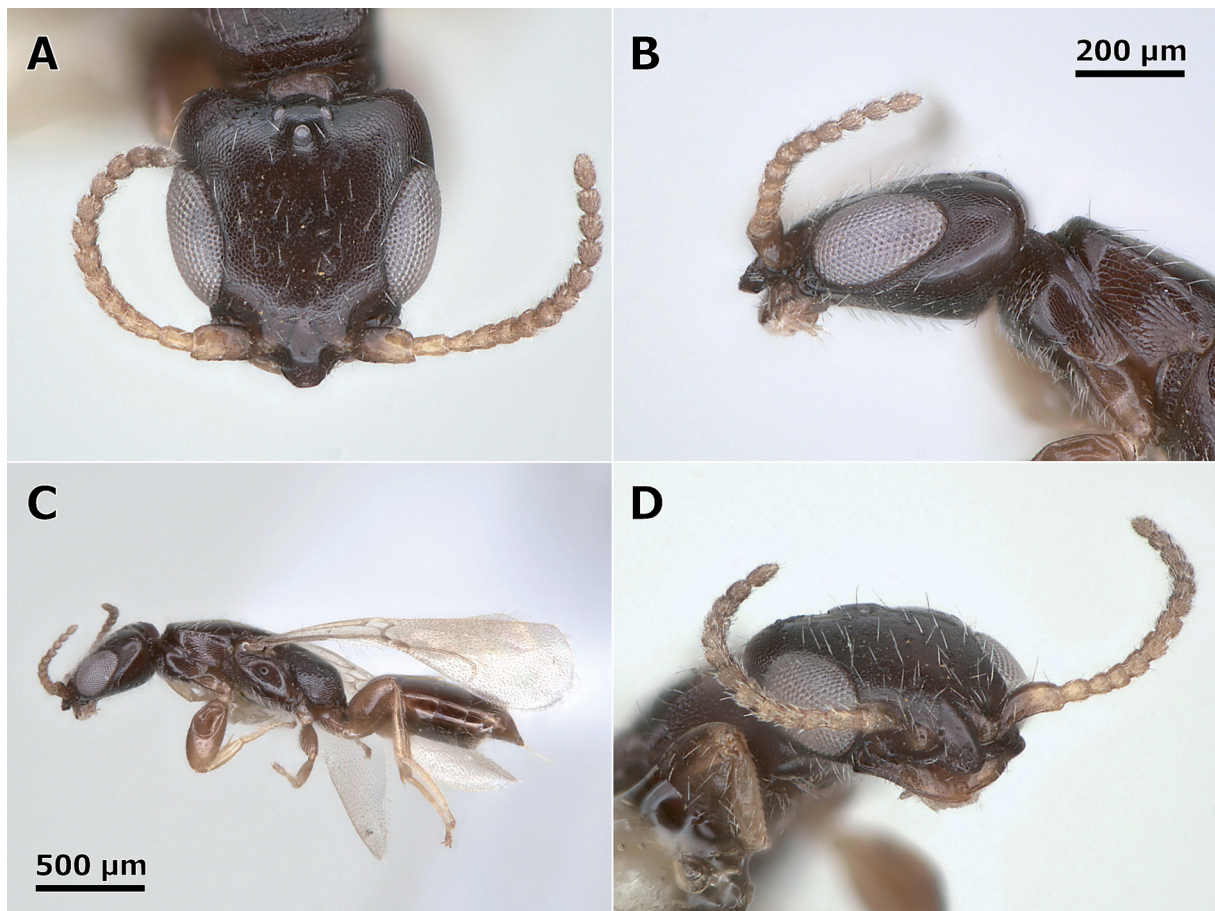


Fig. 197. *Sierola torovertex* sp. nov., holotype, ♀ (ANIC 32-154889). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

basally; in ventral view weakly curved. Apex of mandible slightly oblique, with small, indistinct teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with sparse, scattered punctures, mostly 3 pit widths apart or more. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view broadly, shallowly concave, with a distinct protuberance between lateral ocelli; occipital margin narrowly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right to weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through just posterior of eye. Venter of head posterior to mandible flat in lateral view, with relatively sparse setae. Genal angle present posteriorly, not prominent, head relatively flat. Side of head posterior to eye convex, with a broad area of colliculate microsculpture extending to vertex crest. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view strongly angulate, pronotal disc distinctly flattened. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent, with a distinct median triangular polished area extending about $\frac{1}{2}$ distance from base to declivity; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally, T4–6 punctate with moderately long setae. S3–5 each with a pair of moderately long erect setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Head and mesosoma black, metasoma brownish. Antenna with scape brown basally, otherwise nearly all yellow. Mandible dark basally, apical half orange. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight but not quite meeting anterior wing margin, poststigmatal abscissa of R1 indistinct.

MEASUREMENTS. LFW 1.40 mm; LM 0.84 mm (0.84–0.98); WH/LH 0.90 (0.90–0.93); DH/LH 0.50 (0.49–0.51); EV/HE 0.49 (0.47–0.49); EV/WF 0.45; WF/HE 1.07 (1.04–1.07); WH/WF 1.70 (1.70–1.78); OOL/WOT 1.55 (1.46–1.55); DM/LM 0.33; FL/FW 2.13 (2.08–2.13); HFL/HFW 1.97 (1.97–2.13); A3 L/W 1.00 (1.00–1.11); 2R1 L/W 3.25. N = 3.

Male

Similar to female with the following exceptions. *Head.* Clypeus in profile evenly curved. Vertex and gena setae longer than those of frons, but not strong or conspicuous. *Mesosoma.* Not strongly compressed. *Metasoma.* Sterna lacking long erect setae. *Color.* Profemur yellow apically; meso- and metatibiae brown medially.

MEASUREMENTS. LFW 1.40–1.52 mm; LM 0.80 mm; WH/LH 1.03–1.06; DH/LH 0.53–0.56; EV/HE 0.43–0.48; EV/WF 0.38–0.43; WF/HE 1.11–1.13; WH/WF 1.78–1.83; OOL/WOT 1.33–1.38; DM/LM 0.40; FL/FW 2.35–2.39; HFL/HFW 2.32–2.63; A3 L/W 1.30; 2R1 L/W 2.50–2.73.

Distribution

Queensland and Australian Capital Territory; presumably also found in New South Wales.

Sierola torulus sp. nov.

urn:lsid:zoobank.org:act:5A5652E1-E594-497A-9FE4-DC4DE3E2DFBC

Figs 183, 198

Diagnosis

Part of a complex of species with the head compressed and weakly convex dorsally and ventrally, frons broad, mandible pale and distinctly concave ventrally, and lateral ocelli separated from the vertex crest. Distinguished from similar species by the yellow mandible and prominent clypeus, broad in dorsal view and elongate in profile, the apex strongly acute.

Etymology

From the Latin '*torulus*', 'small bulge' or 'protuberance', referring to the projection of Queensland where the type locality is, as well as the clypeus. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Queensland** • ♀; Applethorpe; 19 Oct.–13 Dec. 1982; B.F. Ingram leg.; Malaise trap; QM T262176.

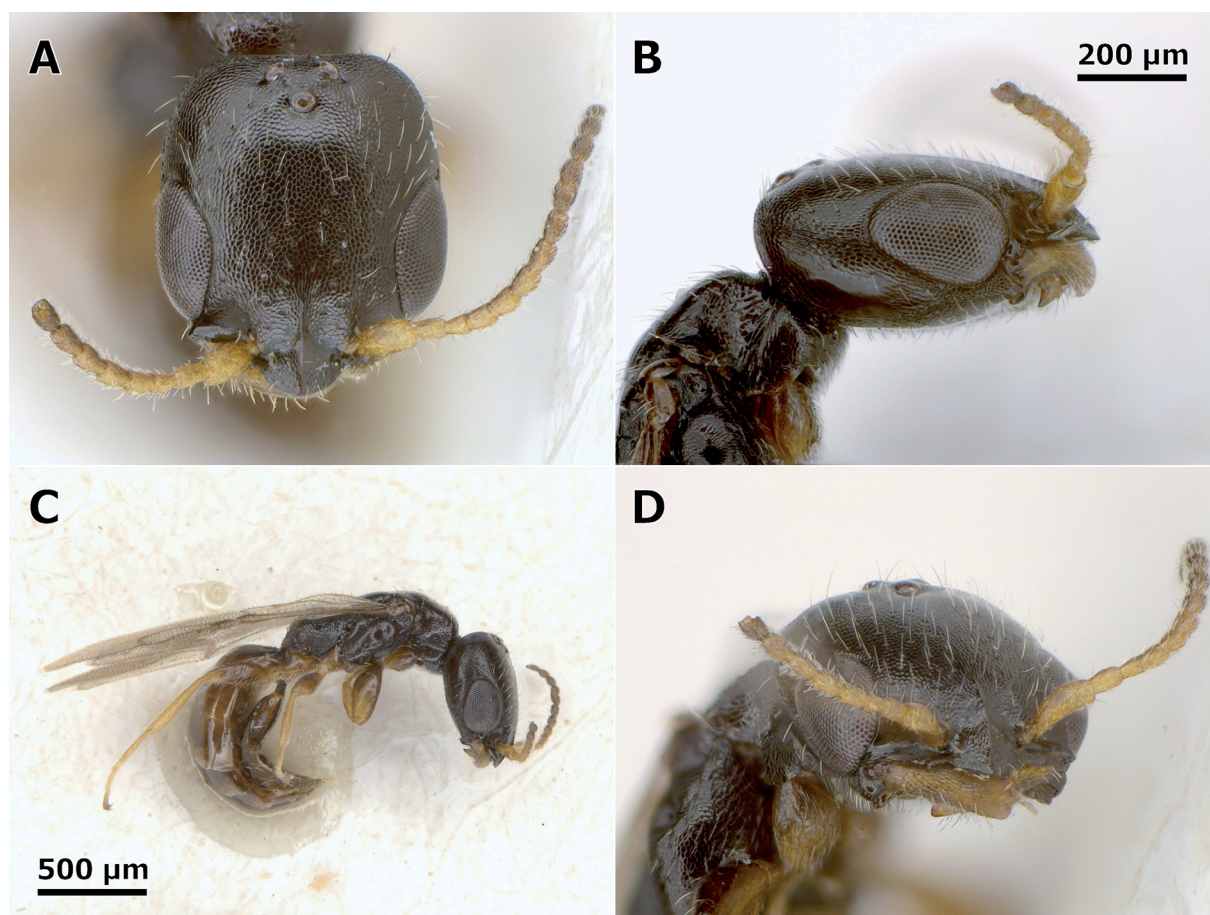


Fig. 198. *Sierola torulus* sp. nov., holotype, ♀ (QM T262176). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratype

AUSTRALIA – **Queensland** • 1 ♀; Upper Clayton Gully, near Cunningham's Gap; elev. 400–600 m; 25 Apr. 1974; I. Naumann leg.; sweeping long grass, wet sclerophyll forest; QM.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly sloping, nearly straight. Mandible moderately broad, distinctly narrowed medially and broadened at apex, ventral margin concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly coriaceous, somewhat dull; in ventral view obtusely elbowed. Apex of mandible slightly oblique, with teeth distinctly stronger ventrally. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view very slightly concave; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina faintly present; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible yellow. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.73 mm; LM 0.83 mm; WH/LH 0.85; DH/LH 0.53; EV/HE 0.86; EV/WF 0.67; WF/HE 1.28; WH/WF 1.61; OOL/WOT 1.74; DM/LM 0.39; FL/FW 2.47; HFL/HFW 2.44; A3 L/W 1.30; 2R1 L/W 2.88.

Distribution

Queensland; known from two specimens, collected close together in the southeast.

Sierola trachycephala sp. nov.

urn:lsid:zoobank.org:act:0B9E2670-6F4B-4ECB-A155-B5692CCBAE46

Figs 199, 204

Diagnosis

A member of the *compressa* group, characterized by the head and mesosoma flattened, frons broad, and basal wing cells sparsely setose; belonging to the subgroup with the ocellar triangle weakly acute to obtuse and head shorter posterior to the eyes. Closest to *S. setosipennis* sp. nov. in having the mandible weakly convex outwardly and basal wing cells densely setose; separated by having the clypeus ventrally recurved in profile and coxae and femora brown.

Etymology

From the Greek ‘*trachys*’, ‘rough’, + ‘*kephalon*’, ‘head’, referring to the coarse sculpture.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; 10 km W by S of Ravensthorpe; 33°36′ S, 119°55′ E; 22 Sep. 1981; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154890.

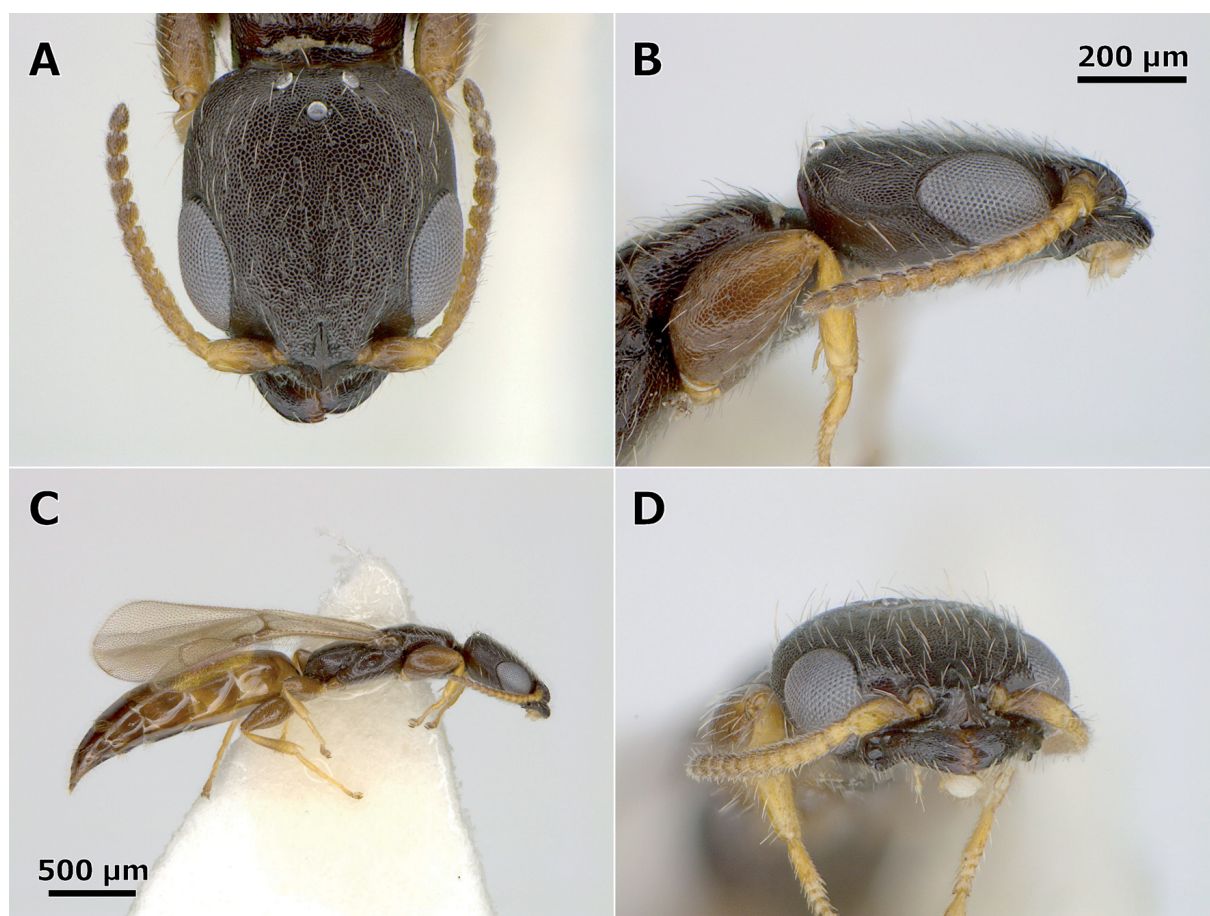


Fig. 199. *Sierola trachycephala* sp. nov., holotype, ♀ (ANIC 32-154890). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Paratype

AUSTRALIA – **South Australia** • 1 ♀; Brookfield Conservation Park; 34°21' S, 139°26' E; 30 Mar.–3 Apr. 1992; A. Calder and W. Dressler leg.; campsite, pyrethrin knockdown, mallee; ANIC.

Description

Female

HEAD. Clypeal process semi-elliptical, apex broadly rounded; dorsally with a sharp carina or weakly carinate; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow punctures, dense near antennae, 2–3 pit widths apart posterior of midpoint of eyes. Vertex and gena setae distinctly longer than frons setae but only about as thick, not particularly conspicuous. Frons microsculpture dull, granular. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly obtuse. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through just posterior of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterior of eye, ventrally with colliculate-coriaceous sculpture. Postgenal depression absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Strongly dorsoventrally compressed. Anterior margin of dorsal pronotal area in lateral view weakly angulate, pronotal disc slightly concave. Pronotal setae longer than flagellar width. Propodeal disc laterally finely, weakly striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae and femora brown, protibia and tarsi yellow, meso- and metatibiae brown with yellow bands at bases and apices.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.74 mm; LM 0.92 mm; WH/LH 0.89; DH/LH 0.44; EV/HE 0.83; EV/WF 0.67; WF/HE 1.25; WH/WF 1.62; OOL/WOT 1.50; DM/LM 0.30; FL/FW 1.92; HFL/HFW 2.00; A3 L/W 1.00; 2R1 L/W 2.28.

Distribution

Western and Southern Australia; known from two widely separated collections, both in semi-arid habitat.

Sierola tractuosa sp. nov.

urn:lsid:zoobank.org:act:9807EC5B-31B4-455D-BEB0-C29348980EE5

Figs 153, 200

Diagnosis

Part of the *ficicola* species group with the head flat dorsally, moderately narrow and compressed, frons narrow, and antenna short. Separated from similar species by having the mandible slightly twisted, lateral ocelli separated from the vertex crest by more than an ocellus length, transverse propodeal carina present and distinct, and frons distinctly narrow, $WH/HE \leq 1.0$.

Etymology

From the Latin '*tractuosus*', 'gluey', referring to the holotype specimen originally having been embedded in glue and still having excess glue on remounting.

Type material

Holotype

AUSTRALIA – Western Australia • ♀; Perth; MVMA HYM-86582.

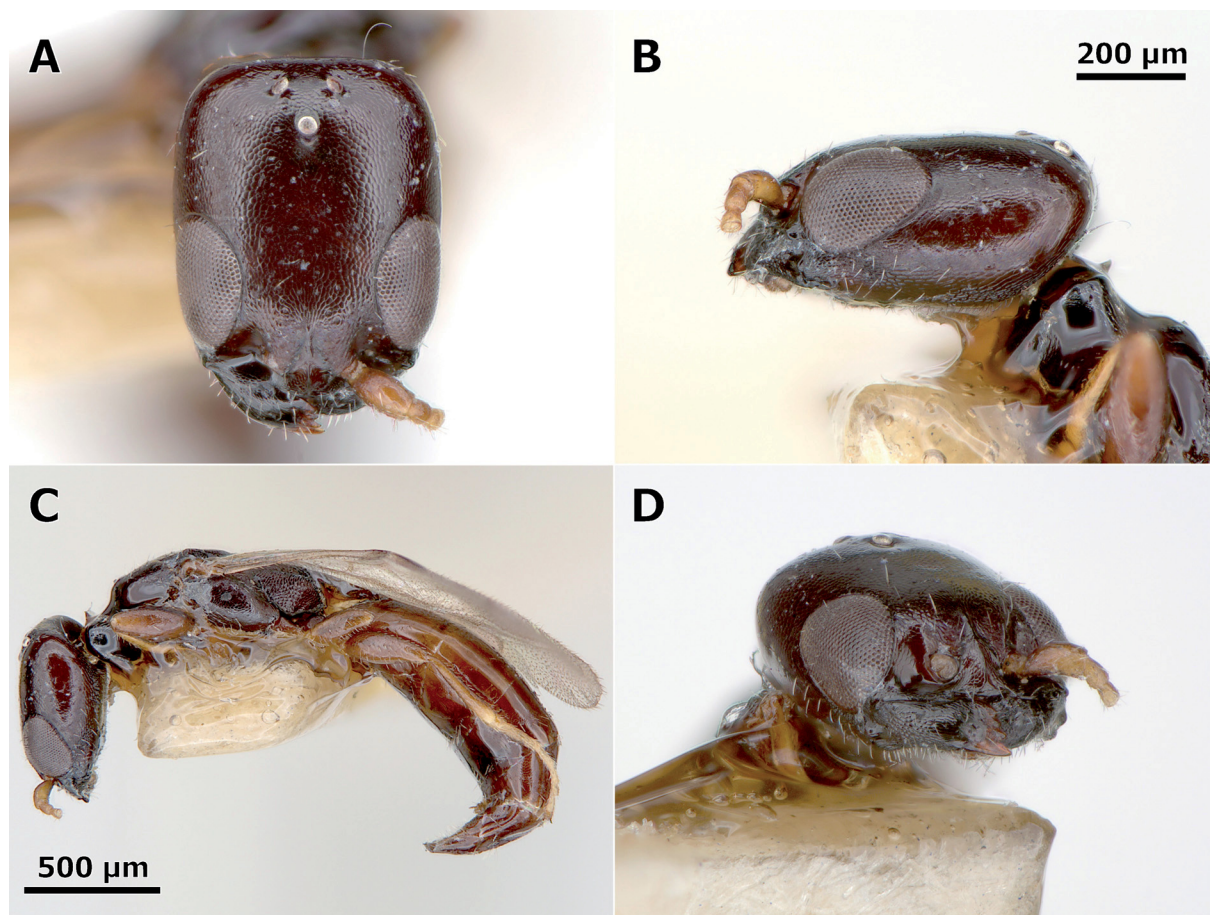


Fig. 200. *Sierola tractuosa* sp. nov., holotype, ♀ (MVMA HYM-86582). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile steep and short, evenly curved. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by more than their length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat posterior to middle of inner eye margin, head deepest on line well posterior of eye. Venter of head posterior to mandible convex in lateral view, with moderately dense pubescence. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna short, scarcely extending beyond head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Mandible black. Coxae and femora brown, tibiae brown except at base and apex, trochanters and tarsi yellow.

WINGS. Membrane hyaline. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.77 mm; LM 0.85 mm; WH/LH 0.78; DH/LH 0.51; EV/HE 1.08; EV/WF 1.18; WF/HE 0.92; WH/WF 2.09; OOL/WOT 1.96; DM/LM 0.41; FL/FW 2.29; HFL/HFW 2.63; A3 L/W 1.00; 2R1 L/W 2.33.

Distribution

Western Australia; known only from the holotype, collected at Perth.

Remarks

The specimen is heavily glued and the basal wing cells are unclear; they lack setae but appear to have sockets.

Sierola trinalis sp. nov.

urn:lsid:zoobank.org:act:E407FE40-9BBA-4D86-B8DD-BBF0B53C5B6E

Figs 195, 201

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Closest to *S. nesomeson* sp. nov. and *S. paraglutinata* sp. nov., united by having the head only moderately convex ventrally; ocellar triangle relatively wide, OOL/WOT less than 1.40; and malar space short but distinct, about $\frac{1}{4}$ as long as the mandible base. Differing from both by having a distinct transverse propodeal carina, shorter OOL/WOT (less than 1.00), and metafemur relatively broad ($HFL/HFW \leq 2.50$).

Etymology

From the Latin '*trinalis*', 'three' or 'triple', referring to this being the third member of its closely-related complex to be described.

Type material

Holotype

AUSTRALIA – Victoria • ♀; Kiata; Oct. 1928; F.E. Wilson leg.; MVMA HYM-86583.



Fig. 201. *Sierola trinalis* sp. nov., holotype, ♀ (MVMA HYM-86583). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semicircular, apex rounded; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly shining but with distinct, fine microsculpture; in ventral view weakly curved. Apex of mandible vertical, with second ventral tooth largest. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head shorter than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight, corners strongly rounded off; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head narrowed posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view strongly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible reddish brown. Coxae brown, femora brown dorsally, legs otherwise yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose, or with intermediate setation, each with two complete rows and a few additional setae. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.43 mm; LM 0.75 mm; WH/LH 0.89; DH/LH 0.56; EV/HE 0.43; EV/WF 0.52; WF/HE 0.83; WH/WF 2.00; OOL/WOT 0.90; DM/LM 0.40; FL/FW 2.00; HFL/HFW 2.28; A3 L/W 1.52; 2R1 L/W 2.64.

Distribution

Victoria; known only from the holotype, collected in the dry western region.

Remarks

This species may be separated from the very similar *S. paraglutinata* sp. nov. by ecology, as they were collected in different habitats (mountain rainforest versus dry plains).

Sierola tropica sp. nov.

urn:lsid:zoobank.org:act:B1B4617A-BF50-4998-8682-AB6700B838DF

Figs 190, 202

Diagnosis

The combination of yellow mandible and legs, clypeus short and semi-elliptical, head compressed and flat or weakly convex dorsally, and frons narrow (WH/HE ~1.1) will separate this species from all others. The mandible is also narrow and lateral ocelli nearly touching the vertex crest, which is unusual in similar species.

Etymology

From the Greek '*tropikos*', 'turn', referring to the type locality.

Type material

Holotype

AUSTRALIA – Queensland • ♀; turnoff to Captain Billy Landing; 11°41' S, 142°42' E; 19 Jun. 1993; I.D. Naumann and P. Zborowski leg.; ANIC 32-154891.

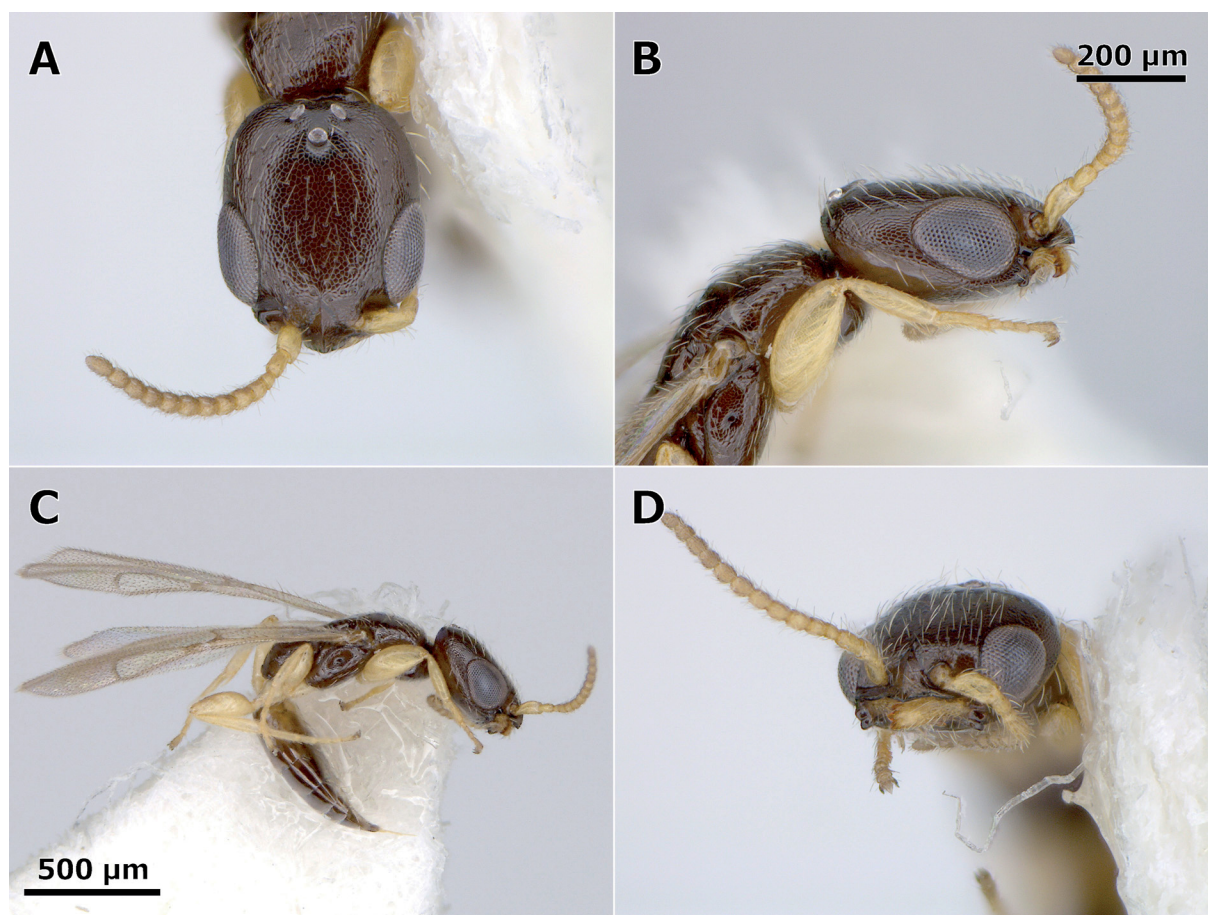


Fig. 202. *Sierola tropica* sp. nov., holotype, ♀ (ANIC 32-154891). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Description

Female

HEAD. Clypeal process semi-elliptical, apex weakly pointed; dorsally with a low carina, distinctly visible only when viewed directly down towards mandibles; in profile evenly curved from base to apex, apical angle slightly acute. Mandible narrow, broadened at base and apex, ventral margin distinctly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view weakly curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head distinctly longer than flagellar width. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture smooth and polished posterolaterally, finely microreticulate ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally shining, with weak microsculpture; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Highly polished, without a trace of microsculpture. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna yellow, tinged with brown dorsally. Mandible yellow. Legs all yellow.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.27 mm; LM 0.64 mm; WH/LH 0.83; DH/LH 0.48; EV/HE 0.86; EV/WF 0.76; WF/HE 1.12; WH/WF 1.72; OOL/WOT 1.73; DM/LM 0.34; FL/FW 2.25; HFL/HFW 2.43; A3 L/W 1.00; 2R1 L/W 2.94.

Distribution

Queensland; known only from the holotype, collected on the Cape York Peninsula.

Sierola truncata sp. nov.

urn:lsid:zoobank.org:act:D2CC4664-710E-4210-AE58-6D5DDEDFADA6

Figs 203–204

Diagnosis

United with *S. gudang* sp. nov. by the unusual clypeus, which is high and weakly carinate dorsally, abruptly truncate apically, with a distinct vertical surface visible in lateral view. Separated by having

the mandible constricted near the base, gradually and evenly broadened toward the apex; basal cells of the fore wing nearly glabrous; and head long posterior of the eyes, EV/HE 0.80–1.05; and frons broad, WF/HE ~1.2.

Etymology

Referring to the abruptly truncate clypeus.

Type material

Holotype

AUSTRALIA – **South Australia** • ♀; Brachina Creek; 31°20' S, 138°33' E; 9 Nov. 1987; I.D. Naumann and J.C. Cardale leg.; ANIC 32-154892.

Paratypes

AUSTRALIA – **Northern Territory** • 1 ♀; 39 km E of Alice Springs; 23°42' S, 134°15' E; 5 Oct. 1978; J.C. Cardale leg.; ex alcohol collection; ANIC. – **South Australia** • 1 ♀; Eba; 17 May 1953; G.F. Gross leg.; E.S.I. 972; SAMA 32-42929 • 1 ♀; same data as for holotype; ANIC • 1 ♀; 17 km E of Morgan; 34°02' S, 139°52' E; 12 Nov. 1987; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC. – **Western Australia** • 1 ♀; 21 km E by N of Yellowdine; 31°17' S, 119°53' E; 10 Oct. 1981; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 1 ♀; 40 km N of Geraldton; 28°28' S, 114°38' E; 3 Jan. 1995;

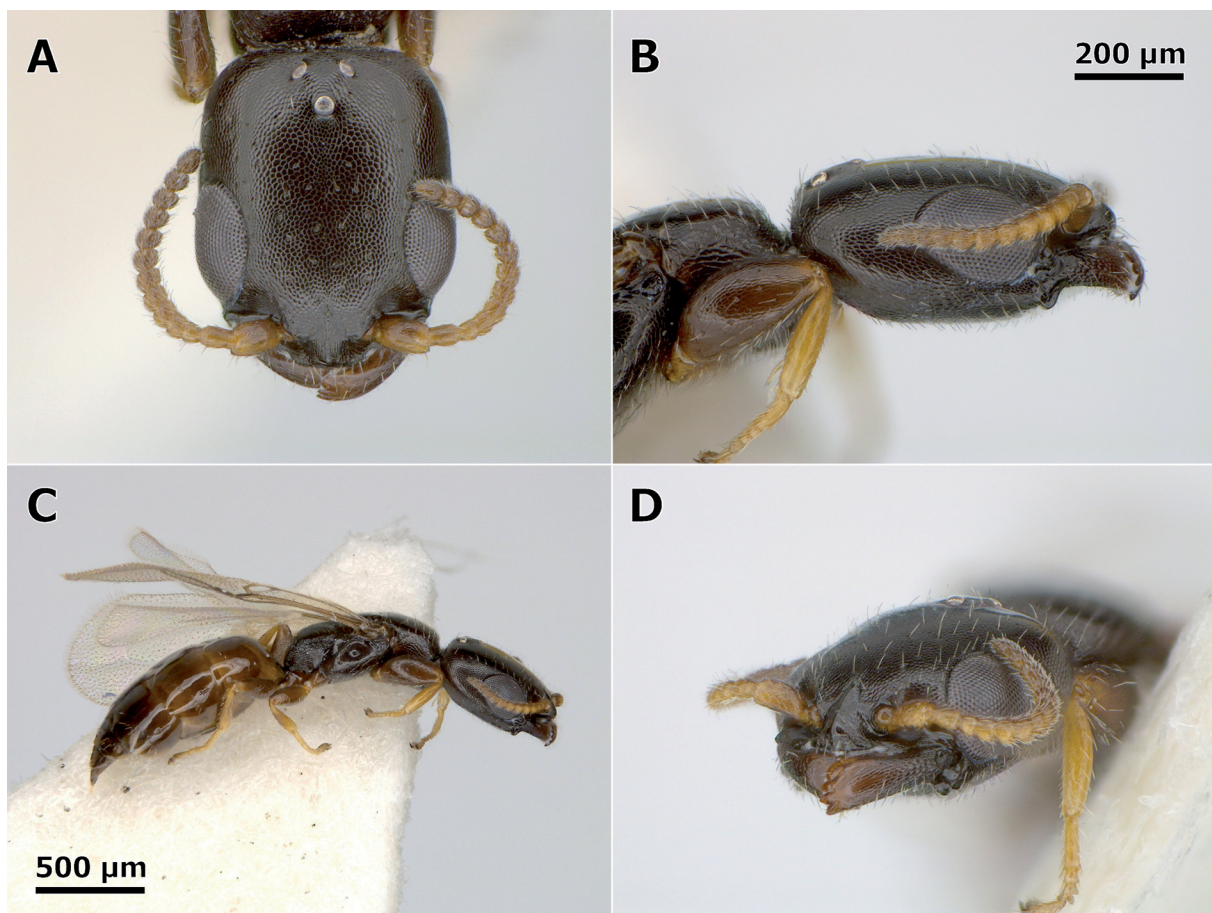


Fig. 203. *Sierola truncata* sp. nov., holotype, ♀ (ANIC 32-154892). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

R.B. and L.S. Kimsey leg.; ex *Eucalyptus*; UCDC 10302 • 1 ♀; 120 km N of Northampton; 27°25' S, 114°40' E; 9 Jan. 1995; R.B. and L.S. Kimsey leg.; UCDC 10904 • 1 ♀; 110 km NW of Williams; 32°19' S, 119°13' E; 15 Jan. 1995; L.S. and R.B. Kimsey leg.; UCDC 11503 • 1 ♀; 2 km N of Narrogin; 32°56' S, 117°11' E; 16 Jan. 1995; L.S. and R.B. Kimsey leg.; ex *Eucalyptus*; UCDC • 1 ♀; Dumbleyung Lake Nature Reserve; 33°19' S, 117°38' E; 12 Nov. 2002; J. Pinto leg.; UCRC 110039.

Description

Female

HEAD. Clypeal process very short trapezoidal, almost transverse, extending only slightly beyond lateral portion of clypeus, apex truncate; dorsally weakly carinate, abruptly cut off apically; in profile gently sloping dorsally, distally nearly vertical or slightly angled back. Mandible moderately broad, constricted just past articulation, gradually broadened towards apex; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space almost absent. Dorsal setae of head shorter than flagellar width. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli separated from vertex crest by about their own length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae.

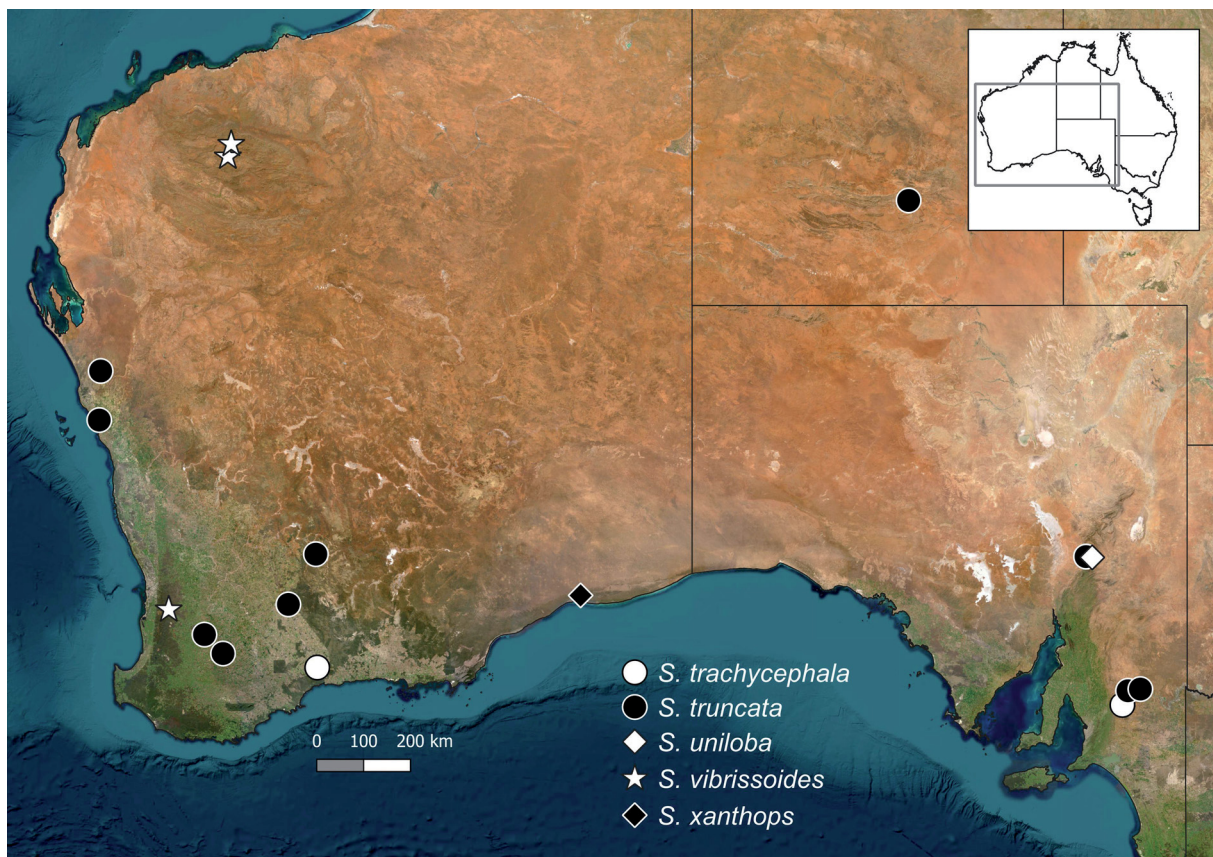


Fig. 204. Map of collection records of *Sierola trachycephala* sp. nov., *S. truncata* sp. nov., *S. uniloba* sp. nov., *S. vibrissoides* sp. nov., and *S. xanthops* sp. nov.

Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna very short, not extending beyond posterior margin of head.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina present laterally, obsolete medially; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna dark brown dorsally, yellowish brown ventrally. Mandible dark basally, apical half reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.51 mm; LM 0.75 mm (0.64–0.78); WH/LH 0.80 (0.79–0.83); DH/LH 0.50 (0.49–0.52); EV/HE 0.94 (0.91–1.00); EV/WF 0.77 (0.75–0.88); WF/HE 1.22 (1.10–1.26); WH/WF 1.72 (1.66–1.79); OOL/WOT 1.93 (1.69–2.00); DM/LM 0.41; FL/FW 2.09 (1.94–2.16); HFL/HFW 2.17 (2.01–2.27); A3 L/W 0.80 (0.80–0.92); 2R1 L/W 1.89. N = 11.

Distribution

Widespread in Western Australia and South Australia, with one record from Northern Territory near Alice Springs.

Remarks

Although still represented by less than a dozen specimens, this appears to be one of the only truly widespread species of Australian *Sierola*. It is found in dry and semi-desert areas throughout the western $\frac{2}{3}$ of the continent.

Sierola uniloba sp. nov.

urn:lsid:zoobank.org:act:440F98A5-29BD-4CD4-9774-C561971D35D4

Figs 204–205

Diagnosis

Belonging to the complex of species with the clypeus moderately large and quadrate, visibly parallel-sided beyond the antennae. Close to *S. macrorrhina* sp. nov., sharing a low but distinct medial carina on the clypeus. Separated by having the clypeus truncate apically rather than broadly rounded, mandible reddish brown and strongly twisted, propodeum without polished areas, and head somewhat narrower.

Etymology

Referring to the undivided clypeus and the obvious similarity to *S. biloba* sp. nov. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – South Australia • ♀; Oraparinna Creek, Dingly Dell Camp, near water; 31°21' S, 138°42' E; 4–10 Nov. 1987; I.D. Naumann and J.C. Cardale leg.; Malaise trap/ethanol; ANIC 32-154893.

Description

Female

HEAD. Clypeal process quadrate, apex truncate; dorsally with a distinct but narrow, sharp ridge raised slightly above the otherwise flat surface; in profile evenly sloping, nearly straight. Mandible moderately broad, slightly narrowed medially and broadened at apex, ventral margin weakly concave; slightly twisted, outwardly polished and shining distal of bend, coriaceous and dull basally; in ventral view obtusely elbowed. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture evident but smooth, shining. Vertex in dorsal view more or less straight; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle strongly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae moderate, about as long as 2–3 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through posterior margin of eye. Venter of head posterior to mandible

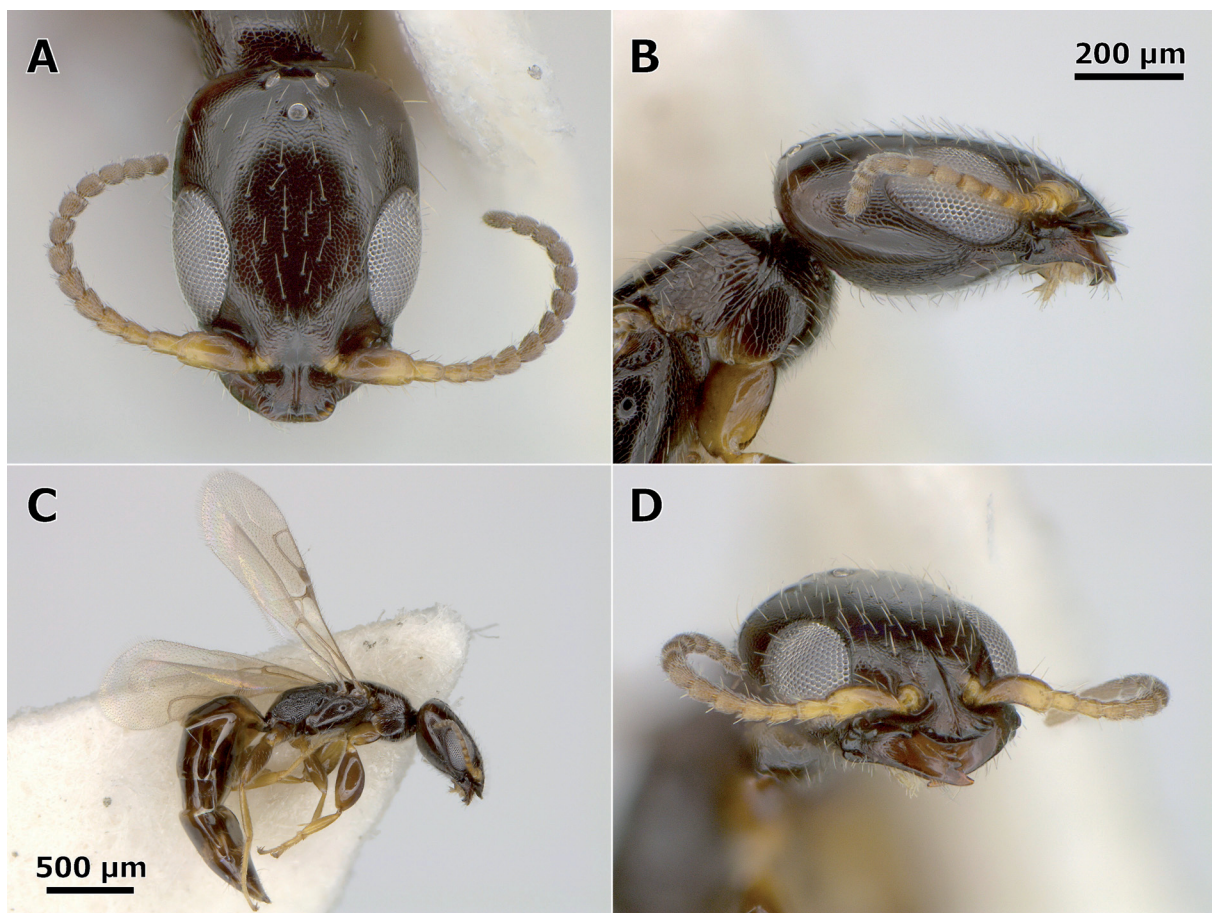


Fig. 205. *Sierola uniloba* sp. nov., holotype, ♀ (ANIC 32-154893). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture weakly microreticulate ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view weakly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, strongly laterally compressed, slightly arcuate in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S3–5 each with two pairs of long erect setae, S6 with one pair much longer than others. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape and base of flagellum pale, becoming darker over apical half. Mandible reddish brown. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing sparsely setose, with one or two rows of setae in each cell. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.57 mm; LM 0.88 mm; WH/LH 0.70; DH/LH 0.45; EV/HE 0.75; EV/WF 0.79; WF/HE 0.94; WH/WF 1.88; OOL/WOT 1.61; DM/LM 0.35; FL/FW 2.27; HFL/HFW 2.24; A3 L/W 1.40; 2R1 L/W 2.64.

Distribution

South Australia; known only from the holotype.

Remarks

Similar and clearly closely related to *S. biloba* sp. nov., separated by the quadrate, undivided clypeus, transverse carina of propodeum absent, and polished metasoma. The mandibles are also not so distinctly bent near the base, instead being broadly angled at about half their length.

***Sierola ustulata* sp. nov.**

urn:lsid:zoobank.org:act:04878F50-AF99-4631-A977-8FEA5EDBA916

Figs 195, 206

Diagnosis

Part of a distinct complex of species with the head moderately deep and somewhat short posterior to the eyes (head deepest on a line through the eye in lateral view), clypeus evenly curved in profile, mandible reddish brown to orange, and basal wing cells densely setose. Closest to *S. glutinata* sp. nov. in lacking a distinct malar space and having the head strongly convex ventrally; distinguished by the broad frons, slightly deeper head, and ventral margin of the mandible strongly concave.

Etymology

From the Latin ‘*ustulatus*’, ‘singled’, referring to the brownish mandibles.

Type material

Holotype

AUSTRALIA – **Tasmania** • ♀; Intake Bridge; 41°19' S, 147°56' E; 13 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154894.

Paratypes

AUSTRALIA – **Tasmania** • 5 ♀♀; same data as for holotype; ANIC • 1 ♀; Elephant Pass; 41°38' S, 148°13' E; 28 Jan. 1983; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC • 7 ♀♀; King Is., Pegasus Nature Reserve; 39.9441° S, 143.9905° E; 18 Dec. 2023–13 Jan. 2024; S.J. Grove leg.; Malaise trap series 3; TMAG F180567 to F180573.

Description

Female

HEAD. Clypeal process rounded triangular, apex pointed; dorsally weakly carinate; in profile evenly curved from base to apex, apical angle slightly acute. Mandible moderately narrow at base, distinctly broader on apical half, ventral margin distinctly concave; apical half of mandible strongly convex outwardly, teeth arrayed on frontal and dorsal surfaces, outwardly polished and shining near apex, remainder coriaceous; in ventral view evenly, moderately curved. Apex of mandible vertical, with teeth distinctly stronger ventrally. Malar space very small. Dorsal setae of head about as long as flagellar

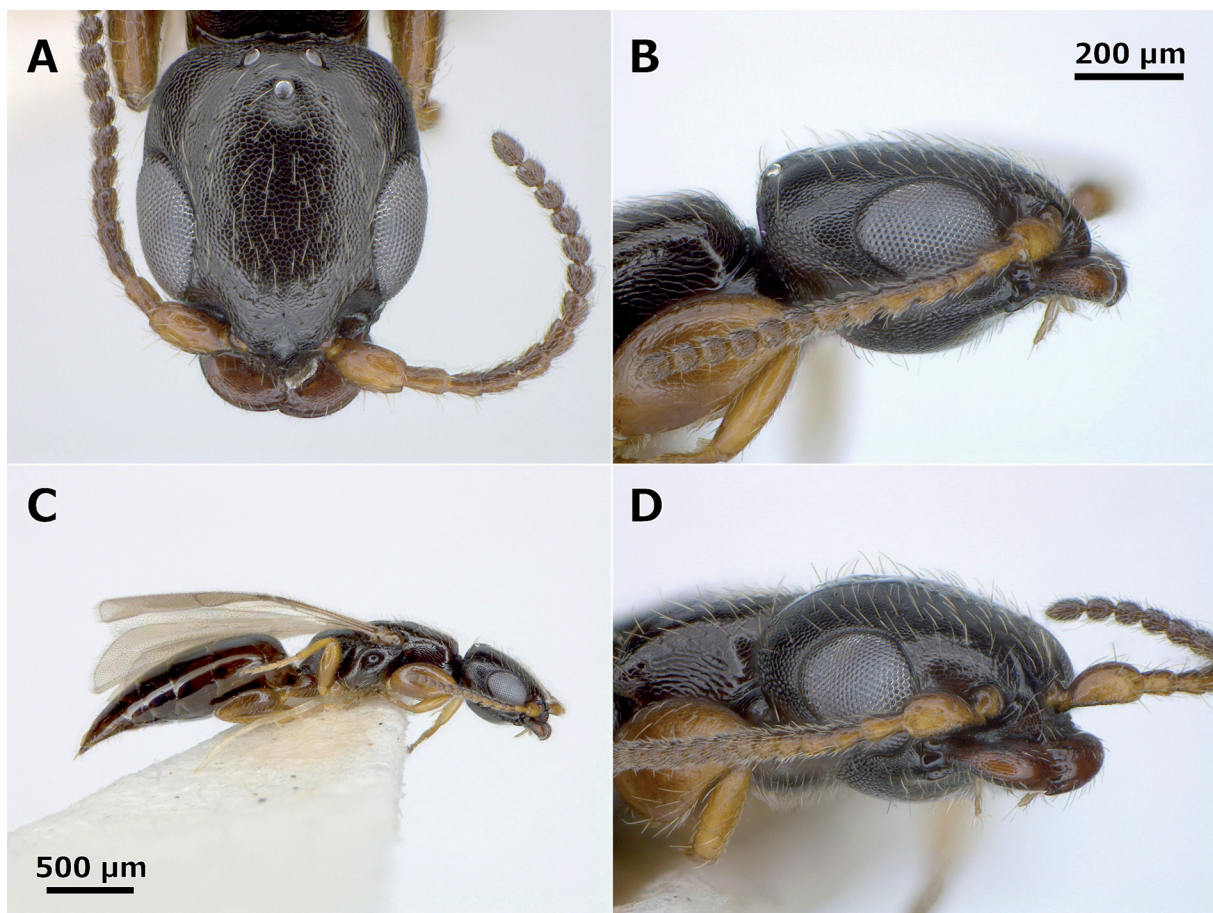


Fig. 206. *Sierola ustulata* sp. nov., holotype, ♀ (ANIC 32-154894). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

width or scarcely longer. Frons with distinct, uneven punctures, 1–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture finely microreticulate to coriaceous, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute. Head more or less parallel-sided for some distance posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head strongly convex ventrally, genal angle absent. Side of head posterior to eye with a line of tessellate microsculpture extending from posteroventral margin of eye to vertex crest, distinctly different from smoother sculpting dorsally and ventrally. Gena ventral to eye convex; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head. Postgenal depression very shallow, nearly absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with faint microsculpture laterally. S2–5 each with a single sparse apical row of setae. Sixth sternum glabrous medially, laterally with dense pilose setae.

COLOR. Body entirely dark brown to black. Antenna entirely dark brown except ventral side of basal flagellomeres yellowish. Mandible reddish brown. Coxae and femora brown, trochanters and tibiae tinged with brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.86 mm; LM 0.95 mm (0.80–1.08); WH/LH 0.86 (0.85–0.89); DH/LH 0.62 (0.60–0.62); EV/HE 0.68 (0.63–0.68); EV/WF 0.62 (0.59–0.63); WF/HE 1.09 (1.05–1.11); WH/WF 1.71 (1.68–1.75); OOL/WOT 1.43 (1.40–1.55); DM/LM 0.43; FL/FW 1.90 (1.89–2.04); HFL/HFW 2.48 (2.48–2.71); A3 L/W 1.43 (1.33–1.57); 2R1 L/W 2.99. N = 7.

Distribution

Tasmania; known from two series and one additional specimen collected in the northeast.

Sierola vibrissata Ward, 2013

Figs 195, 207

Sierola vibrissata Ward, 2013: 117, figs 15–16.

Diagnosis

Part of a complex of species with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. Closest to *S. vibrissoides* sp. nov. in having the long setae black, scrobes narrowing to a sharp carina on the anterior face of the clypeus, and vein Rs meeting the anterior wing margin. Distinguished by having the frons somewhat shining and finely reticulate with more open punctation, 2–3 pit widths apart, and basal wing cells moderately densely setose.

Type material

Holotype

NEW ZEALAND – ♀; South Island, Bullivants I[sland], Māpua Estuary; Jun.–Dec. 1989; A.K. Walker leg.; Malaise trap in coastal scrub; NZAC 04037461.

Other material examined

AUSTRALIA – **South Australia** • 1 ♀; Arno Bay; elev. 20 m; 9–19 Jan. 2019; J.L. Holder leg.; MABJH2, sand dune, small bowl shaped area, lots of flowering shrubs and some *Eucalyptus* and *Acacia* plants near by, tied to dead tree near thorn bush; SAMA. – **Tasmania** • 1 ♀; Geeveston, 141 Fourfoot Road; 6 Jan. 2018; M.M. Giannotta leg.; swept off *Acacia melanoxylon*, *Eucalyptus nitens*, and *E. globulosus* residential forest with bracken understory; SAMA.

Description

Female

HEAD. Clypeal process semicircular (narrow, lateral lobes somewhat enlarged), apex rounded; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile steep, recurved at apex. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small ($\frac{1}{3}$ as long as mandible base in Tasmania specimen). Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, uneven punctures, 1–3 pit widths apart. Vertex and gena with two long, black, and bristle-like setae on each side. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly acute to right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head (weakly differentiated from ventral sculpture). Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally with granulate sculpture; median carina absent, but anteromedian portion of propodeum broadly elevated; transverse carina absent, brow of declivity broadly rounded; metapleural carinae present posteriorly, fading anteriorly. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with a pair of long erect black setae near posterior margin. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black (metasoma slightly brownish). Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora brown, all tibiae and tarsi yellow-brown.

WINGS. Membrane hyaline. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.24 mm; LM 0.75 mm (0.75–0.85); WH/LH 0.86 (0.86–0.89); DH/LH 0.54 (0.54–0.56); EV/HE 0.29 (0.29–0.33); EV/WF 0.35 (0.35–0.38); WF/HE 0.81 (0.81–0.85); WH/WF 1.88 (1.81–1.88); OOL/WOT 0.89 (0.89–1.06); DM/LM 0.38; FL/FW 2.00 (1.86–2.00); HFL/HFW 2.36–2.44; A3 L/W 1.23 (1.18–1.30). N = 3.

Distribution

Tasmania, South Australia, and New Zealand; known from one specimen each, but probably more widely distributed in southeastern Australia.

Remarks

The description is based primarily on the holotype of *S. vibrissata* from New Zealand, but there are no significant differences from the two Australian specimens and I am unable to separate them. The only notable difference is that the specimen from Tasmania has a longer malar space, but the one from South Australia does not. It seems unlikely that the same species is so widely separated, especially considering the closely-related taxa found elsewhere in Australia, but as shown by *S. thorpei* it is possible. It may be an introduced species in New Zealand.

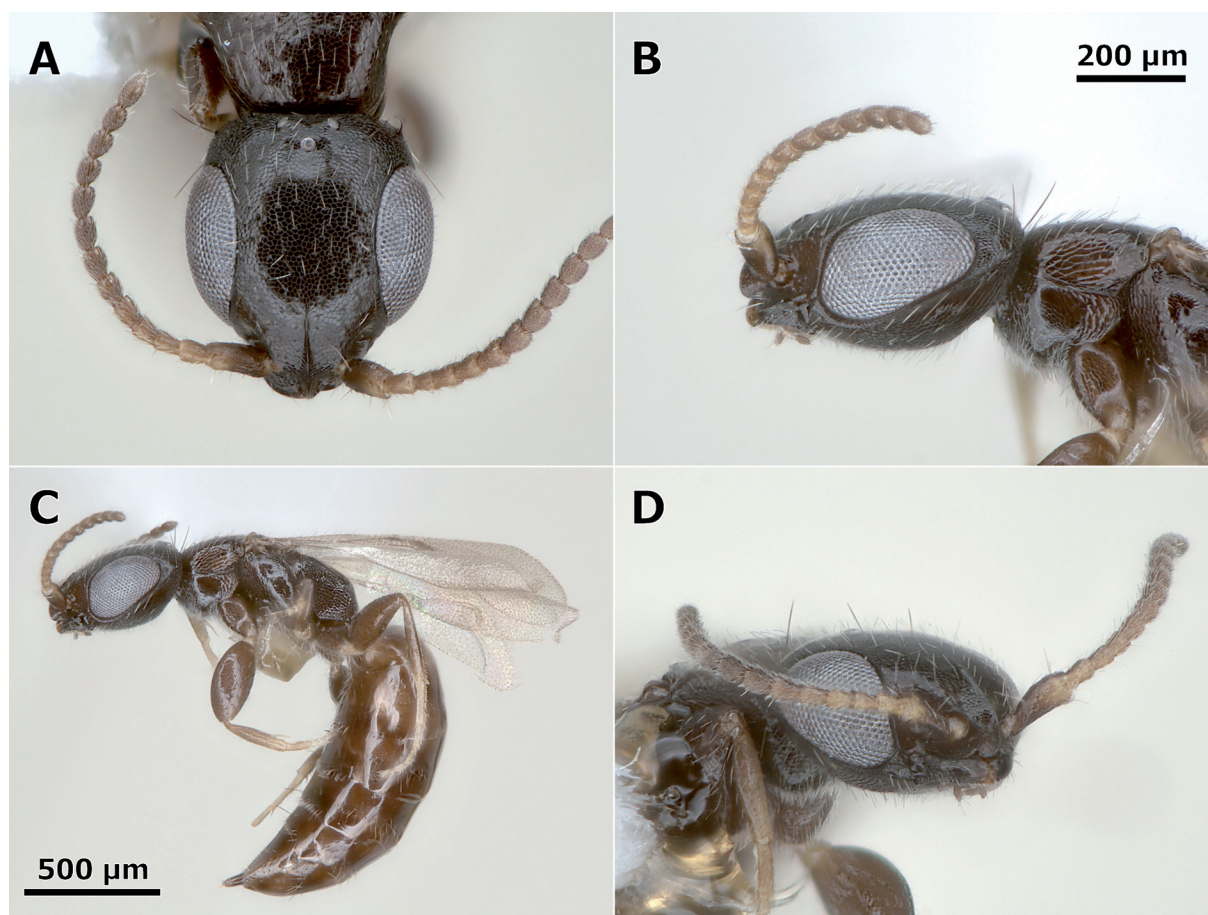


Fig. 207. *Sierola vibrissata* Ward, 2013, specimen from Tasmania (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Sierola vibrissoides sp. nov.

urn:lsid:zoobank.org:act:6CF4A8F9-7EC6-409C-BB68-4B40B2B1C8CD

Figs 204, 208

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. Closest to *S. vibrissata* in having the long setae black, scrobes narrowing to a sharp carina on the anterior face of the clypeus, and vein Rs meeting the anterior wing margin. Distinguished by having the frons appearing dull due to scutellate microsculpture and with close punctation, about 1 pit width apart, and basal wing cells very densely setose, about five rows of setae in each.

Etymology

Referring to the similarity of this species to *S. vibrissata*.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; Mt Cooke; 23 Dec. 1990–13 Jan. 1991; M. Harvey and J. Waldock leg.; Malaise trap; SAMA.

Paratypes

AUSTRALIA – **Western Australia** • 1 ♀; Pilbara, Mt Nameless; 22°43'10" S, 117°44'58" E; 31 May 2004; G. Carter and D. Britton leg.; mixed scrub, sweep sample, PILB147/03SW; AM K248031 • 1 ♀; Pilbara region, Nanutarra-Wittenoom Road, approx 13 km NE of Railway Road x-in, near fenceline; 22°26'8.8" S, 117°49'56.2" E; 22–27 Sep. 2005; CVA Volunteers leg.; LTM sites, Malaise trap, PILB 041/09M; AM K248056.

Description

Female

HEAD. Clypeal process semicircular (narrow, lateral lobes somewhat enlarged), apex rounded; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile weakly sloping dorsally but strongly rounded and recurved at apex. Mandible narrow, more or less parallel-sided except at base; not twisted, at most weakly convex outwardly, outwardly shining but with distinct, fine microsculpture; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space $\frac{1}{4}$ as long as width of base of mandible. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons with shallow, close punctures, mostly about 1 pit width apart. Vertex and gena with two long, black, and bristle-like setae on each side. Frons microsculpture minutely scutellate, cellules shining but separated by conspicuous margins. Vertex in dorsal view more or less straight; occipital margin not carinate but forming a pronounced ridge. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head weakly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye concave; sculpture weakly microreticulate posterolaterally, coriaceous ventrally, with broad band of tessellate-colliculate sculpture extending diagonally from anterior margin of eye to posteroventral margin of head (weakly differentiated from ventral sculpture). Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely rugulose; median carina

absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur robust, about twice as long as wide and strongly convex dorsally, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, apical tergites laterally punctate and with faint microreticulation. S3–5 each with a pair of long erect black setae near posterior margin. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Body entirely dark brown to black. Antenna with scape dark brown basally, yellow to orange apically, flagellum brown dorsally and yellow ventrally. Mandible black. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane weakly infusate. Basal cells of fore wing very densely setose, with five or more rows of setae in cell R. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.57 mm; LM 0.87 mm (0.78–0.87); WH/LH 0.86 (0.84–0.88); DH/LH 0.52 (0.52–0.53); EV/HE 0.30 (0.30–0.35); EV/WF 0.38 (0.38–0.39); WF/HE 0.78 (0.78–0.89); WH/WF 1.92 (1.72–1.92); OOL/WOT 0.93 (0.93–1.11); DM/LM 0.36; FL/FW 1.85 (1.78–1.85); HFL/HFW 2.27 (2.10–2.32); A3 L/W 1.25 (1.11–1.25); 2R1 L/W 3.20. N = 3.

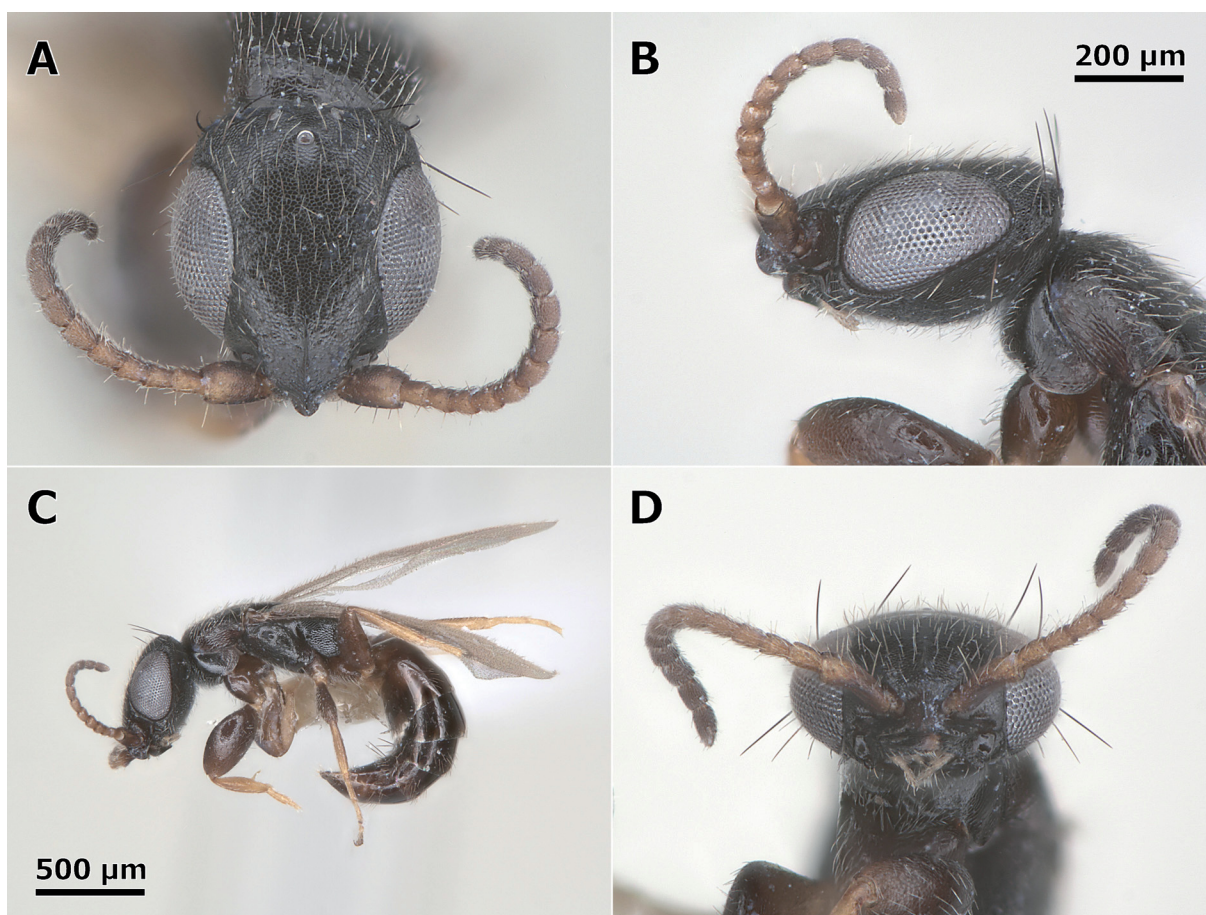


Fig. 208. *Sierola vibrissoides* sp. nov., holotype, ♀ (SAMA). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Distribution

Western Australia; known only from three specimens.

Remarks

The Pilbara paratypes have the frons slightly broader and slightly coarser sculpture of the frons and metasoma (the latter with microreticulation extending onto the dorsal surface of tergites), but match the holotype in the close punctation and dense wing setae.

Sierola vulsa sp. nov.

urn:lsid:zoobank.org:act:BD621467-D1F6-444C-848B-EAA6AF1094D8

Figs 183, 209

Diagnosis

Part of the *vibrissata* group, with very long, thick, bristly setae on the vertex and gena, antennal scrobes dorsally carinate, broadly flat in between with a low carina, and eyes large, head short posteriorly. Close to *S. vibrissata* and *S. vibrissoides* sp. nov. in having scrobes narrowing to a sharp carina on the anterior face of the clypeus, and vein Rs meeting the anterior wing margin. Distinguished by having the long setae brown rather than black, and metasomal tergites conspicuously microreticulate.

Etymology

From the Latin ‘*vulsus*’, ‘plucked’ or ‘shorn’, referring to the loss of many of the long setae.

Type material

Holotype

AUSTRALIA – Queensland • ♀; Acacia Ridge, Brisbane; Oct. 1976; E.C. Dahms leg.; Malaise trap; QM T262177.

Description

Female

HEAD. Clypeal process rounded triangular to semicircular, apex weakly pointed; flat with a low carina dorsally, narrowing to a sharp carina on anterior face; in profile gently sloping dorsally, distally nearly vertical or slightly angled back. Mandible moderately narrow, slightly narrowed medially from base, ventral margin weakly concave; not twisted, at most weakly convex outwardly, outwardly coriaceous, somewhat dull; in ventral view evenly, moderately curved. Apex of mandible vertical, with equally strong teeth. Malar space very small. Dorsal setae of head distinctly longer than flagellar width. Frons with distinct punctures, dense near antennae and eyes, 2–3 pit widths apart or more in central frons. Vertex and gena setae extremely long and conspicuous, nearly three times as long as setae of frons. Frons microsculpture finely microreticulate, surface weakly matte. Vertex in dorsal view more or less straight; occipital margin narrowly rounded. Lateral ocelli nearly touching vertex crest. Ocellar triangle anterior angle weakly to strongly obtuse. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view slightly convex, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head evenly convex ventrally, genal angle absent. Side of head posterior to eye distinctly angulate, rounded carina with distinct tessellate microsculpture extending from posteroventral margin of eye to vertex crest. Gena ventral to eye flat; sculpture weakly microreticulate posterior of eye, ventrally with colliculate-coriaceous sculpture. Postgenal depression absent. Antenna extending to posterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view evenly rounded. Pronotal setae longer than flagellar width. Propodeal disc laterally coarsely striate; median carina absent; transverse carina absent, brow of declivity broadly rounded; metapleural carinae complete. Profemur strongly

broadened, less than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga, apical tergites punctate laterally. S3–6 each with a pair of long erect setae, progressively longer on apical segments. Sixth sternum broadly glabrous medially, with sparse setae laterally.

COLOR. Body entirely dark brown to black. Antenna brown on base of scape and apical flagellomeres, yellow medially. Mandible black. Coxae, trochanters, and femora dark brown, tibiae brown, tarsi yellow.

WINGS. Membrane tinged with yellow. Basal cells of fore wing densely and conspicuously setose. Cell 1M weakly convex posteriorly, corner posteroapical. Distal portion of vein Rs nearly straight, meeting anterior wing margin at right angle.

MEASUREMENTS. LFW 1.89 mm; LM 0.95 mm; WH/LH 0.92; DH/LH 0.52; EV/HE 0.47; EV/WF 0.51; WF/HE 0.91; WH/WF 1.88; OOL/WOT 0.96; DM/LM 0.42; FL/FW 1.78; HFL/HFW 1.96; A3 L/W 1.37; 2R1 L/W 2.27.

Distribution

Queensland; known only from the holotype, collected in Brisbane.

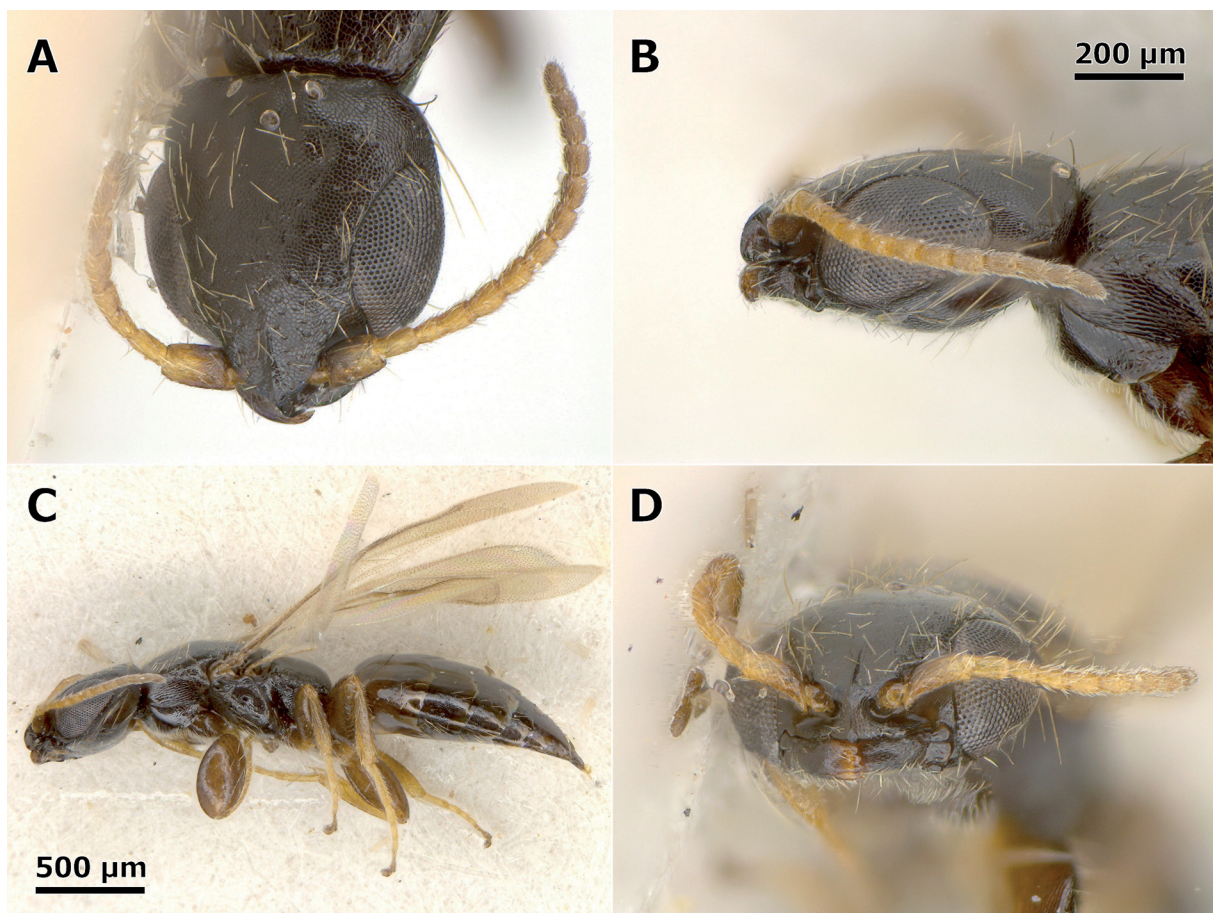


Fig. 209. *Sierola vulsa* sp. nov., holotype, ♀ (QM T262177). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Remarks

A number of the long setae of the head and metasoma on the unique holotype have clearly fallen off. The specimen is poorly mounted for visibility of some of the head characters, but has not been remounted in order to preserve the setae.

Sierola xanthops sp. nov.

urn:lsid:zoobank.org:act:4F5EB7A4-F080-41C3-BDF5-7F874CDD3E9A

Figs 204, 210

Diagnosis

A very striking species, appearing very different from nearly all other *Sierola*. The anteriorly emarginate eye and very elongate mandible with only three distinct teeth (the basal one being reduced to a denticle on the median margin) and broadened dorsally rather than ventrally appear to be unique in the genus. However, in general appearance it is not very different from *S. dichroma* Perkins, 1910 of Oahu.

Etymology

From the Greek ‘*xantho*’, ‘yellow’, + ‘*ops*’, ‘face’, referring to the bright yellow lower portion of the head. It is a noun in apposition.

Type material

Holotype

AUSTRALIA – **Western Australia** • ♀; 23 km ESE of Cocklebidy; 32°08′ S, 126°18′ E; 12 Oct. 1981; I.D. Naumann and J.C. Cardale leg.; ex ethanol; ANIC 32-154895.

Description

Female

HEAD. Clypeal process very short, almost transverse, extending only slightly beyond lateral portion of clypeus, apex broadly rounded; dorsally rounded, convex, lacking a carina; in profile gently sloping dorsally, distally nearly vertical or slightly angled back. Mandible moderately narrow at base, distinctly broadened toward apex; slightly twisted, outwardly shining but with distinct, fine microsculpture; in ventral view straight or nearly so. Apex of mandible vertical, with three subapical teeth, dorsal tooth represented by a short, broad, subapical projection on the dorsal margin. Malar space absent, eye slightly emarginate to receive mandible articulation. Dorsal setae of head about as long as flagellar width or scarcely longer. Frons moderately punctate, about 2–3 pit widths apart. Vertex and gena setae similar to and only slightly longer than setae of frons. Frons microsculpture coriaceous, matte but without strong surface texture. Vertex in dorsal view slightly convex, corners strongly rounded off; occipital margin broadly rounded. Lateral ocelli distinctly separate from vertex crest by less than ocellus length. Ocellar triangle anterior angle right. Head rounded shortly posterior to eyes. Eye setae short, only about as long as 1–2 ommatidia. Dorsum of head in lateral view nearly flat, head deepest on line through eye. Venter of head posterior to mandible convex in lateral view, with relatively sparse setae. Head nearly flat ventrally, genal angle absent. Side of head posterior to eye convex. Gena ventral to eye convex; sculpture coriaceous ventrally and posterolaterally, with broad band of tessellate-colliculate sculpture extending diagonally on each side from anterior margin of eye to posteroventral margin of head. Postgenal depression absent. Antenna extending to anterior margin of pronotum.

MESOSOMA. Anterior margin of dorsal pronotal area in lateral view strongly angulate. Pronotal setae about as long as flagellar width or scarcely longer. Propodeal disc laterally coarsely striate; median carina absent; transverse carina distinct, complete; metapleural carinae complete. Profemur only moderately broadened, more than twice as long as wide, with both anterior and posterior surfaces convex, not strongly compressed, more or less straight in dorsal view.

METASOMA. Shining, with smooth but distinct microreticulation over all terga. S3–6 each with a pair of moderately long erect setae, only about twice as long as prostrate setae in apical band. Sixth sternum glabrous medially, with a mix of long and short setae laterally.

COLOR. Head entirely yellow ventrally and dorsally anterior of middle of inner eye margin, body otherwise dark brown to black. Antenna yellow, apical flagellomeres tinged with brown. Mandible yellow. Coxae and femora brown, tibiae, tarsi, and trochanters yellow.

WINGS. Membrane hyaline. Basal cells of fore wing nearly glabrous, with only a few scattered setae. Cell 1M distinctly convex posteriorly, corner medioapical. Distal portion of vein Rs strongly curved, meeting anterior wing margin at oblique angle.

MEASUREMENTS. LFW 1.83 mm; LM 0.92 mm; WH/LH 1.11; DH/LH 0.60; EV/HE 0.60; EV/WF 0.50; WF/HE 1.20; WH/WF 1.65; OOL/WOT 1.07; DM/LM 0.41; FL/FW 2.27; HFL/HFW 2.38; A3 L/W 0.93; 2R1 L/W 1.44.

Distribution

Western Australia; known only from the unique holotype, collected in the Nullarbor Plain.

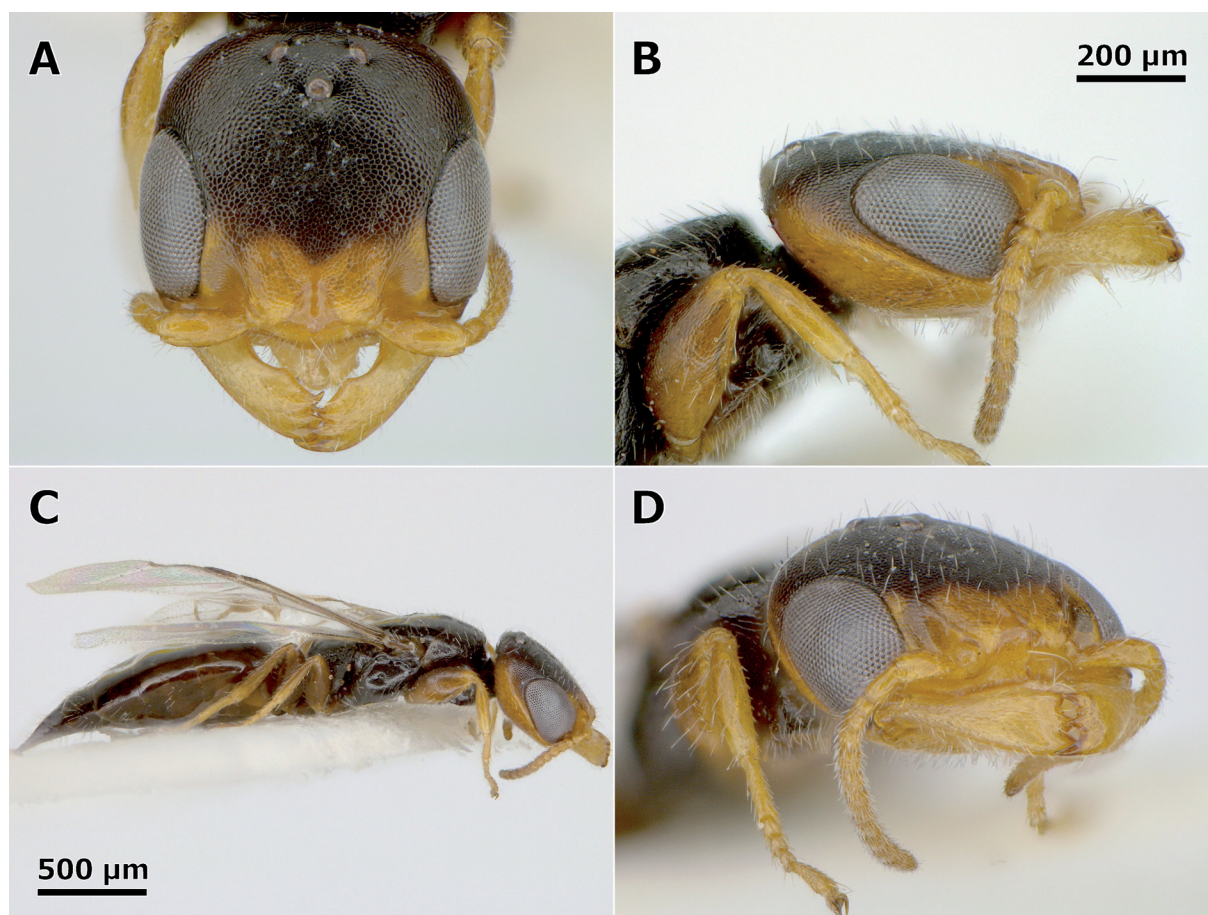


Fig. 210. *Sierola xanthops* sp. nov., holotype, ♀ (ANIC 32-154895). **A.** Head, dorsal. **B.** Head, lateral. **C.** Lateral habitus. **D.** Head, frontal.

Discussion

Although the Oceanian *Sierola* fauna has some forms that are more extreme than those found in Australia, such as the highly modified mandibles of *S. nigrescens* Fullaway, 1920 of Hawaii (Magnacca 2020, 2024c), it is clear that the general morphospace is much greater in Australia, indicating it is likely the center of origin for *Sierola*. Unusual species such as *S. biloba* sp. nov., *S. stichtops* sp. nov., and *S. xanthops* sp. nov. have not been seen elsewhere even among undescribed species. The number of widely divergent species similar between Australia and Hawaii (e.g., *S. opprimator* sp. nov. and *S. megalognatha*) suggests that either *Sierola* has dispersed across the Pacific many times, or convergent evolution has repeatedly produced similar unusual forms, presumably adapted for similar hosts.

There are no characters that clearly differentiate *Sierola* found in Australia from those elsewhere. This makes it difficult to distinguish species in their native range from introduced Australian species (such as *S. thorpei* and probably *S. vibrissata* in New Zealand, and probably *S. larifuga* in the USA), and potentially vice versa. However, a number of traits are found widely in Australian species but not or very rarely in Oceanian ones. Most Australian species (at least those treated here) have a narrow line of tessellate microsculpture extending posteriorly from the eye margin to the vertex crest, and a broader one (sometimes more colliculate) ventrally extending from the anteroventral corner of the eye to the foramen magnum; many also have one or two pairs of long setae on the metasomal sterna, particularly the apical segments. The former are rare and the last apparently absent in non-Australian species.

Last and most significantly, many Australian species have cell 2R1 in the fore wing open. The form of this varies from the poststigmal abscissa of R1 nebulous and vein Rs nearly touching the wing margin (thus almost indistinguishable from typical *Sierola* except on close examination), to poststigmal R1 completely absent and Rs ending well short of the anterior wing margin. Many of the latter were formerly placed with *Goniozus*, but the 4/2 palpal formula and DNA sequences show they are clearly *Sierola* (Magnacca 2024b). The species with this morphotype are otherwise highly variable, and a few have been found in Hawaii (Magnacca 2020), indicating that it is evolutionarily flexible.

This work brings the total number of species of *Sierola* to 490, making it the second largest genus in Bethyliidae after the pristocerine genus *Dissomphalus* Ashmead, 1893. This is particularly remarkable when considering that over 90% of these are from Australia (177, including *S. larifuga*) or Hawaii (277). In contrast, most other highly diverse genera of bethyliids such as *Dissomphalus*, *Goniozus*, and *Pseudisobrachium* Kieffer, 1904, with 553, 168, and 189 extant species respectively (Azevedo *et al.* 2018; Colombo *et al.* 2024; Magnacca 2024b), are cosmopolitan. Only *Anisepyris* Kieffer, 1905 is similar, with 254 species restricted to the New World (Barbosa & Azevedo 2018).

Finally, it must be emphasized that this is just scratching the surface of the Australian *Sierola* fauna. Based on the proportion found in Hawaii, there are probably at least as many species with a sharp clypeal carina as those in the morphogroups treated here. Furthermore, the number of species represented by one or two specimens leaves no doubt that many more remain to be discovered among the non-carinate taxa as well. This work is based on only about one-third of the specimens in the ANIC collection, so it would not be surprising if at least twice as many species remain to be discovered as are described here. In recent years there has been an increased push for the use of DNA sequences not only as part of integrative taxonomy but to the exclusion of morphology (Sharkey *et al.* 2021). This project demonstrates how the use of standardized character sets with software such as DELTA enables relatively rapid morphological descriptions at low cost. Australian insect diversity is greatly understudied across the board, including Hymenoptera, and substantial effort is needed to document species particularly in threatened habitats (Raven & Yeates 2007).

Bethylidae is being increasingly recognized as a significant “dark taxon”, consistently represented by high diversity in trap catches despite relatively low numbers of described species (Srivathsan *et al.* 2023), particularly compared to the better known parasitoid families in Ichneumonoidea Latreille, 1802 and Chalcidoidea Latreille, 1817. Despite the presence of thousands of specimens in Australian collections (Azevedo 2006), only a few genera, such as *Eupsenella* Westwood, 1874 (Ramos & Azevedo 2012) have been revised. Hopefully this work encourages future study not only of *Sierola* but other genera and subfamilies as well.

Acknowledgements

This study first started in 2016, and has had help from many people. I particularly thank the museum collection managers and curators who allowed me to visit and borrow the many specimens necessary for this work: Federica Turco and Juanita Rodriguez of the Australian National Insect Collection; Susan Wright and Karin Koch of the Queensland Museum; Simon Hinkley of Museums Victoria; Ben Parslow of the South Australian Museum; Andrew Austin and Erinn Fagan-Jeffries of the University of Adelaide Waite Insect and Nematode Collection; Simon Grove of the Tasmanian Museum and Art Gallery; Matt Shaw and Andrew Mitchell of the Australian Museum; Lynn Kimsey of the UC-Davis Bohart Museum of Entomology; Doug Yanega of the UC-Riverside Entomology Research Museum; Seán Brady and Matt Buffington of the Smithsonian National Museum of Natural History; Dina Soliman and Allison Brown of the Centre for Biodiversity Genomics; and David Notton of the Natural History Museum, London. I also thank Neal Evenhuis and the staff of the Bernice Pauahi Bishop Museum for research space and accommodating my odd hours. Thanks also to Lawrence Mound, Alice Wells, James Dorey, Lucas Hearn, Nick Porch, and Erinn Fagan-Jeffries for their hospitality and assistance with collecting, and to Celso Azevedo for comments that improved this manuscript.

References

- Ashmead W.H. 1901a. Notes on some New Zealand and Australian parasitic Hymenoptera, with descriptions of new genera and new species. *Proceedings of the Linnean Society of New South Wales* 25: 327–360. <https://doi.org/10.5962/bhl.part.12157>
- Ashmead W.H. 1901b. Hymenoptera parasitica. In: Sharp D. (ed.) *Fauna Hawaiiensis* 1 (3): 277–364. Cambridge University Press, Cambridge, UK.
Available from <https://www.biodiversitylibrary.org/page/38883223> [accessed 19 Nov. 2025].
- Atlas of Living Australia 2011. Open DELTA.
Available from <https://github.com/AtlasOfLivingAustralia/open-delta> [accessed 19 Nov. 2025].
- Azevedo C.O. 2006. Insecta, Hymenoptera, Bethylidae: range extension and filling gaps in Australia. *Check List* 2 (1): 42–44. <https://doi.org/10.15560/2.1.42>
- Azevedo C.O., Alencar I.D.C.C., Ramos M.S., Barbosa D.N., Colombo W.D., Vargas-R. J.M. & Lim J. 2018. Global guide of the flat wasps (Hymenoptera, Bethylidae). *Zootaxa* 4489 (1): 1–294. <https://doi.org/10.11646/zootaxa.4489.1.1>
- Barbosa D.N. & Azevedo C.O. 2018. Revision of *Anisepyris* Kieffer (Hymenoptera, Bethylidae), with description of 135 new species. *Zootaxa* 4416 (1): 1–258. <https://doi.org/10.11646/zootaxa.4416.1.1>
- Cameron P. 1881. Notes on Hymenoptera, with descriptions of new species. *Transactions of the Entomological Society of London* 14: 555–577. <https://doi.org/10.1111/j.1365-2311.1881.tb00881.x>
- Cassis G., Laffan S.W. & Ebach M.C. 2017. Biodiversity and bioregionalisation perspectives on the historical biogeography of Australia. In: Ebach M.C. (ed.) *Handbook of Australasian Biogeography*: 11–26. CRC Press. <https://doi.org/10.1201/9781315373096-7>

- Colombo W.D., Brito C.D. & Azevedo C.O. 2024. Scratching the surface of Afrotropical *Dissomphalus* (Hymenoptera, Bethylidae): a revision uncovering 114 new species. *Zootaxa* 5441 (1): 1–130. <https://doi.org/10.11646/zootaxa.5441.1.1>
- Dallwitz M.J. 1980. A general system for coding taxonomic descriptions. *Taxon* 29: 41–46. <https://doi.org/10.2307/1219595>
- Dallwitz M.J., Paine T.A. & Zurcher E.J. 2000. User's Guide to the DELTA System: a General System for Processing Taxonomic Descriptions. 4th Edition.
- Dorchin N., Clarkin C.E., Scott E.R., Luongo M.P. & Abrahamson W.G. 2007. Taxonomy, life history, and population sex ratios of North American *Dasineura* (Diptera: Cecidomyiidae) on goldenrods (Asteraceae). *Annals of the Entomological Society of America* 100 (4): 539–548. [https://doi.org/10.1603/0013-8746\(2007\)100\[539:TLHAPS\]2.0.CO;2](https://doi.org/10.1603/0013-8746(2007)100[539:TLHAPS]2.0.CO;2)
- Fullaway D.T. 1920. New species of *Sierola* with explanatory notes. *Occasional Papers of the Bishop Museum* 7 (7): 57–159.
- Gordh G. 1998. A new species of *Sierola* parasitic on moth larvae in Western Australia (Hymenoptera: Bethylidae). *Proceedings of the Hawaiian Entomological Society* 33: 83–88.
- Hadley A. 2010. CombineZP - Free image stacking software for depth of field correction.
- ICZN (International Commission on Zoological Nomenclature). 1999. *International Code of Zoological Nomenclature. 4th Edition*. The International Trust for Zoological Nomenclature, London. Available from <https://www.iczn.org/the-code/the-code-online/> [accessed 19 Nov. 2025].
- Kolesik P. & Gagné R.J. 2016. Revision of early taxa of Australian gall midges (Diptera: Cecidomyiidae). *Zootaxa* 4205 (4): 301–338. <https://doi.org/10.11646/zootaxa.4205.4.1>
- Magnacca K.N. 2019. Two new species of *Sierola* Cameron (Hymenoptera: Bethylidae) from New Zealand and Australia. *New Zealand Entomologist* 42 (1): 13–20. <https://doi.org/10.1080/00779962.2019.1602899>
- Magnacca K.N. 2020. Review of *Sierola* Cameron (Hymenoptera: Bethylidae) of the Hawaiian Islands. Part 1: O'ahu. *Bishop Museum Bulletin in Entomology* 14: 1–311.
- Magnacca K.N. 2024a. New *Sierola* Cameron, 1881 (Hymenoptera: Bethylidae) from Norfolk and Phillip Islands. *Austral Entomology* 63 (2): 210–223. <https://doi.org/10.1111/aen.12684>
- Magnacca K.N. 2024b. Recircumscription of the genera *Goniozus* and *Sierola* (Hymenoptera: Bethylidae) based on morphological and molecular evidence. *Zootaxa* 5463 (2): 215–231. <https://doi.org/10.11646/zootaxa.5463.2.3>
- Magnacca K.N. 2024c. Review of *Sierola* Cameron (Hymenoptera: Bethylidae) of the Hawaiian Islands. Part 2: Hawai'i. *Bishop Museum Bulletin in Entomology* 16: 1–203.
- Nixon K.C. & Wheeler Q.D. 1990. An amplification of the phylogenetic species concept. *Cladistics* 6 (3): 211–223. <https://doi.org/10.1111/j.1096-0031.1990.tb00541.x>
- Ramos M.S. & Azevedo C.O. 2012. Revision of *Eupsenella* Westwood, 1874 (Hymenoptera, Bethylidae). *Zootaxa* 3539: 1–80. <https://doi.org/10.11646/zootaxa.3539.1.1>
- Ramos M.S., Perkovsky E.E., Rasnitsyn A.P. & Azevedo C.O. 2014. Revision of Bethylinae fossils (Hymenoptera: Bethylidae) from Baltic, Rovno and Oise amber, with comments on the Tertiary fauna of the subfamily. *Neues Jahrbuch für Geologie und Paläontologie – Abhandlungen* 271 (2): 203–228. <https://doi.org/10.1127/0077-7749/2014/0385>

- Raven P.H. & Yeates D.K. 2007. Australian biodiversity: threats for the present, opportunities for the future. *Australian Journal of Entomology* 46 (3): 177–187.
<https://doi.org/10.1111/j.1440-6055.2007.00601.x>
- Santhosh S. 2017. A taxonomic revision of *Sierola* Cameron (Hymenoptera: Bethyridae) from Oriental region. In: Santhosh S., Nasser M. & Sudheer K. (eds) *Insect Diversity and Taxonomy*: 307–317. Prof. T.C. Narendran Trust for Animal Taxonomy, Calicut.
- Sharkey M.J., Janzen D.H., Hallwachs W., Chapman E.G., Smith M.A., Dapkey T., Brown A., Ratnasingham S., Naik S., Manjunath R., Perez K., Milton M., Hebert P., Shaw S.R., Kittel R.N., Solis M.A., Metz M.A., Goldstein P.Z., Brown J.W., ... & Burns J.M. 2021. Minimalist revision and description of 403 new species in 11 subfamilies of Costa Rican braconid parasitoid wasps, including host records for 219 species. *ZooKeys* 1013: 1–665. <https://doi.org/10.3897/zookeys.1013.55600>
- Sorg M. 1988. Zur Phylogenie und Systematik der Bethyridae (Insecta: Hymenoptera: Chrysidoidea). *Geologisches Institut der Universitaet zu Koeln Sonderveroeffentlichungen* 63: 1–146.
- Srivathsan A., Ang Y., Heraty J.M., Hwang W.S., Jusoh W.F.A., Kuttu S.N., Puniamoorthy J., Yeo D., Roslin T. & Meier R. 2023. Convergence of dominance and neglect in flying insect diversity. *Nature Ecology & Evolution* 7 (7): 1012–1021. <https://doi.org/10.1038/s41559-023-02066-0>
- Turner R.E. 1915. Descriptions of new fossorial wasps from Australia. *Proceedings of the Zoological Society of London* 1915 (1–2): 41–69. <https://doi.org/10.1111/j.1469-7998.1915.00041.x>
- Wang C.-H., He J.-H. & Chen X.-X. 2021. Taxonomy of *Sierola* Cameron (Hymenoptera, Bethyridae) from China with three new species. *Journal of Hymenoptera Research* 84: 405–415.
<https://doi.org/10.3897/jhr.84.68189>
- Ward D.F. 2013. Revision of Bethyridae (Hymenoptera) from New Zealand. *New Zealand Entomologist* 36 (2): 107–130. <https://doi.org/10.1080/00779962.2012.759084>
- Wheeler Q.D. & Platnick N.I. 2000. The phylogenetic species concept (*sensu* Wheeler and Platnick). In: Wheeler Q.D. & Meier R. (eds) *Species Concepts and Phylogenetic Theory: A Debate*: 55–69. Columbia University Press, Chichester, New York.
- Zborowski P. & Edwards E.D. 2007. *A Guide to Australian Moths*. CSIRO Publishing, Collingwood, Vic. <https://doi.org/10.1071/9780643094642>

Printed versions of all papers are deposited in the libraries of two of the institutes that are members of the *EJT* consortium: Muséum national d'Histoire naturelle, Paris, France and Royal Museum for Central Africa, Tervuren, Belgium. The other members of the consortium are: Royal Belgian Institute of Natural Sciences, Brussels, Belgium; Meise Botanic Garden, Meise, Belgium; Natural History Museum of Denmark, Copenhagen, Denmark; Naturalis Biodiversity Center, Leiden, the Netherlands; Museo Nacional de Ciencias Naturales-CSIC, Madrid, Spain; Leibniz Institute for the Analysis of Biodiversity Change, Bonn – Hamburg, Germany; National Museum of the Czech Republic, Prague, Czech Republic; The Steinhardt Museum of Natural History, Tel Aviv, Israël.

Supplementary files

Supp. file 1. Table of specimens examined for this study.
<https://doi.org/10.5852/ejt.2026.1045.3225.14291>

Supp. file 2. Full DELTA data files for all described *Sierola* Cameron, 1881. Entries for Asian species and those formerly placed in *Goniozus* Förster, 1856 (*S. angulata* (Muesebeck, 1933) and *S. jamiei* (Ward, 2013)) are based on descriptions and hence are incomplete.

<https://doi.org/10.5852/ejt.2026.1045.3225.14293>

Supp. file 3. Interactive multi-access DELTA key for all described *Sierola* Cameron, 1881.

<https://doi.org/10.5852/ejt.2026.1045.3225.14295>