European Journal of Taxonomy 958: 177–202
https://doi.org/10.5852/ejt.2024.958.2669
ISSN 2118-9773
www.europeanjournaloftaxonomy.eu
2024 · Varga O.

Research article

urn:lsid:zoobank.org:pub:0747183C-7180-494A-96CC-9A3DE3FAA019

Review of the genus *Stenomacrus* Förster, 1869 (Hymenoptera: Ichneumonidae: Orthocentrinae) from Kenya and Burundi: a first step to understanding the diversity of the genus in the Afrotropics

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Abstract. The poorly studied orthocentrine genus *Stenomacrus* Förster, 1869 is reported from Kenya and Burundi for the first time. Eight new species are described and illustrated: *S. clypeatus* sp. nov. from Burundi as well as *S. communis* sp. nov., *S. glabratus* sp. nov., *S. luteus* sp. nov., *S. pronotalis* sp. nov., *S. scutellaris* sp. nov., *S. valvator* sp. nov., and *S. vuriaensis* sp. nov. from Kenya. An identification key to species occurring in Africa and adjacent territories is provided.

Keywords. Darwin wasps, biodiversity, new species, key, Afrotropical region.

Oleksandr Varga 2024. Review of the genus *Stenomacrus* Förster, 1869 (Hymenoptera: Ichneumonidae: Orthocentrinae) from Kenya and Burundi: a first step to understanding the diversity of the genus in the Afrotropics. *European Journal of Taxonomy* 958: 177–202. https://doi.org/10.5852/ejt.2024.958.2669

Introduction

Stenomacrus Förster, 1869 is one of the largest genera of the subfamily Orthocentrinae Förster, 1869, represented by 73 species with a mainly Holarctic distribution, while the tropical representatives still remain completely unstudied (Yu *et al.* 2016). Only two species, *Stenomacrus daucus* (Gauld, 1984) and *S. excalibur* (Gauld, 1984), are known from Australia (Gauld 1984), and two species, *S. variabilis* (Ashmead, 1894) and *S. payet* Rousse & Villemant, 2012, from the Neotropics and Réunion, respectively (Townes 1971; Rousse & Villemant 2012). Seyrig (1934) originally described two species of *Stenomacrus*, *S. hortorum* and *S. pomariorum*, from Madagascar, but both were later transferred by Townes & Townes (1973) to the closely related genera *Chilocyrtus* Townes, 1971 and *Plectiscus* Gravenhorst, 1829, respectively. *Plectiscus pomariorum* lacks the epicnemial carina which indicates the correctness of such a decision, while the proposed combination of *Chilocyrtus hortorum* (Seyrig, 1934) remains questionable (Varga 2024). Taking into account that the generic borders between *Chilocyrtus*, *Stenomacrus*, *Plectiscus*, and even *Neurateles* Ratzeburg, 1848 are still unclear (Broad 2010; Varga 2024), all the species in this paper are described in the genus *Stenomacrus*. All the described species, as well as *Chilocyrtus hortorum*, are characterized by the presence of epicnemial and pleural carinae and a flat to weakly convex clypeus lacking a transverse carina.

Very little is known on the biology of species of *Stenomacrus*; most of the reliable potential host records belong to several fungus gnat genera of the family Sciaridae (Krespi, Deleporte & Nénon 1985; Roman 1939; Vilkamaa & Komonen 2001).

Material and methods

The specimens used in this study were collected by Malaise traps at different localities in Kenya and Burundi (Fig. 1). The material studied is deposited in the collections of the International Centre of Insect Physiology and Ecology, Nairobi, Kenya (ICIPE) and the Muséum Royal de l'Afrique Centrale, Tervuren, Belgium (MRAC). Images of the lectotype of *C. hortorum*, deposited in the National Museum of Natural History, Paris (MNHN), were studied. The type specimens of *S. payet* were not studied. Images of the newly described taxa were taken with a Leica Z16 APO microscope equipped with a Leica FLEXACAM C1 camera and processed by LAS Core software at the Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv (SIZK). The distribution map was generated using SimpleMappr (Shorthouse 2010). Morphological terminology follows mainly Broad *et al.* (2018).

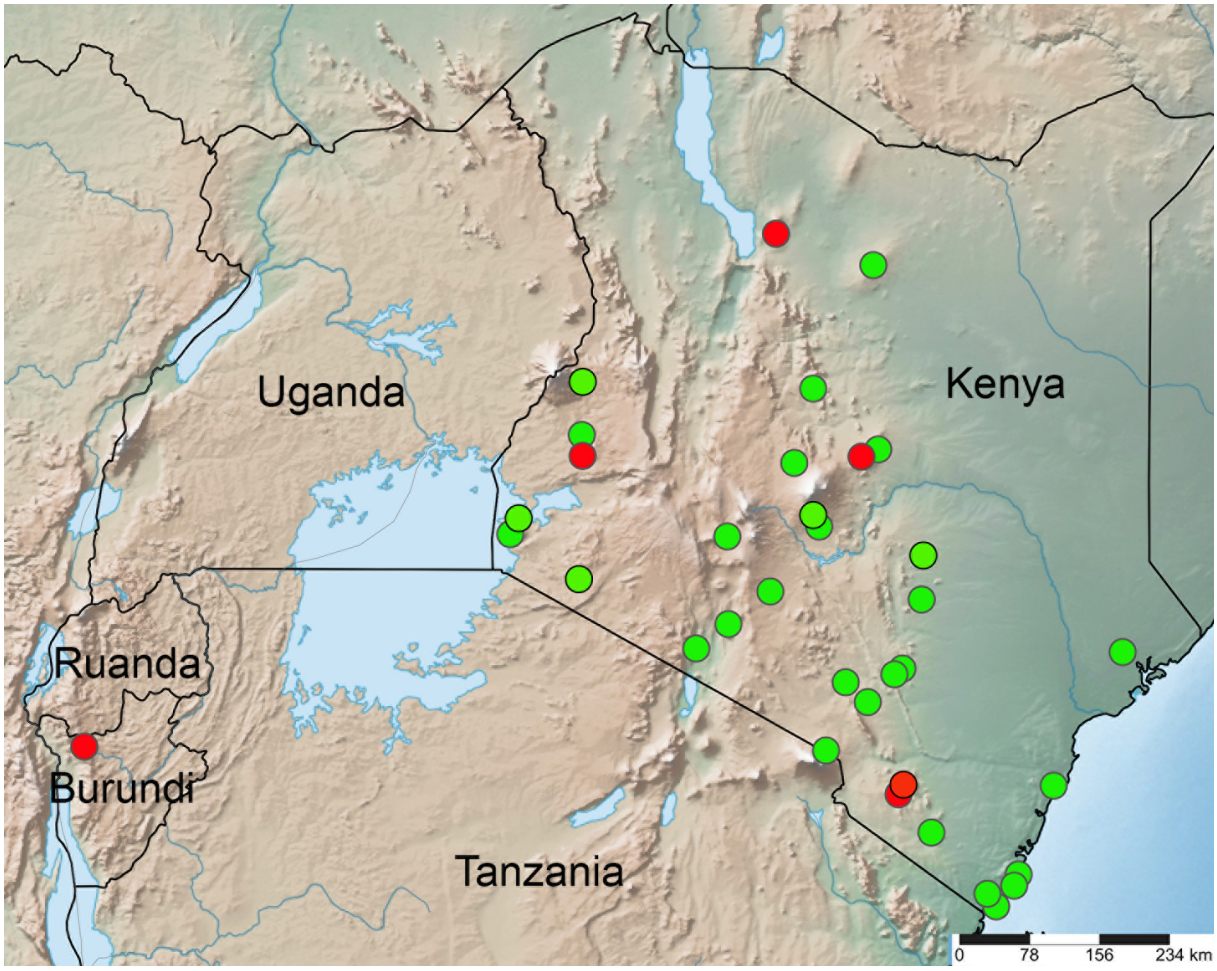

Fig. 1. Study localities across Kenya and Burundi. Locations with the representatives of the genus *Stenomacrus* Forster, 1869 found in samples marked with red.

Results

Taxonomy

Class Insecta Linnaeus, 1758
Order Hymenoptera Linnaeus, 1758
Superfamily Ichneumonoidea Latreille, 1802
Family Ichneumonidae Latreille, 1802
Subfamily Orthocentrinae Förster, 1869

Genus ***Stenomacrus*** Förster, 1869

Diagnosis

Face smooth, aciculate or granulate. Subocular sulcus usually distinct. Clypeus from flat to weakly convex, distinctly separated to almost completely fused with face, its lower edge straight or truncate, thus labrum always visible. Axis of mandible strongly twisted; lower tooth small and hardly visible or completely reduced. Temples very short and strongly narrowed behind eyes to buccate in dorsal view. Mesoscutum densely, but sometimes partly (only anteriorly) pubescent; notauli usually absent. Scutellum basally from arched to straight. Epicnemial carina always present but sometimes short. Pleural carina usually complete but sometimes partly or entirely reduced. Propodeum distinctly carinated (lateromedian longitudinal and apical transverse carinae present) or almost completely lacking carinae. Fore wing with vein *3rs-m* present or absent; hind wing with nervellus not intercepted or intercepted. First metasomal tergite from almost entirely smooth to granulate, rugulose or longitudinally wrinkled; latero-median longitudinal carinae from developed to almost entirely absent; lateral oblique grooves usually present, weak to deep. Second tergite weakly sculptured only basally to distinctly sculptured almost to apex. Ovipositor sheath from about 0.4 × to 0.9 × as long as hind tibia, basal part usually flexible, apical part widened and pubescent.

Key to females of the Afrotropical species of *Stenomacrus* Förster, 1869 (including similar species of *Chilocyrtus* Townes, 1971)

1. Antenna with a white ring. Réunion ..... ***S. payet*** Rousse, 2012
– Antenna without a white ring. Madagascar and African mainland 2

2. Eye orbits with white spots on vertex. Madagascar ..... ***Chilocyrtus hortorum*** (Seyrig, 1934)
– Vertex entirely black. African mainland 3

3. Ovipositor long and upcurved, its sheath about 0.9 × as long as hind tibia (Fig. 8A). First metasomal tergite 1.2 × as long as its apical width, rugulose (Fig. 8I) ..... ***S. valvator*** sp. nov.
– Ovipositor shorter, sheath at most 0.6 × as long as hind tibia (e.g., Figs 2A, 3A, 6A). First metasomal tergite 1.3–2.8 × as long as its apical width, with different sculpture, but not rugulose (e.g., Figs 2F, 9F) 4

4. Propodeum with lateromedian longitudinal carinae present. First tergite 1.3 × as long as its apical width, sculptured only subapically (Fig. 4F). Pronotum longitudinally wrinkled (Fig. 4C). Temples 0.7 × the maximum diameter of eye in dorsal view, weakly narrowed (Fig. 4D) ..... ***S. glabratus*** sp. nov.
– Propodeum with lateromedian longitudinal carinae absent (e.g., Figs 2F, 3E). First tergite 1.4–2.8 × as long as its apical width, with different sculpture (e.g., Figs 2F, 9F). Pronotum with at most some wrinkles distally (e.g., Figs 7C, 9C). Temples at most 0.6 × the maximum diameter of eye in dorsal view, more strongly narrowed (e.g., Figs 2D, 5D, 7F) 5

5. Mesosoma ventrally yellow (Fig. 5C). Mesoscutum pubescent anteriorly (Fig. 5D). Face smooth (Fig. 5B). First metasomal tergite smooth and wrinkled (Fig. 5G) ..... ***S. luteus*** sp. nov.
– Mesosoma with at most pronotum yellow/orange (Figs 2C, 6C). Other characters different 6

6. First metasomal tergite 2.3–2.8 × as long as its apical width, longitudinally wrinkled (Figs 2F, 7G) 7
– If the first metasomal tergite longitudinally wrinkled, then at most 1.7 × as long as its apical width (Figs 3G–H) 8

7. Face aciculate; clypeus convex, distinctly separated from face, yellow (Fig. 2B). Mesosoma not laterally compressed (Fig. 2D). Antenna with 27 flagellomeres ..... ***S. clypeatus*** sp. nov.
– Face smooth; clypeus flat, not separated from face, the same colour as face (Fig. 7B). Mesosoma laterally compressed (Fig. 7D). Antenna with 19–20 flagellomeres ..... ***S. scutellaris*** sp. nov.

8. First metasomal tergite evenly longitudinally wrinkled on smooth background. Second tergite wrinkled at least on basal 0.5 (Figs 3G–H). Antenna with 18–19 flagellomeres ..... ***S. communis*** sp. nov.
– First metasomal tergite with at most single wrinkles on granulate background. Second tergite sculptured at most on basal 0.2 (Figs 6G, 9F). Antenna with 20–22 flagellomeres 9

9. First metasomal tergite 1.4 × as long as its apical width, with latero-median longitudinal carinae and wrinkles present distally (Fig. 6G). Pronotum distinctly paler than the rest of mesosoma (Fig. 6C) ..... ***S. pronotalis*** sp. nov.
– First metasomal tergite 1.9–2.0 × as long as its apical width, with latero-median longitudinal carinae and wrinkles indistinct (Fig. 9F). Pronotum with at most yellow distal marks (Fig. 9C) ..... ***S. vuriaensis*** sp. nov.

Species description

Stenomacrus clypeatus sp. nov.
urn:lsid:zoobank.org:act:4C7E254C-9617-4558-9A90-AFBDAC59587F
Fig. 2

Diagnosis

Stenomacrus clypeatus sp. nov. is characterized by the combination of the following: face aciculate; clypeus relatively convex, distinctly separated from face, yellow (Fig. 2A); antenna with 27 flagellomeres, first flagellomere 3.5 × as long as wide; temples 0.6 × maximum diameter of eye in dorsal view, strongly narrowed (Fig. 2D); propodeum smooth, with only lateral longitudinal carina present apically (Fig. 2F); fore wing with vein 2*rs-m* about 0.7 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; hind wing with nervellus vertical (Fig. 2E); first tergite 2.3 × as long as its apical width, longitudinally wrinkled; second tergite 1.6 × as long as its apical width, distinctly longitudinally wrinkled on basal 0.7 (Fig. 2F); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 2A).

Stenomacrus clypeatus sp. nov. differs from all known Afrotropical species in the elongate and strongly wrinkled metasomal tergites 1–2 in combination with a convex clypeus. The shape of the clypeus indicates that this species potentially belongs to the genus *Chilocyrtus*, but the mandibles are closed and thus it is not possible to acertain the presence / absence or the shape of the lower tooth.

Etymology

The new species is named after the diagnostic clypeus.

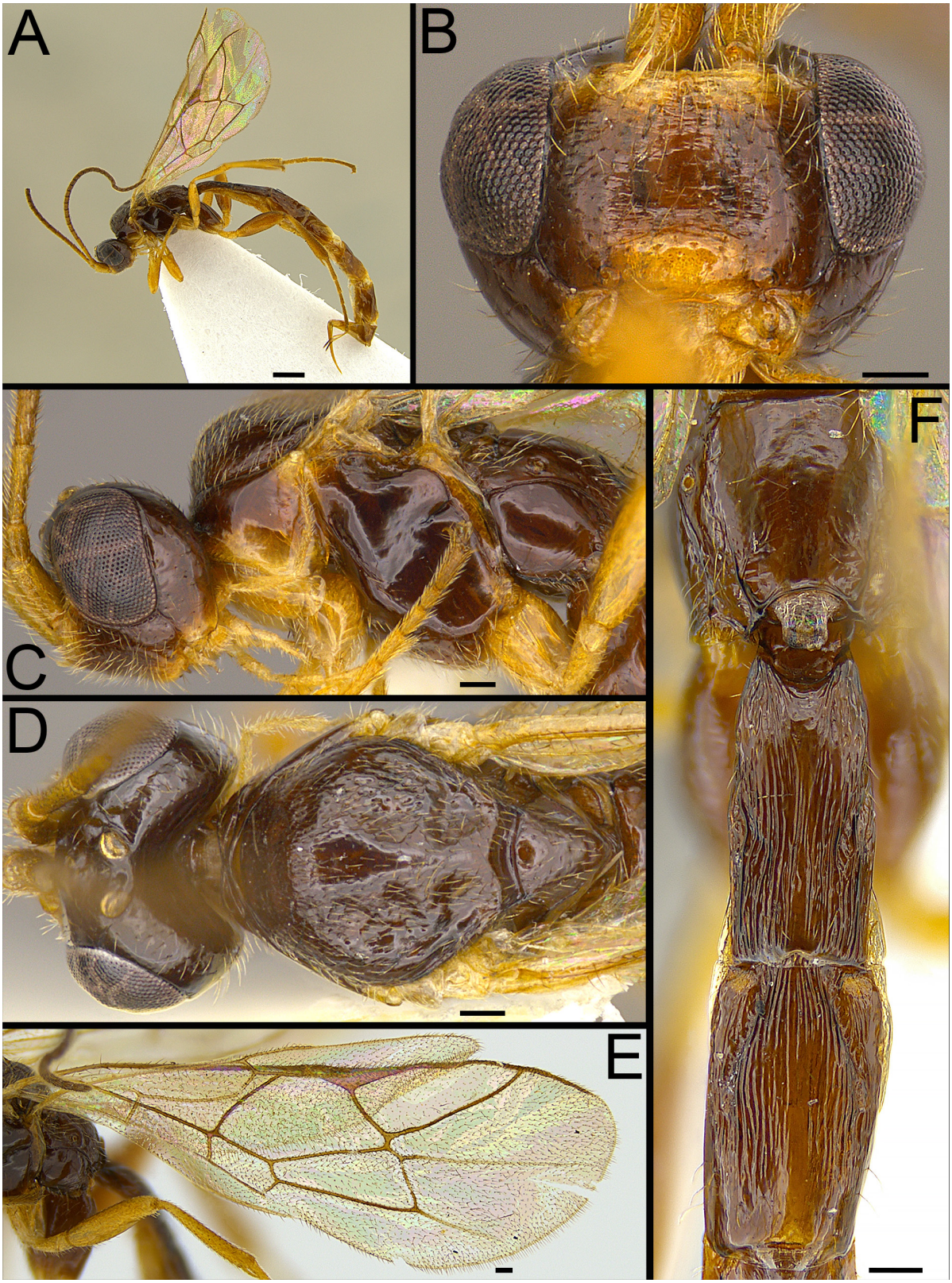

Fig. 2. *Stenomacrus clypeatus*, sp. nov., holotype, ♀ (MRAC). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesoscutum. **E**. Wings. **F**. Dorsal view of propodeum and metasomal tergites 1–2. Scale bars: A = 0.5 mm; B–F = 0.1 mm.

Type material

Holotype

BURUNDI • ♀; Kibira National Park; 2.93315° S, 29.50583° E; 2177 m a.s.l.; 29 Jan.–12 Feb. 2010; R. Copeland leg.; mixed forest, Malaise trap, bamboo near small meadow; MRAC.

Description

Female (holotype)

Body length 5.7 mm. Fore wing 3.2 mm.

Head smooth and sparsely pubescent. Antenna with 27 flagellomeres, first flagellomere 3.5 × as long as wide. Face about 0.5 × as long as wide, weakly aciculate, densely pubescent; inner orbits weakly divergent ventrally. Malar space 1.6 × basal width of mandible; subocular sulcus distinct. Clypeus 0.6 × as long as wide, convex, distinctly separated from face. Mandibular teeth not visible due to mandible position. Temples 0.6 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 1.1 × the maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth; epomia absent. Mesoscutum densely pubescent; notauli absent. Scutellum densely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum smooth, with only lateral longitudinal carina present apically.

Legs relatively stout; hind femur 3.2 × as long as wide, third tarsomere of hind tarsus about as long as fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.7 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* weakly basad to *M&Rs*; hind wing with nervellus not intercepted, vertical.

Metasoma with first tergite 2.3 × as long as its apical width, longitudinally wrinkled; carinae hardly visible among wrinkles; lateral oblique grooves present but weak. Second tergite 1.6 × as long as apical width, distinctly longitudinally wrinkled on basal 0.7 of tergite, with deep and long basolateral grooves; thyridium round. Remaining part of metasoma smooth, laterally compressed from third tergite. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body brown except antenna ventrally, face narrowly below antennal sockets continuing on frons, clypeus largely, mandible (except apices), propleuron, pronotum partly, and fore and mid legs yellow. Hind coxa brown, hind femur, tibia and tarsus reddish, fuscous dorsally.

Male

Unknown.

Distribution

So far only known from Burundi.

Stenomacrus communis sp. nov.
urn:lsid:zoobank.org:act:A88B1BA8-4EA2-4FDF-98AC-4CB25958CEFB
Fig. 3

Diagnosis

Stenomacrus communis sp. nov. is characterized by the combination of the following: face weakly aciculate (Fig. 3B); antenna with 18–19 flagellomeres, first flagellomere about 3.2–3.4 × as long as wide; temples 0.4 × maximum diameter of eye in dorsal view, strongly narrowed (Fig. 3D); propodeum smooth, with only lateral longitudinal carina present on apical half (Fig. 3E); fore wing with vein 2*rs-m* about 0.7 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 3F); first tergite 1.4–1.7 × as long as its apical width, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles; second tergite 1.0–1.2 × as long as its apical width, longitudinally wrinkled at least to the middle of tergite (Fig. 3G–H); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 3A).

Stenomacrus communis sp. nov. is similar to *S. pronotalis* sp. nov. but has a shorter antenna with 18–19 flagellomeres (22 in *S. pronotalis*); a shorter, smooth first metasomal tergite with well developed wrinkles (granulate with weak wrinkles in *S. pronotalis*); and a dark pronotum, the same colour as the rest of the mesosoma (distinctly paler than the rest of mesosoma in *S. pronotalis*).

Etymology

The new species is the most common in samples from different localities in Kenya.

Type material

Holotype

KENYA • ♀; Coast Prov., Taita Hills, Vuria Forest; 3.41428° S, 38.29178° E; 2162 m a.s.l.; 8–22 Aug. 2012; R. Copeland leg.; Malaise trap, just inside indigenous forest; ICIPE.

Paratypes

KENYA • 5 ♀♀; same data as for holotype; 14–28 Oct. 2011; ICIPE • 2 ♀♀; same data as for holotype; 28 Dec. 2011–10 Jan. 2012; ICIPE • 5 ♀♀; Coast Prov., Taita Hills, Ngangao Forest; 3.36100º S, 38.34186º E; 1848 m a.s.l.; 27 Dec. 2011–10 Jan. 2012; R. Copeland leg.; Malaise trap, indigenous forest; ICIPE • 3 ♀♀; same data as for preceding; 10–24 Jan. 2012; ICIPE • 5 ♀♀; Eastern Prov., Nyambene Hills, Itieni Forest; 0.24433° N, 37.87016° E; 2142 m a.s.l.; 15–27 Nov. 2011; R. Copeland leg.; at bottom, Malaise trap, edge of indigenous forest, nr forest station; ICIPE • 1 ♀; same data as for preceding; 27 Nov.–11 Dec. 2011; ICIPE.

Description

Female

Body length 2.9–3.1 mm. Fore wing 2.4–2.5 mm.

Head smooth and sparsely pubescent. Antenna with 18–19 flagellomeres, first flagellomere about 3.2–3.4 × as long as wide. Face about 0.6 × as long as wide, weakly aciculate; inner orbits parallel. Malar space 2.6 × basal width of mandible; subocular sulcus distinct. Clypeus 0.6 × as long as wide, granulate, weakly convex centrally. Mandible bidentate, strongly bent outwards; lower tooth small, but visible even in frontal view. Temples 0.4 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 1.0 × maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth, with some traces of wrinkles distally; epomia absent. Mesoscutum evenly and densely pubescent; notauli absent. Scutellum densely pubescent, with carinae

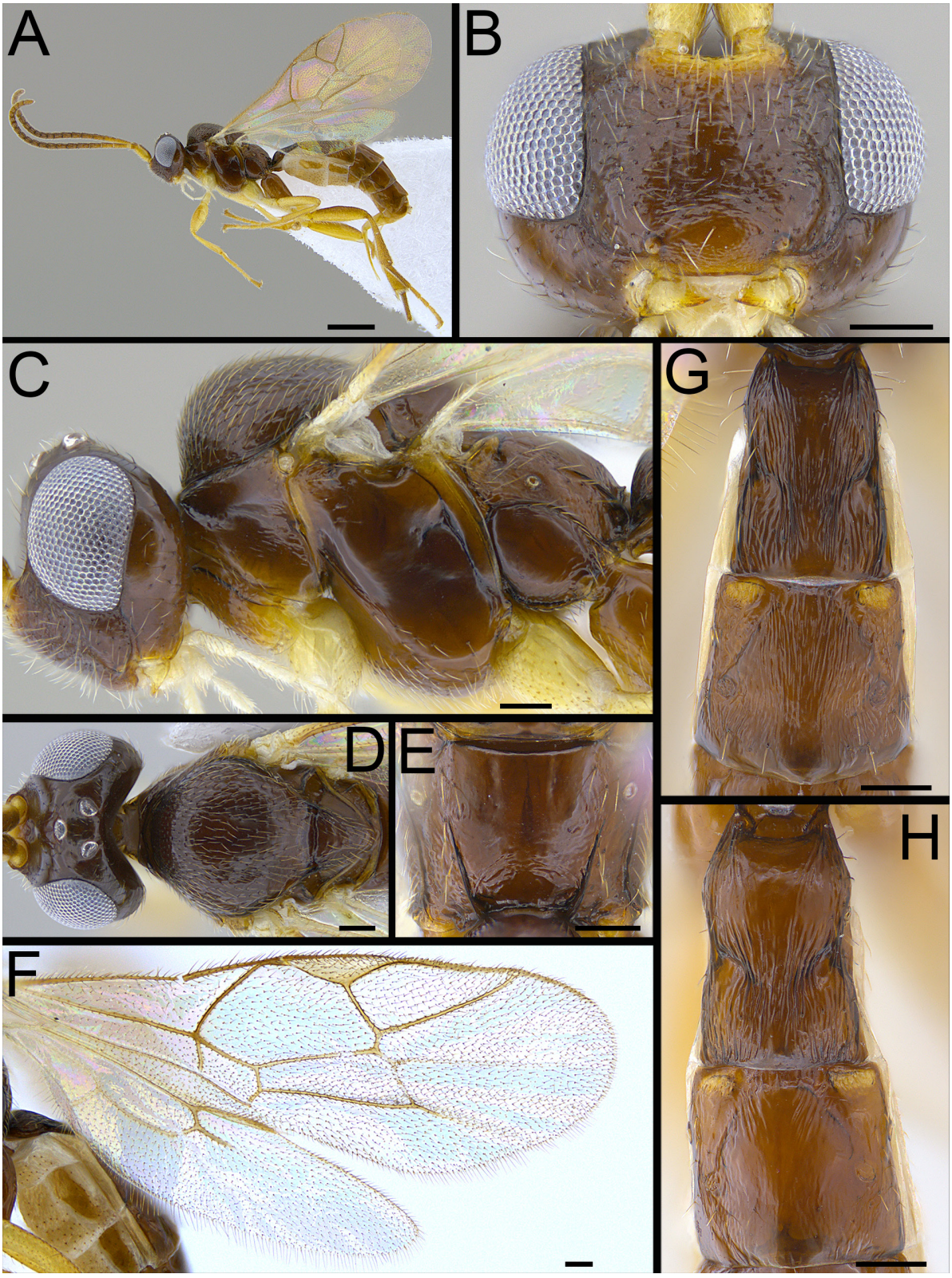

Fig. 3. *Stenomacrus communis* sp. nov., ♀♀ (ICIPE). **A–G**. Holotype. **H**. Paratype. **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesoscutum. **E**. Dorsal view of propodeum. **F**. Wings. **G–H**. Dorsal view of metasomal tergites 1–2. Scale bars: A = 0.5 mm; B–H = 0.1 mm.

present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum smooth, with only lateral longitudinal carina present on apical half of propodeum.

Legs relatively stout; hind femur 3.6 × as long as wide, third tarsomere of hind tarsus about 0.9 × length of fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.7 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* weakly distad *M&Rs*; hind wing with nervellus not intercepted, weakly reclivous.

Metasoma with first tergite 1.4–1.7 × as long as apical width, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles; lateral oblique grooves distinct and deep. Second tergite 1.0–1.2 × as long as apical width, longitudinally wrinkled almost to apex of tergite; basolateral grooves distinct; thyridium weakly elongate. Remaining part of metasoma smooth, weakly compressed laterally. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish except antenna basally, face narrowly below antennal sockets, mandible (except apices), fore and mid legs, and all trochanters and trochantelli yellow. Hind coxa brownish, hind femur yellowish with brownish dorsal stripe, hind tibia and tarsus reddish with darker dorsal stripes.

Male

Unknown. Several morphologically similar male specimens were found in samples together with this newly described species, but they represent at least three morphospecies and thus it is not possible to associate them with females of *S. communis* sp. nov. without molecular analysis.

Remarks

One female paratype has wider temples; some specimens from Itieni Forest have an unevenly pubescent mesoscutum in combination with a more weakly sculptured metasoma (Fig. 2H). It is possible that *S. communis* sp. nov. comprises a complex of species hardly distinguishable morphologically, thus molecular analyses for further clarification are needed.

Distribution

So far only known from Kenya.

Stenomacrus glabratus sp. nov.

urn:lsid:zoobank.org:act:3A80C68E-874E-4AF6-BED7-5450BFBCB077

Fig. 4

Diagnosis

Stenomacrus glabratus sp. nov. is characterized by the combination of the following: antenna with 25–27 flagellomeres, first flagellomere 1.9 × as long as wide; temples 0.7 × the maximum diameter of eye in dorsal view, weakly narrowed (Fig. 4D); pronotum longitudinally wrinkled (Fig. 4C); propodeum with apical transverse, lateral and lateromedian longitudinal carinae present (Fig. 4F); fore wing with vein 2*rs-m* about 0.6 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 4E); first tergite 1.3 × as long as its apical width, smooth and shiny, with latero-median longitudinal carinae and longitudinal wrinkles visible only subapically on lateral oblique grooves; second tergite 0.9 × as long as its apical width, weakly sculptured on basal 0.1 of the tergite (Fig. 4F); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 4A).

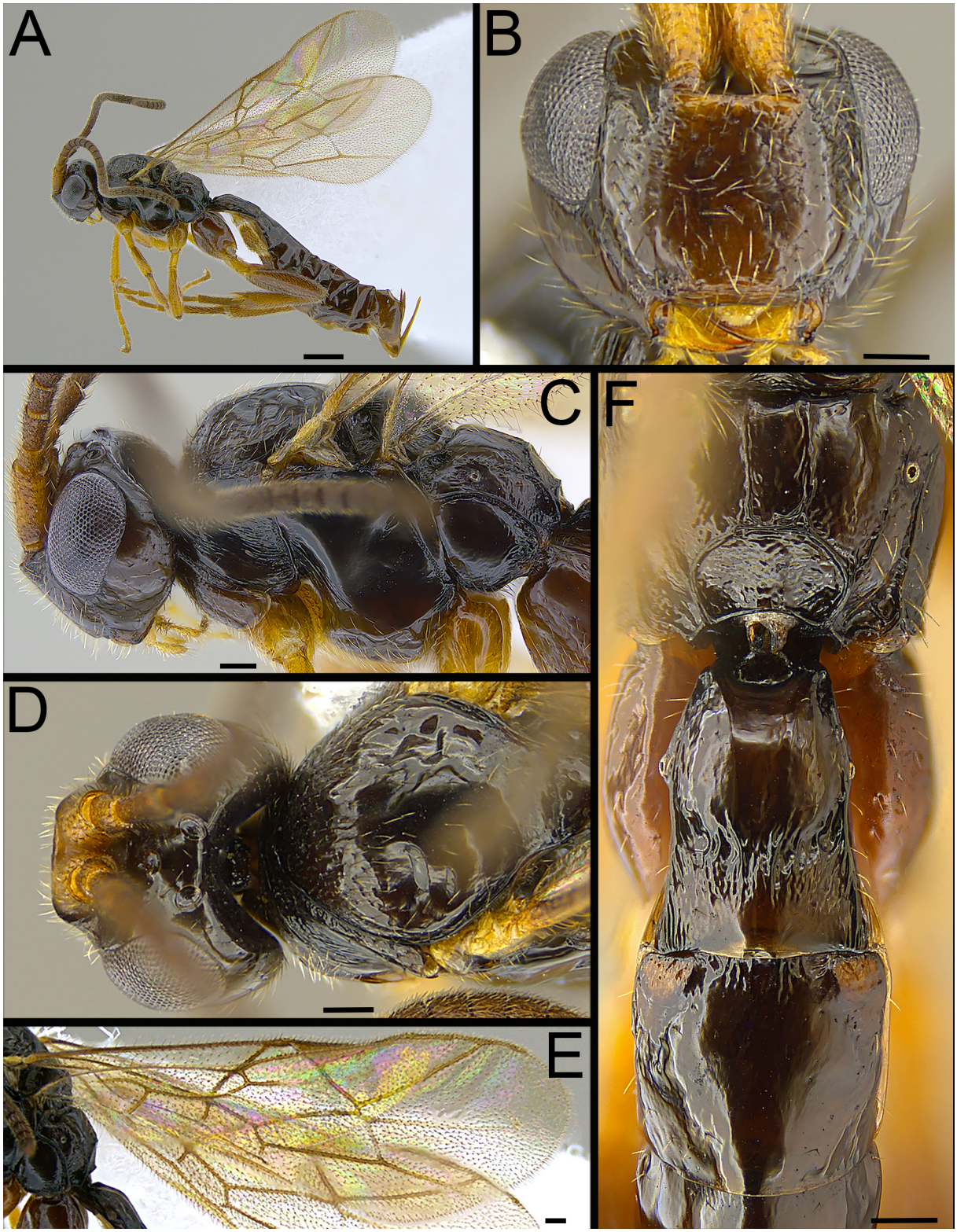

Fig. 4. *Stenomacrus glabratus* sp. nov., holotype, ♀ (ICIPE). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesoscutum. **E**. Wings. **F**. Dorsal view of propodeum and metasomal tergites 1–2. Scale bars: A = 0.5 mm; B–F = 0.1 mm.

Stenomacrus glabratus sp. nov. differs from all known Afrotropical species in having a developed carination of the propodeum in combination with long and weakly narrowed temples in dorsal view, and weakly sculptured metasomal tergites 1–2.

Etymology

The new species is named after the smooth and shiny metasomal tergites 1–2.

Type material

Holotype

KENYA • ♀; Eastern Prov., Nyambene Hills, Itieni Forest, 0.24433° N, 37.87016° E; 2142 m a.s.l.; 10–24 July 2011; R. Copeland leg.; at bottom, Malaise trap, edge of indigenous forest, nr. forest station; ICIPE.

Paratype

KENYA • 1 ♀; same data as for holotype; 7–21 Aug. 2011; ICIPE.

Other material examined

KENYA • 1 ♀; Coast Prov., Taita Hills, Ngangao Forest; 3.36100º S, 38.34186º E; 1848 m a.s.l.; 10–24 Jan. 2012; R. Copeland leg.; Malaise trap, indigenous forest; ICIPE.

Description

Female

Body length 4.7–4.8 mm. Fore wing 3.5–3.6 mm.

Head smooth and sparsely pubescent. Antenna with 25–27 flagellomeres, first flagellomere 1.9 × as long as wide. Face about 0.5 × as long as wide, indistinctly sculptured, shiny; inner orbits weakly divergent ventrally. Malar space 3.0 × basal width of mandible; subocular sulcus distinct. Clypeus 0.6 × as long as wide, flat. Mandible bidentate, strongly bent outwards; lower tooth small and hardly visible. Temples 0.7 × maximum diameter of eye in dorsal view, weakly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 0.9 × maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum longitudinally wrinkled; epomia absent. Mesoscutum densely pubescent anteriorly and sparsely pubescent posteriorly; notauli absent. Scutellum sparsely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum weakly granulate posteriorly, with apical transverse, lateral and lateromedian longitudinal carinae present.

Legs relatively stout; hind femur 3.1 × as long as wide, third tarsomere of hind tarsus about as long as fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.6 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* opposite *M&Rs*; hind wing with nervellus not intercepted, reclivous.

Metasoma with first tergite 1.3 × as long as apical width, smooth and shiny, with latero-median longitudinal carinae and longitudinal wrinkles visible only subapically on lateral oblique grooves. Second tergite 0.9 × as long as apical width, weakly sculptured on basal 0.1 of tergite, with weak basolateral grooves; thyridium round. Remaining part of metasoma smooth, weakly laterally compressed from third tergite. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish-black except scape and mandible (except apices) yellow. Fore and mid legs reddish except femora weakly darker. Hind legs red-brownish, hind tibia and tarsus darker dorsally.

Male

Unknown.

Remarks

The female from Ngangao Forest has 27 flagellomeres and is similar in habitus to the holotype, but has a paler antenna, an unsculptured pronotum (with only traces of wrinkles) and a more strongly sculptured first tergite: wrinkles extend to the apex of the tergite. This specimen could represent a separate species, thus I do not include it in the type series.

Distribution

So far only known from Kenya.

Stenomacrus luteus sp. nov.

urn:lsid:zoobank.org:act:10545C32-556D-43B1-A7BA-B8EF561D4B0B

Fig. 5

Diagnosis

Stenomacrus luteus sp. nov. is characterized by the combination of the following: face smooth (Fig. 5B); mesosoma yellow ventrally (Fig. 5A); antenna with 18 flagellomeres, first flagellomere 3.3 × as long as wide; temples 0.4 × the maximum diameter of eye in dorsal view, strongly narrowed (Fig. 5D); propodeum smooth, weakly wrinkled subapically, with only area apicalis partly delimited by carinae (Fig. 5E); fore wing with vein 2*rs-m* about 0.8 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 5F); first tergite 1.4 × as long as its apical width, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles; second tergite 1.1 × as long as its apical width, sculptured on basal 0.3 (Fig. 5G); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 5A).

Stenomacrus luteus sp. nov. differs from all known Afrotropical species in having a largely yellow mesosoma in combination with a smooth face and relatively short antenna.

Etymology

The new species is named after the relatively pale yellowish body colouration.

Type material

Holotype

KENYA • ♀; Eastern Prov., Mt Kulal Forest; 2.65400º N, 36.93660º E; 1810 m a.s.l.; 1 Nov. 2015–01 Apr. 2016; R. Copeland leg.; Malaise trap in disturbed forest; ICIPE.

Paratype

KENYA • 1 ♀; same data as for holotype; ICIPE.

Description

Female

Body length 2.5 mm. Fore wing 1.9 mm.

Head smooth and sparsely pubescent. Antenna with 18 flagellomeres, first flagellomere 3.3 × as long as wide. Face about 0.6 × as long as wide, smooth, sparsely pubescent; inner orbits parallel. Malar

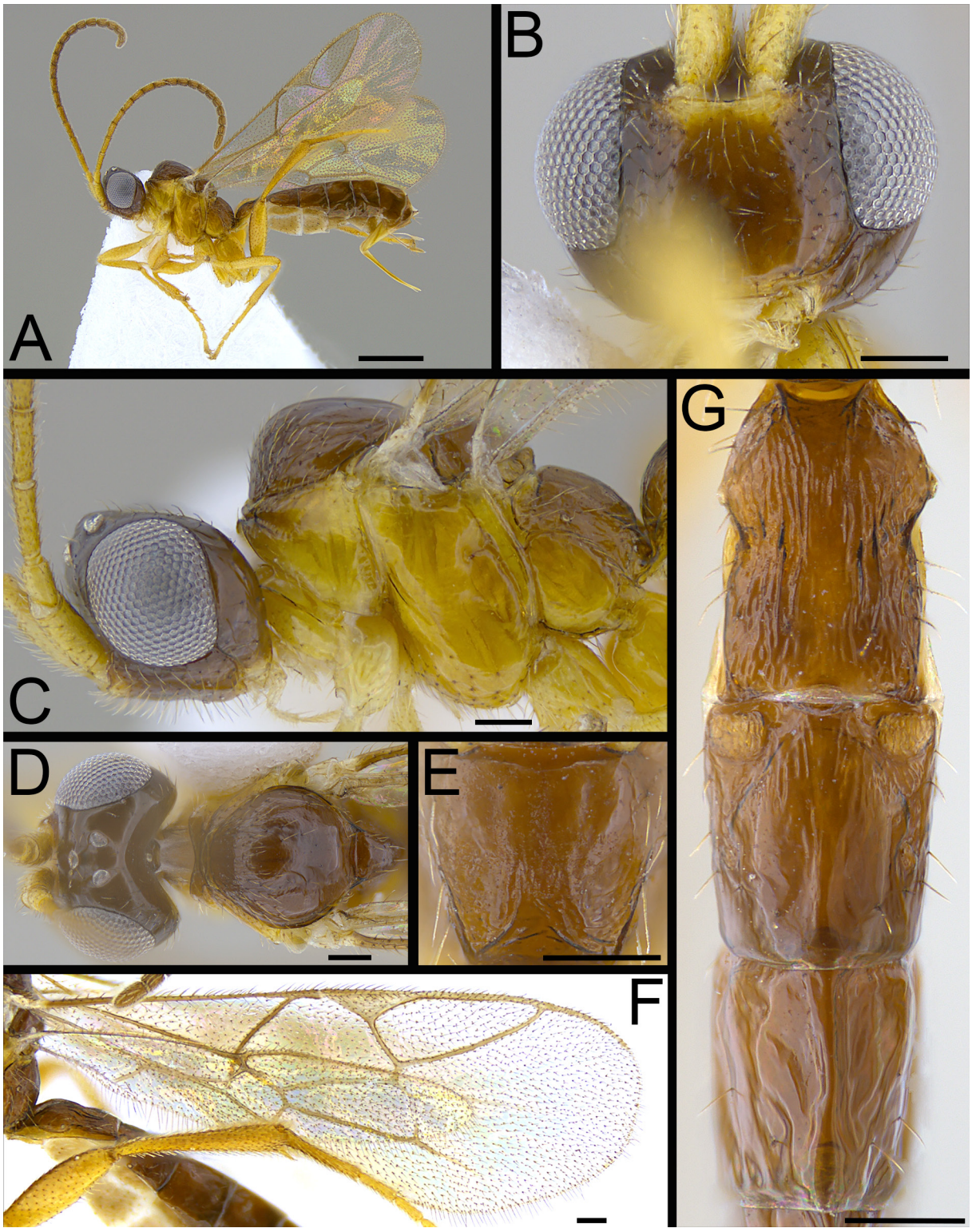

Fig. 5. *Stenomacrus luteus* sp. nov., holotype, ♀ (ICIPE). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesoscutum. **E**. Dorsal view of propodeum. **F**. Wings. **G**. Dorsal view of metasomal tergites 1–3. Scale bars: A = 0.5 mm; B–G = 0.1 mm.

space 2.1 × basal width of mandible; subocular sulcus distinct. Clypeus 0.7 × as long as wide, smooth. Mandible bidentate, strongly bent outwards; lower tooth small and hardly visible. Temples 0.4 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about as long as maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth; epomia absent. Mesoscutum densely pubescent anteriorly; notauli absent. Scutellum sparsely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum smooth, weakly wrinkled apically, with only area apicalis partly delimited by carinae.

Legs relatively stout; hind femur 3.5 × as long as wide, third tarsomere of hind tarsus about as long as fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.8 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* opposite *M&Rs*; hind wing with nervellus not intercepted, reclivous.

Metasoma with first tergite 1.4 × as long as apical width, smooth, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles; lateral oblique grooves distinct and deep. Second tergite 1.1 × as long as apical width, sculptured on basal 0.3, with weak basolateral grooves; thyridium round. Remaining part of metasoma smooth, laterally compressed. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body generally brown dorsally and yellow ventrally: antenna, face narrowly below antennal sockets, mandible (except apices), mesosoma ventally, and legs yellow.

Male

Unknown.

Distribution

So far only known from Kenya.

Stenomacrus pronotalis sp. nov.

urn:lsid:zoobank.org:act:9961928D-EA5B-4838-8546-FA3304B8A78D

Fig. 6

Diagnosis

Stenomacrus pronotalis sp. nov. is characterized by the combination of the following: face weakly granulate (Fig. 6B); antenna with 22 flagellomeres, first flagellomere 3.3 × as long as wide; temples 0.3 × the maximum diameter of eye in dorsal view, strongly narrowed (Fig. 6D); pronotum orange (Fig. 6C), epicnemial carina short (Fig. 6E); propodeum smooth, with only lateral longitudinal carina present apically (Fig. 6G); fore wing with vein 2*rs-m* about 0.7 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 6F); first tergite 1.4 × as long as its apical width, granulate, with with latero-median longitudinal carinae and longitudinal wrinkles present distally; second tergite about as long as its apical width, weakly sculptured on basal 0.1 (Fig. 6G); ovipositor sheath about 0.4 × as long as hind tibia (Fig. 6A).

Stenomacrus pronotalis sp. nov. is similar to *S. vuriaensis* sp. nov., but has a shorter and more sculptured first metasomal tergite, 1.4 × as long as its apical width (1.9–2.0 × in *S. vuriaensis* sp. nov.), and the

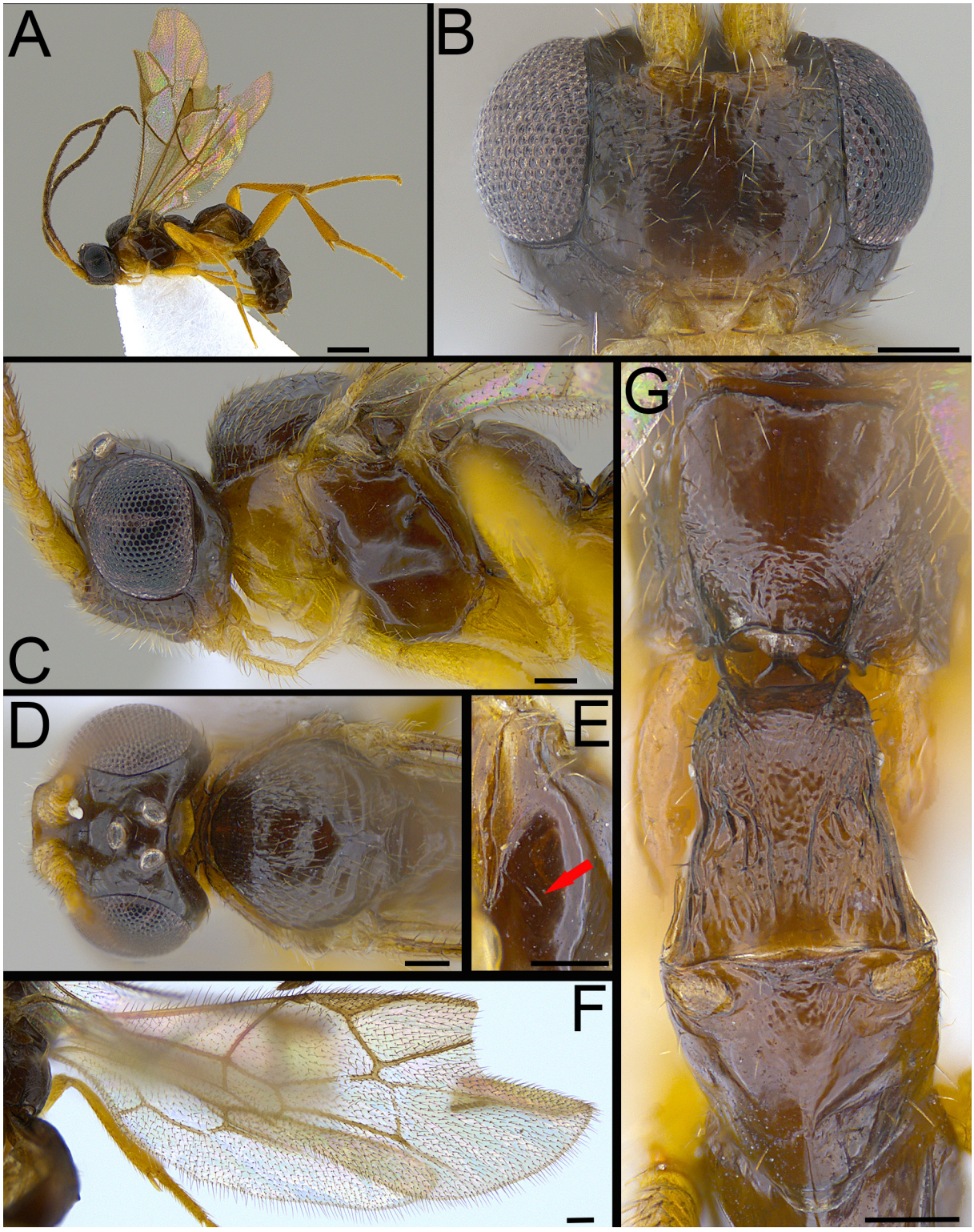

Fig. 6. *Stenomacrus pronotalis* sp. nov., holotype, ♀ (ICIPE). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesoscutum. **E**. Frontal view of epicnemium. Red arrow indicates a relatively short epicnemial carina. **F**. Wings. **G**. Dorsal view of propodeum and metasomal tergites 1–2. Scale bars: A = 0.5 mm; B–G = 0.1 mm.

pronotum distinctly paler than the rest of the mesosoma (dark, with at most some yellow marks distally in *S. vuriaensis*).

Etymology

The new species is named after the distinctly paler pronotum in comparison to the rest of the mesosoma.

Type material

Holotype

KENYA • ♀; Western Prov., Kakamega Forest; 0.23742° N, 34.86607° E; 1620 m a.s.l.; 19 Apr.–2 May 2017; R. Copeland leg.; nr KFS HDQTRs, Malaise trap in indigenous forest; ICIPE.

Description

Female (holotype)

Body length 3.5 mm. Fore wing 2.6 mm.

Head smooth and sparsely pubescent. Antenna with 22 flagellomeres, first flagellomere 3.3 × as long as wide. Face about 0.6 × as long as wide, weakly granulate; inner orbits weakly divergent ventrally. Malar space 2.1 × basal width of mandible; subocular sulcus distinct. Clypeus 0.7 × as long as wide, weakly convex. Mandible bidentate, strongly bent outwards; lower tooth small and hardly visible. Temples 0.3 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 0.9 × maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth; epomia absent. Mesoscutum more or less evenly densely pubescent; notauli absent. Scutellum densely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally, but short. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum weakly granulate, with only lateral longitudinal carina present apically.

Legs relatively slender; hind femur 4.0 × as long as wide, third tarsomere of hind tarsus about 0.9 × length of fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.7 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* opposite *M&Rs*; hind wing with nervellus not intercepted, reclivous.

Metasoma with first tergite 1.4 × as long as apical width, weakly longitudinally wrinkled on granulate background, with latero-median longitudinal carinae distinct distally; lateral oblique grooves distinct and deep. Second tergite about as long as apical width, weakly sculptured on basal 0.1 of tergite, with weak basolateral grooves; thyridium elongate. Remaining part of metasoma smooth, weakly laterally compressed from third tergite. Ovipositor sheath about 0.4 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish except antenna basally, mandible (except apices), propleuron, pronotum, and legs yellowish-red.

Male

Unknown.

Distribution

So far only known from Kenya.

Stenomacrus scutellaris sp. nov.
urn:lsid:zoobank.org:act:621C6C97-1664-46C6-9CDD-1EC90F5244C8
Fig. 7

Diagnosis

Stenomacrus scutellaris sp. nov. is characterized by the combination of the following: face smooth (Fig. 7B); antenna with 19–20 flagellomeres, first flagellomere 2.4–2.6 × as long as wide; temples 0.5 × the maximum diameter of eye in dorsal view, strongly narrowed (Fig. 7F); mesosoma compressed laterally, scutellum basally arched (Fig. 7D); propodeum smooth, weakly wrinkled subapically, with only area apicalis delimited by carinae laterally (Fig. 7D); fore wing with vein 2*rs-m* about 0.9 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 7E); first tergite 2.8 × as long as its apical width, smooth, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles (Fig. 7G); second tergite 2.0 × as long as its apical width, weakly sculptured on basal 0.3 (Fig. 7H); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 7A).

Stenomacrus scutellaris sp. nov. is similar to *S. clypeatus* sp. nov. but has a smooth face (aciculate in *S. clypeatus*) with flat a clypeus, not separated from the face (swollen, distinctly separated in *S. clypeatus*); laterally compressed mesosoma (not compressed in *S. clypeatus*); and a more weakly sculptured second metasomal tergite.

Etymology

The new species is named after the characteristic scutellum.

Type material

Holotype

KENYA • ♀; Eastern Prov., Mt Kulal Forest; 2.65400º N, 36.93660º E; 1810 m a.s.l.; 1 Nov. 2015–1 Apr. 2016; R. Copeland leg.; Malaise trap in disturbed forest; ICIPE.

Paratypes

KENYA • 2 ♀♀; same data as for holotype; ICIPE • 1 ♀; Coast Prov., Taita Hills, Vuria Forest; 3.41428° S, 38.29178° E; 2162 m a.s.l.; 28 Dec. 2011–10 Jan. 2012; R. Copeland leg.; Malaise trap, just inside indigenous forest; ICIPE.

Description

Female

Body length 4.0–4.1 mm. Fore wing 2.8–2.9 mm.

Head smooth and sparsely pubescent. Antenna with 19–20 flagellomeres, first flagellomere 2.4–2.6 × as long as wide. Face about 0.8 × as long as wide, smooth, sparsely pubescent; inner orbits parallel. Malar space 2.9 × basal width of mandible; subocular sulcus distinct. Clypeus 0.5 × as long as wide, smooth. Mandible bidentate, strongly bent outwards; lower tooth small and hardly visible. Temples 0.5 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 1.2 × maximum diameter of lateral ocellus; occipital carina absent.

Mesosoma strongly compressed laterally. Propleuron sparsely pubescent. Pronotum smooth, with short longitudinal wrinkles at posterior edge; epomia absent. Mesoscutum elongate, densely pubescent anteriorly, sparsely pubescent posteriorly; notauli absent. Scutellum densely pubescent, with carinae present only on basal 0.1; scutellum basally arched. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum smooth, weakly wrinkled subapically, with area apicalis interrupted centrally.

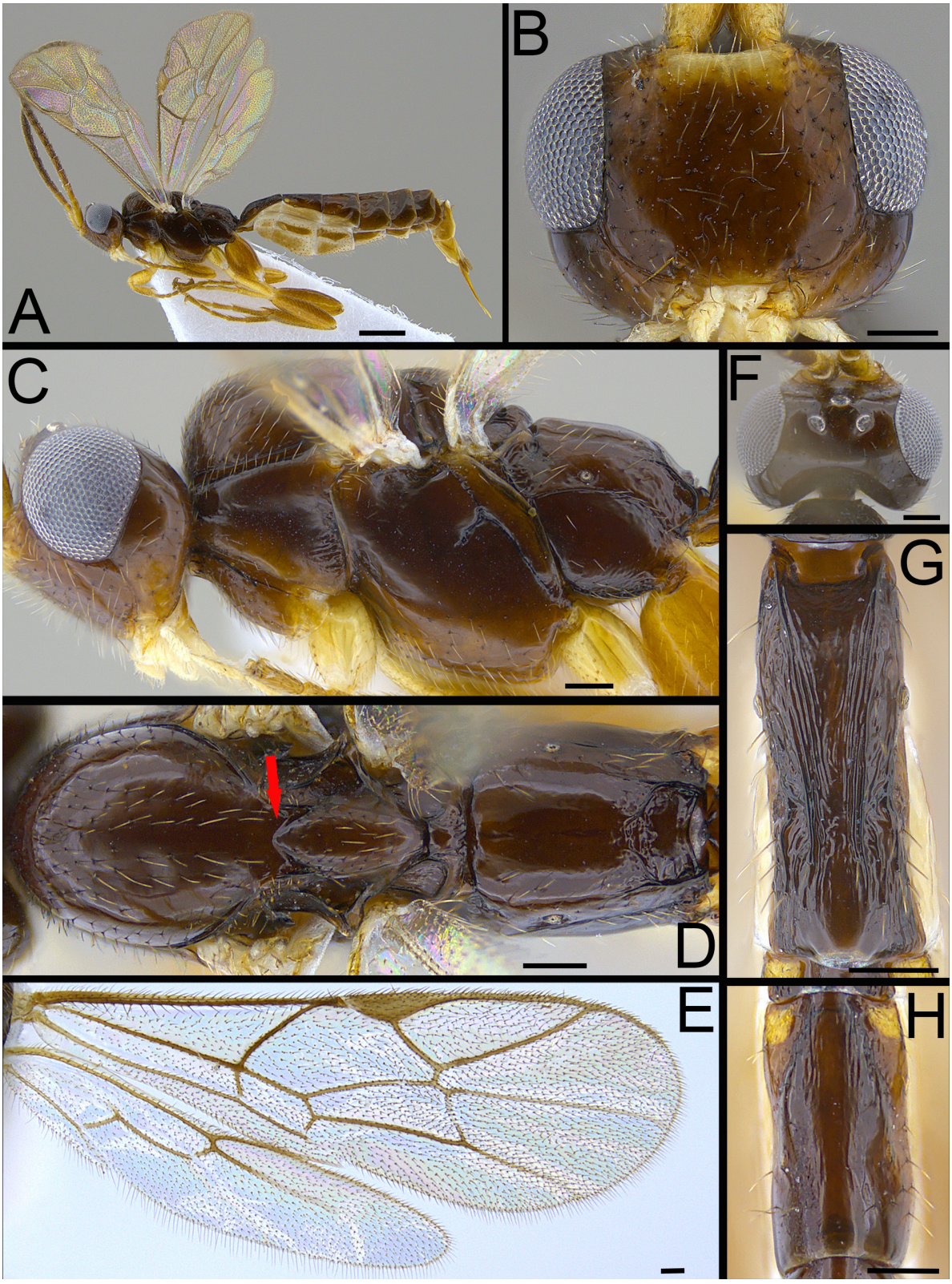

Fig. 7. *Stenomacrus scutellaris* sp. nov., holotype, ♀ (ICIPE). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of mesosoma. Red arrow indicates basally arched scutellum. **E**. Wings. **F**. Dorsal view of head. **G**. Dorsal view of first metasomal tergite. **H**. Dorsal view of second metasomal tergite. Scale bars: A = 0.5 mm; B–H = 0.1 mm.

Legs relatively stout; hind femur 3.2 × as long as wide, third tarsomere of hind tarsus about 1.1 × length of fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.9 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* opposite *M&Rs*; hind wing with nervellus not intercepted, reclivous.

Metasoma with first tergite 2.8 × as long as apical width, smooth, longitudinally wrinkled, with latero-median longitudinal carinae hardly visible among wrinkles; lateral oblique grooves distinct but weak. Second tergite 1.6–2.0 × as long as apical width, sculptured on basal 0.3, with distinct basolateral grooves; thyridium round. Remaining part of metasoma smooth, less compressed laterally than previous tergites. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish except scape and pedicel, face narrowly below antennal sockets, mandible (except apices), fore and mid legs, hind trochanter and trochantellus yellow. Remaining part of hind leg red with darker stripes dorsally.

Male

Unknown.

Distribution

So far only known from Kenya.

Stenomacrus valvator sp. nov.

urn:lsid:zoobank.org:act:D0996EB7-3F09-43A1-BF9D-5D8E687B27BE

Fig. 8

Diagnosis

Stenomacrus valvator sp. nov. is characterized by the combination of the following: face aciculate (Fig. 8A–B); antenna with 18–19 flagellomeres, first flagellomere 2.8–3.4 × as long as wide; temples 0.6 × the maximum diameter of eye in dorsal view, strongly narrowed (Fig. 8F); propodeum with apical transverse, lateral and lateromedian longitudinal carinae present (Fig. 8G, J); fore wing with vein 2*rs-m* about 0.6 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 8H); first tergite 1.2 × as long as its apical width, rugulose on the granulate background, with latero-median longitudinal carinae indistinct in female (Fig. 8I) or clearly visible in male (Fig. 8J); second tergite 0.7 × as long as its apical width, weakly rugulose on granulate background (Fig. 8I–J.); ovipositor long and upcurved, ovipositor sheath about 0.9 × as long as hind tibia (Fig. 8A).

Stenomacrus valvator sp. nov. differs from all known Afrotropical species in having a long and upcurved ovipositor and strongly sculptured metasomal tergites 1–2. The species also exhibits a unique character never found in the genus *Stenomacrus* before: absence (or at least very strong reduction) of the inner mandibular tooth which is the only feature used in defining the genus *Chilocyrtus*. This supports the assumption of the future synonymy of these two genera.

Etymology

The new species is named after the long ovipositor.

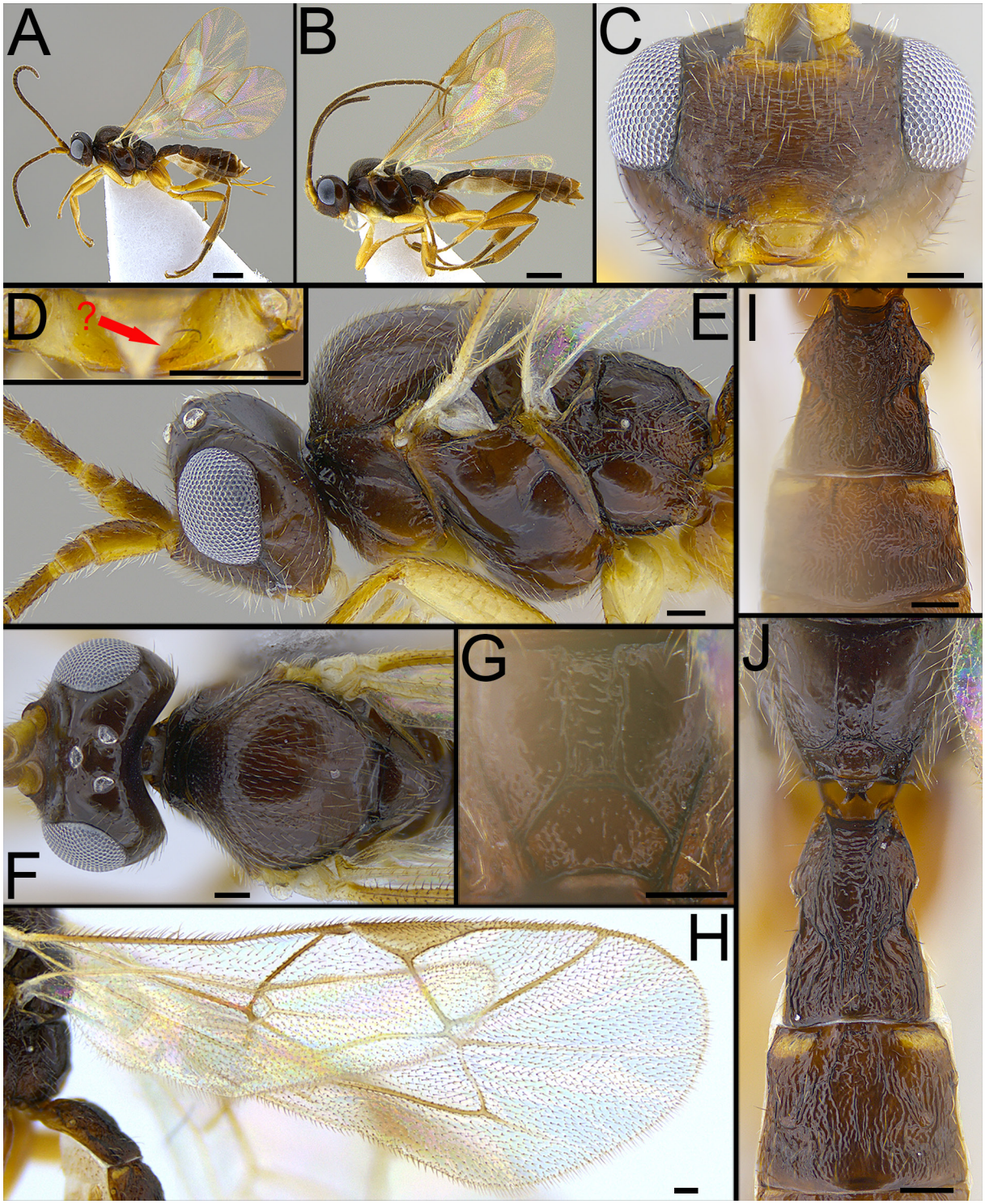

Fig. 8. *Stenomacrus valvator* sp. nov. **A, C, E-I.** Holotype, ♀ (ICIPE). **D**. Paratype, ♀ (ICIPE). **B, J**. Paratype, ♂ (ICIPE). **A–B**. Lateral view of habitus. **C**. Frontal view of face. **D**. Dorsal view of mandible: absence of inner tooth arrowed with red. **E**. Lateral view of head and mesosoma. **F**. Dorsal view of head and mesoscutum. **G**. Dorsal view of propodeum. **H**. Wings. **I**. Dorsal view of metasomal tergites 1–2. **J**. Dorsal view of propodeum and metasomal tergites 1–2. Scale bars: A–B = 0.5 mm; C–J = 0.1 mm.

Type material

Holotype

KENYA • ♀; Coast Prov., Taita Hills, Vuria Forest; 3.41428° S, 38.29178° E; 2162 m a.s.l.; 8–22 Aug. 2012; R. Copeland leg.; Malaise trap, just inside indigenous forest; ICIPE.

Paratypes

KENYA • 1 ♂, 1 ♀; same data as for holotype; ICIPE • 1 ♂; Coast Prov., Taita Hills, Ngangao Forest; 3.36100º S, 38.34186º E; 1848 m a.s.l.; 10–24 Jan. 2012; R. Copeland leg.; Malaise trap, indigenous forest; ICIPE.

Description

Female

Body length 3.0–3.1 mm. Fore wing 2.7–2.8 mm.

Head smooth and sparsely pubescent. Antenna with 18–19 flagellomeres, first flagellomere 2.8–3.4 × as long as wide. Face about 0.5 × as long as wide, aciculate; inner orbits parallel. Malar space 2.5 × basal width of mandible; subocular sulcus distinct. Clypeus 0.6 × as long as wide, weakly convex. Mandible unidentate, strongly bent outwards. Temples 0.6 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 1.4 × maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth; epomia present. Mesoscutum more-or-less evenly densely pubescent; notauli absent. Scutellum densely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum weakly granulate, with apical transverse, lateral and lateromedian longitudinal carinae present, rugulose between lateromedian longitudinal carinae.

Legs relatively stout; hind femur 3.5 × as long as wide, third tarsomere of hind tarsus about 0.9 × length of fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.6 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* weakly distad *M&Rs*; hind wing with nervellus not intercepted, weakly reclivous.

Metasoma with first tergite 1.2 × as long as apical width, rugulose on granulate background, with lateromedian longitudinal carinae clearly visible only basally; lateral oblique grooves distinct and deep. Second tergite 0.7 × as long as apical width, granulate, with basolateral and subapical transverse grooves; thyridium elongate. Third tergite with traces of granulation. Remaining part of metasoma smooth, not laterally compressed. Ovipositor long and upcurved, ovipositor sheath about 0.9 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish except scape and pedicel, face narrowly below antennal sockets, clypeus partly, and mandible (except apices) yellow. Legs generally yellow: fore and mid femora, tibiae and tarsi darker dorsally; hind coxa brownish basally; hind tibia reddish with fuscous line dorsally; hind tarsus fuscous.

Male

Generally resembles female, but has wider temples, longer and more strongly sculptured metasoma with more distinct carination (Fig. 8B, J).

Distribution

So far only known from Kenya.

Stenomacrus vuriaensis sp. nov.
urn:lsid:zoobank.org:act:70705B71-2467-48D7-9026-82CBA914E298
Fig. 9

Diagnosis

Stenomacrus vuriaensis sp. nov. is characterized by the combination of the following: face weakly granulate (Fig. 9B); antenna with 20–21 flagellomeres, first flagellomere 2.9–3.3 × as long as wide; temples 0.4 × the maximum diameter of eye in dorsal view, strongly narrowed (Fig. 9D); propodeum weakly granulate apically, with area apicalis narrowly interrupted centrally (Fig. 9D); fore wing with vein 2*rs-m* about 0.9 × the distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent (Fig. 9E); first tergite 1.8–2.0 × as long as its apical width, granulate, with latero-median longitudinal carinae indistinct; second tergite about 1.4–1.6 × as long as its apical width, with only traces of granulation on basal 0.2 of the tergite (Fig. 9F); ovipositor sheath about 0.6 × as long as hind tibia (Fig. 9A).

Stenomacrus vuriaensis sp. nov. is similar to *S. pronotalis* sp. nov. but differs in the longer and more strongly sculptured first metasomal tergite, 1.9–2.0 × as long as its apical width (1.4 × in *S. pronotalis*), and darker pronotum, with at most some yellow marks distally (distinctly paler than the rest of the mesosoma in *S. pronotalis*).

Etymology

The new species is named after the type locality, Vuria Forest.

Type material

Holotype

KENYA • ♀; Coast Prov., Taita Hills, Vuria Forest; 3.41428° S, 38.29178° E; 2162 m a.s.l.; 19 Sep.–3 Oct. 2012; R. Copeland leg.; Malaise trap, just inside indigenous forest; ICIPE.

Paratypes

KENYA • 1 ♀; same data as for holotype; 5–19 Apr. 2012; ICIPE • 2 ♀♀; same data as for holotype; 14–28 Oct. 2011; ICIPE.

Description

Female

Body length 3.5–3.6 mm. Fore wing 2.8–2.9 mm.

Head smooth and sparsely pubescent. Antenna with 20–21 flagellomeres, first flagellomere 2.9–3.3 × as long as wide. Face about 0.6 × as long as wide, weakly granulate; inner orbits weakly divergent ventrally. Malar space 2.8 × basal width of mandible; subocular sulcus distinct. Clypeus 0.5 × as long as wide, weakly convex centrally. Mandible bidentate, strongly bent outwards; lower tooth small, but clearly visible. Temples 0.4 × maximum diameter of eye in dorsal view, strongly narrowed. Frons and vertex smooth; length of ocellar-ocular distance about 1.0 × maximum diameter of lateral ocellus; occipital carina absent.

Propleuron sparsely pubescent. Pronotum smooth, wrinkled distally; epomia absent. Mesoscutum more-or-less evenly densely pubescent; notauli absent. Scutellum densely pubescent, with carinae present only on basal 0.1. Mesopleuron smooth; epicnemial carina present laterally. Metapleuron smooth; pleural and submetapleural carinae present. Propodeum weakly granulate apically, with area apicalis narrowly interrupted centrally.

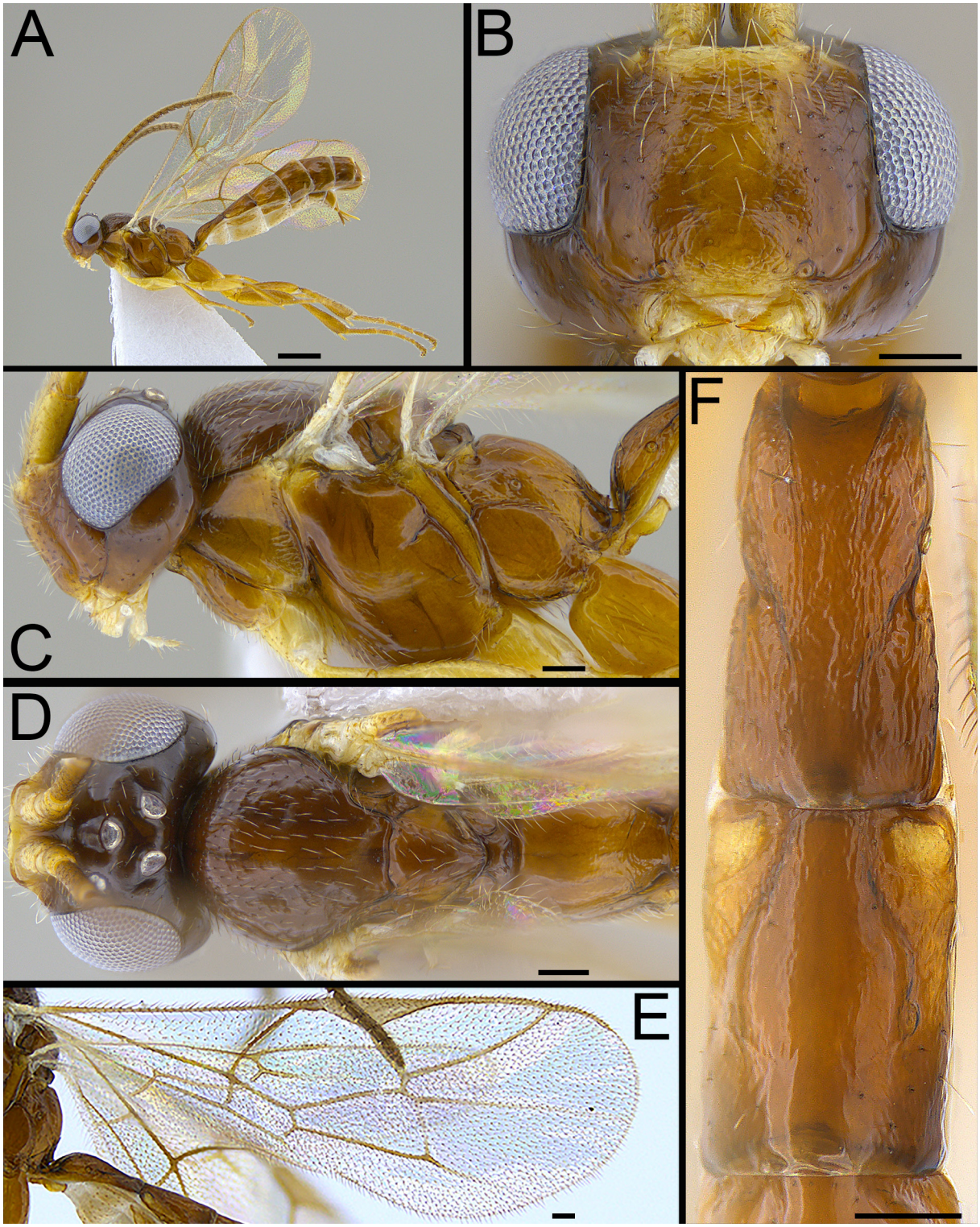

Fig. 9. *Stenomacrus vuriaensis* sp. nov., holotype, ♀ (ICIPE). **A**. Lateral view of habitus. **B**. Frontal view of face. **C**. Lateral view of head and mesosoma. **D**. Dorsal view of head and mesosoma. **E**. Wings. **F**. Dorsal view of metasomal tergites 1–2. Scale bars: A = 0.5 mm; B–F = 0.1 mm.

Legs relatively stout; hind femur 3.7 × as long as wide, third tarsomere of hind tarsus about as long as fifth tarsomere; tarsal claws simple.

Fore wing with vein 2*rs-m* about 0.9 × distance between 2*rs-m* and 2*m-cu*; vein *3rs-m* absent; vein *1cu-a* weakly basad to weakly distad *M&Rs*; hind wing with nervellus not intercepted, strongly reclivous.

Metasoma with first tergite 1.8–2.0 × as long as apical width, granulate, with latero-median longitudinal carinae indistinct; lateral oblique grooves distinct and deep. Second tergite about 1.4–1.6 × as long as apical width, with only traces of granulation on basal 0.2 of tergite; basolateral grooves distinct; thyridium round. Remaining part of metasoma smooth, weakly laterally compressed. Ovipositor sheath about 0.6 × as long as hind tibia, apical part widened and pubescent.

Body generally brownish except scape and pedicel, face narrowly below antennal sockets, mandible (except apices), and pronotum distally narrowly yellow. Legs generally reddish-yellow to reddish-brown.

Male

Unknown.

Distribution

So far only known from Kenya.

Discussion

The present paper provides the first record of the genus *Stenomacrus* from Kenya and Burundi as part of the author's investigation of the Orthocentrinae fauna in the Afrotropics based on material collected during extensive Malaise trapping begun in 2001 by Robert Copeland and coordinated by the ICIPE. The examined African specimens of Ichneumonidae were collected at more than 50 sites across Kenya and one site in Burundi at elevations from 5 to 2177 m a.s.l. (Fig. 1). More than one Malaise trap was placed in some localities at different elevations and distances from each other. In total, 221 samples from 65 traps comprising about 3040 Malaise trap days were studied. Despite the number of sampling sites, orthocentrines were found to be relatively rare in samples, represented mainly by the genera *Aperileptus* Förster, 1869, *Orthocentrus* Gravenhorst, 1829, *Megastylus* Schiødte, 1838, *Proclitus* Förster, 1869, etc. All individuals of *Stenomacrus* described in this paper were found at only five study locations. Most of the species except the holotype of *S. scutellaris* sp. nov. and both type specimens of *S. luteus* sp. nov. were collected only in the indigenous forests. It seems that *Stenomacrus* prefer mountainous areas as all the species were found only in samples from high altitude sites, 1620 m a.s.l. and above. Similar results were published by Veijalainen *et al.* (2012): despite the general unprecedented Orthocentrinae species diversity in the Amazonian tropical forests, only a few species of *Stenomacrus* were found in samples, while some other genera reached or even exceeded the global number of described species. In addition, their study reported also about 20 undescribed species of *Chilocyrtus*, which potentially can belong to *Stenomacrus* s. lat. On the other hand, even one 14-day Malaise trap sample from Europe can contain sometimes up to 5–6 (mountains like Carpathians) or even 10–12 (N Norway) morphospecies of *Stenomacrus*, which are still represented partly by undescribed species (Varga, in prep).

Townes (1971) and later Broad (2010) separated *Stenomacrus* from the other genera of Orthocentrinae s. str. based on several characters: 1) lower edge of clypeus weakly truncate, thus labrum always visible; 2) epicnemial carina present; 3) mandible strongly bent outwards; lower tooth small and hardly visible; 4) propodeum usually with lateromedian longitudinal and apical transverse carinae present; 5) ovipositor sheath with basal flexible (sometimes hidden) and apical widened and pubescent parts. *Chilocyrtus* was described as a separate genus (Townes 1971) close to *Stenomacrus* based on the characteristic angulate

clypeus, usually with a transverse carina, unidentate mandible and propodeum lacking lateromedian longitudinal and apical transverse carinae. Nevertheless, *C. hortorum* exhibits the typical clypeus shape of *Stenomacrus*, while the unidentate mandible is found in *S. valvator* sp. nov. and the propodeum has at least the area apicalis closed in *C. propodealis* Varga, 2024. The latter species is also characterized by the ovipositor position similar to that in *Batakomacrus* Kolarov, 1986: ovipositor and sheaths at rest originating far basad of the metasomal apex, capable of being hinged outwards. This character was also found at least in one European species of *Stenomacrus*, *S. vafer* (Holmgren, 1858). One European species of *Batakomacrus*, *B. noyesi* Broad, 2010, also has a transverse carina on angulate clypeus, but it is situated basally, not centrally as in *Chilocyrtus*. Several European and most of the African *Stenomacrus* species described here have the propodeum almost lacking carinae. In addition, some of them also have a reduced pleural carina – a characteristic feature of *Neurateles*. The habitus of *Stenomacrus scutellaris* sp. nov. is typical for *Neurateles* and similar to at least two European species of *Neurateles* in having the clypeus fused with a smooth face, laterally compressed metasoma, basally arched scutellum, and strongly narrowed first metasomal tergite. Thus, the only reliable character to separate these two genera is the absence of the epicnemial carina in *Neurateles*, which also seems to be questionable as at least one undescribed European *Neurateles* exhibits a tendency to develop the carina, not only wrinkles (Varga & Paappanen, in prep), and *S. pronotalis* sp. nov. has the carina very short. The genus *Picrostigeus* is a relatively easily recognizable othocentrine genus which differs from *Stenomacrus* in having a distinctly visible lower tooth of the mandible in anterior view and a relatively long ovipositor, at least 0.7 × (but usually 1.0 × and more) as long as the hind tibia, with its sheaths entirely pubescent. In contrast, most of the species of *Stenomacrus*, as well as representatives of the genera *Chilocyrtus*, *Plectiscus*, and *Neurateles*, have shorter ovipositor sheaths, divided into a basal, usually flexible, part and an apical part, which is widened and pubescent. The ovipositor in these genera varies from straight to up-curved, but at least in some European species of *Neurateles* and *Stenomacrus* it is long, about 0.9–1.0 × as long as hind tibia. And finally, two of them, *S. curvulus* (Thomson, 1897), and one undescribed European species, have entirely pubescent sheaths as in *Picrostigeus*; furthermore, the latter species has the ovipositor straight. Thus, the genus *Stenomacrus* seems to be a large cosmopolitan genus which can be defined only by the truncate lower edge of the clypeus with the labrum visible, in combination with the strongly bent outwards mandible and an epicnemial carina. Nevertheless, this approach at present cannot be applied until more specimens from wider geographical areas, especially the Oriental and Neotropical regions, are studied and different evolutionary scenarios are tested based on both morphological characters and molecular markers.

Acknowledgments

The author is deeply grateful to Robert Copeland (ICIPE) who graciously made the specimens available for study; reviewers for provided useful criticism on the early version of the manuscript; and the Armed Forces of Ukraine for providing security to perform this work during the war.

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Manuscript received: 5 March 2024
Manuscript accepted: 28 June 2024
Published on: 3 October 2024
Topic editor: Tony Robillard
Section editor: Gavin Broad
Desk editor: Eva-Maria Levermann