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Revalidation and taxonomic revision of *Teloneria* Aczél (Diptera, Neriidae), with description of two new species

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[4] urn:lsid:zoobank.org:author:B45CCAD0-081D-4589-B053-E207E7E4A880
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Abstract. The genus *Teloneria* Aczél, 1954 is resurrected from synonymy with *Chaetonerius* Hendel, 1913 to include four species: *Teloneria apicata* (Edwards, 1919) comb. nov., *Teloneria bimaculata* (Edwards, 1919) comb. nov., *Teloneria juceliae* Sepúlveda & Souza sp. nov. and *Teloneria ladyae* Sepúlveda & Souza sp. nov. Lectotypes for *Telostylus apicatus* Edwards, 1919 and its junior synonym, *Telostylinus apicalis* Enderlein, 1922, and for *Telostylinus ornatipennis* Enderlein, 1922, junior synonym of *Teloneria bimaculata* comb. nov., are designated. An identification key to *Chaetonerius*, *Telostylus* Bigot, 1859 and *Teloneria*, with emphasis on the identification of the species of *Teloneria*, illustrations and distribution data are provided.

Keywords. *Chaetonerius*, Oriental Region, Nerioidea, new records, taxonomy.

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Introduction

Chaetonerius apicatus (Edwards, 1919) and *Chaetonerius bimaculatus* (Edwards, 1919) are Oriental species of Neriidae distributed across southeast Asia. The particular morphology of these species has made their classification controversial, with different authors placing them in *Telostylus* Bigot, 1859, *Telostylinus* Enderlein, 1922 or *Chaetonerius* Hendel, 1913 (Edwards 1919; Enderlein 1922; Hennig 1937).

Hennig (1937) expressed the difficulty of classifying these species among the known genera of Neriidae when, in the same work, he placed them provisionally in *Telostylinus* and included them in the identification key for *Chaetonerius*. Aczél (1954) proposed the genus *Teloneria* Aczél, 1954 to house these species, characterizing it by the following characters: arista brown, three dorsocentral setae and head almost as long as high, with the eye occupying a considerable part of its lateral surface. Subsequently, without providing any argumentation, Steyskal (1977) synonymized *Teloneria* under *Chaetonerius*.

Recent taxonomic reviews have shown that the morphology of *C. apicatus* and *C. bimaculatus* is fundamentally inconsistent with the diagnostic characters of *Chaetonerius* and *Telostylus* (Sepúlveda & de Carvalho 2019; Sepúlveda *et al.* 2019), supporting Azcél's (1954) hypothesis that these species should be classified in an independent genus. Thus, in this paper, we review the morphology of *C. apicatus* and *C. bimaculatus* and revalidate the genus *Teloneria* to allocate these and other two species herein described as new to science: *T. juceliae* Sepúlveda & Souza sp. nov. and *T. ladyae* Sepúlveda & Souza sp. nov. Additionally, seeking to stabilize the names of the species in *Teloneria*, we designate lectotypes for *T. apicata* comb. nov. and *T. bimaculata* comb. nov. and their synonyms and, in order to clarify the separation of *Teloneria* from *Chaetonerius* and *Telostylus*, we provide a key for these genera, with emphasis on the identification of the species of *Teloneria*.

Material and methods

This study is based on material from the following institutions:

CSCA	=	California State Collection of Arthropods, Sacramento, CA, United States of America
NHMUK	=	Natural History Museum, London, United Kingdom
TAUI	=	Tel Aviv University, Tel Aviv, Israel
UCDC	=	University of California, R.M. Bohart Museum of Entomology, Davis, CA, United States of America
ZMHB	=	Humboldt Museum für Naturkunde, Berlin, Germany

The type material of *C. apicatus* and *C. bimaculatus* was studied and both species were redescribed. Label information is provided for each specimen examined, followed by the depository institution along with an identification number, which is also included on the determination label pinned with each specimen. Information on labels of type material is written verbatim and each label is separated by double forward slashes '//'. Total length of the specimens is measured from the parafacial to the posterior margin of tergite 6. General morphological terminology follows Cumming & Wood (2017) and terminology used to describe male genitalia follows Ovtshinnikova & Galinskaya (2017).

Illustrations of genitalia were produced after removing the apical portion of the abdomen and clearing it in 10% KOH overnight at room temperature. After examination, the genitalia were neutralized using acetic acid and stored in a glass microvial containing fresh glycerin, which was pinned with the corresponding dissected specimen.

Photographs were made using a Leica DFC 500 digital camera mounted on a Leica MZ16 stereoscope and images were edited with the computer software Leica LAS 3D Viewer and LAS Montage ver. 4.7. New records are indicated by an asterisk in the 'Distribution' section of each redescription. The map with the geographic distribution of the species was generated using Google Earth ver. 7.1.1.1580 to obtain decimal coordinates and QGIS 3.10-A Coruña (QGIS Development Team 2019) was used to plot the distribution of the points.

Results

Class Insecta Linnaeus, 1758
Order Diptera Linnaeus, 1758
Suborder Brachycera Schiner, 1862
Superfamily Nerioidea Hendel, 1916
Family Neriidae Westwood, 1840

Genus ***Teloneria*** Aczél, 1954

Teloneria Aczél, 1954: 510.

Type species

Telostylinus apicalis Enderlein, 1922 (original designation) (= *Telostylus apicatus* Edwards, 1919).

Remarks

The genus *Teloneria* is restituted from synonymy with *Chaetonerius* based on the following distinctive features: i) arista brown with pubescence shorter at base and longer towards apex; ii) inner process of pedicel positioned at dorsal half of inner surface, with broad linear shape and rounded apex; iii) antennal base shiny and small but well-developed, visible laterally between the anterior margin of frons and parafacial; iv) parafacial, genal and postocular areas very narrow, with the eye occupying a considerable part of its lateral surface; v) posterior fronto-orbital seta positioned at mid length of the eye; vi) three well-developed and long dorsocentral setae (one presutural and two postsutural), and vii) the exclusive character of wing vein A2, ending abruptly before reaching the second third of the anal lobe. As the species of *Teloneria* were associated with *Chaetonerius* and *Telostylus* in the past, we redescribe the genus and provide a key to clarify the separation between the newly restituted genus and these genera.

Redescription

Small species with very long setae. Tegument shiny; pruinescence, when present, sparse.

Head (Fig. 1A–B). Pedicel with one dorso-apical and one ventro-apical outstanding setae. Scape slightly longer than width. Anterior fronto-orbital seta positioned near anterior margin of fronto-orbital plate. Vertex and occiput joining in a curve that follows from close to posterior margin of eye until postgena. Parafacial and gena running very close to eye margin from genal seta towards antennal base. Postgena convex and narrow, with black setulae near occipital foramen.

Thorax (Fig. 1C–D). Thoracic setae conspicuously long, measuring 1.5−2.0 times length of scutellum. Scapular seta absent. Postpronotal lobe as long as height and slightly protuberant. Scutellum sub-shiny and trapezoidal with rounded margins; apical scutellar seta slightly shorter than dorsocentral prescutellar seta. Anterior notopleural setae present. Katatergite slightly protruded. Katepisternum with one ventral seta. Basicosta with two setae. Femora cylindrical and conspicuously elongate. Anterior margin of mid femur with proximal row of 10−14 setae. Tibiae with row of dorsal short setae.

Abdomen. Homogeneously colored. Syntergite 1+2 with short and numerous setae in anterior half, followed by a bare medial area and posteriorly; with longer setae in lower density. Sternite 6 cape-shaped, laterally elongate and narrower near lateral margin of tergite 6. Syntergosternite 8 with 3−5 long setae in proximal half of dorsal surface. Epandrium cylindrical and elongate, measuring approximately 1.5−2.0 times length of syntergosternite 8; cercus and surstylus variable in length and shape (Fig. 2); pregonite bare.

Species included

Teloneria apicata (Edwards, 1919) comb. nov.
Teloneria bimaculata (Edwards, 1919) comb. nov.
Teloneria juceliae Sepúlveda & Souza sp. nov.
Teloneria ladyae Sepúlveda & Souza sp. nov.

Teloneria apicata (Edwards, 1919) comb. nov.
Figs 1A, C, 2A, 3A–B, 7J, N, 8G, J, 9

Telostylus apicatus Edwards, 1919: 53.
Telostylinus apicalis Enderlein, 1922: 143.

Telostylinus apicalis – Hennig 1937: 270 (key), 271 (notes), 279 (catalogue). — Steyskal 1977: 9 (synonymy).
Telostylus apicatus – Hennig 1937: 269 (catalogue). — Steyskal 1966: 5 (key). — Mello & Ziegler 2012: 149 (type material).
Teloneria apicalis – Aczél 1954: 510 (type species); 1955: 30 (key, redescription), 36, fig. 6 (thorax), 40, figs 28–30 (head).
Chaetonerius apicatus – Steyskal 1977: 9 (combination).

Diagnosis

Teloneria apicata and *T. bimaculata* can be differentiated from *T. juceliae* sp. nov. and *T. ladyae* sp. nov. by the general darker color and the inner vertical and outer vertical setae of almost the same length. All *Teloneria* species have the gena and postpronotal lobe yellow, but only *T. apicata* have the fronto-orbital plate, occiput, mid coxa and femora black. Also, *T. apicata* and *T. bimaculata* bear a mostly black frontal vitta, with a small anterior area yellow. The head of *T. apicata* is at most slightly elongate and not evidently elongate as in *T. bimaculata* and *T. juceliae* sp. nov., and the anterior fronto-orbital seta is well-developed but less than half the length of the posterior fronto-orbital seta. Males of *T. apicata* bear an anteroventral row of long, spine-like setae.

Material examined

Lectotype of *Telostylus apicatus* Edwards, 1919 (here designated)
THAILAND • ♀; "SYNTYPE [blue perimeter label] // Siam: Bulsit Besar. H. C. Robinson & N. Annandale, 1916-21 // SYNTYPE, *Telostylus apicatus* Edwards, det. J. E. Chainey, 1995 // NHMUK010240951"; NHMUK (Fig. 3A).

Lectotype of *Telostylinus apicalis* Enderlein, 1922 (here designated)
INDONESIA • ♂; "Ober-Langkat, Deli, Sumatra, 1894, M. U. de S. // Type [red label] // *Telostylinus apicalis* ♂, Type Enderlein, Dr. Enderlein det. 1921 // Zool. Mus. Berlin // SYNTYPE, *Telostylinus apicalis* Enderlein, 1922, det. Mello & Ziegler 2010 [red label]"; ZMHB (Fig. 3B).

Paralectotypes of *Telostylus apicatus* Edwards, 1919

THAILAND • 1 ♀; "Siam: Bulsit Besar. H. C. Robinson & N. Annandale, 1916–21 // SYNTYPE, *Telostylus apicatus* Edwards, det. J. E. Chainey, 1995 // NHMUK010240952"; NHMUK.

INDONESIA • 1 ♀; "SYNTYPE [blue perimeter label] // TYPE, *Telostylus apicatus* Edw. [red perimeter label] // 1916. Scolak Daras, 65. W. Sumatra, 1914. (Robinson & Kloss) // SYNTYPE, *Telostylus apicatus* Edwards, det. J. E. Chainey, 1995 // NHMUK010240950"; NHMUK.

Paralectotype of *Telostylus apicalis* Enderlein, 1922

INDONESIA • ♀; "Ober-Langkat, Deli, Sumatra, 1894, M. U. de S. // Type [red label] // *Telostylinus apicalis* ♀, Type Enderlein, Dr. Enderlein det. 1921; Zool. Mus. Berlin // SYNTYPE, *Telostylinus apicalis* Enderlein, 1922, det. Mello & Ziegler 2010 [red label]"; ZMHB.

Other material (2 ♂♂, 3 ♀♀)

MALAYSIA • 1 ♂ (dissected); W Malaysia, Pahang, Bukit Tinggi forest; alt. 1300 ft; 26 Dec. 1972; A.E. Stubbs leg.; BMNH 1974-87; NHMUK 1822 • 1 ♀; same collection data as for preceding; NHMUK 1626 • 1 ♂; Borneo, Sabah, Penampang District, Crocker Range, Kipandi Butterfly Park; 5°52′20″ N,

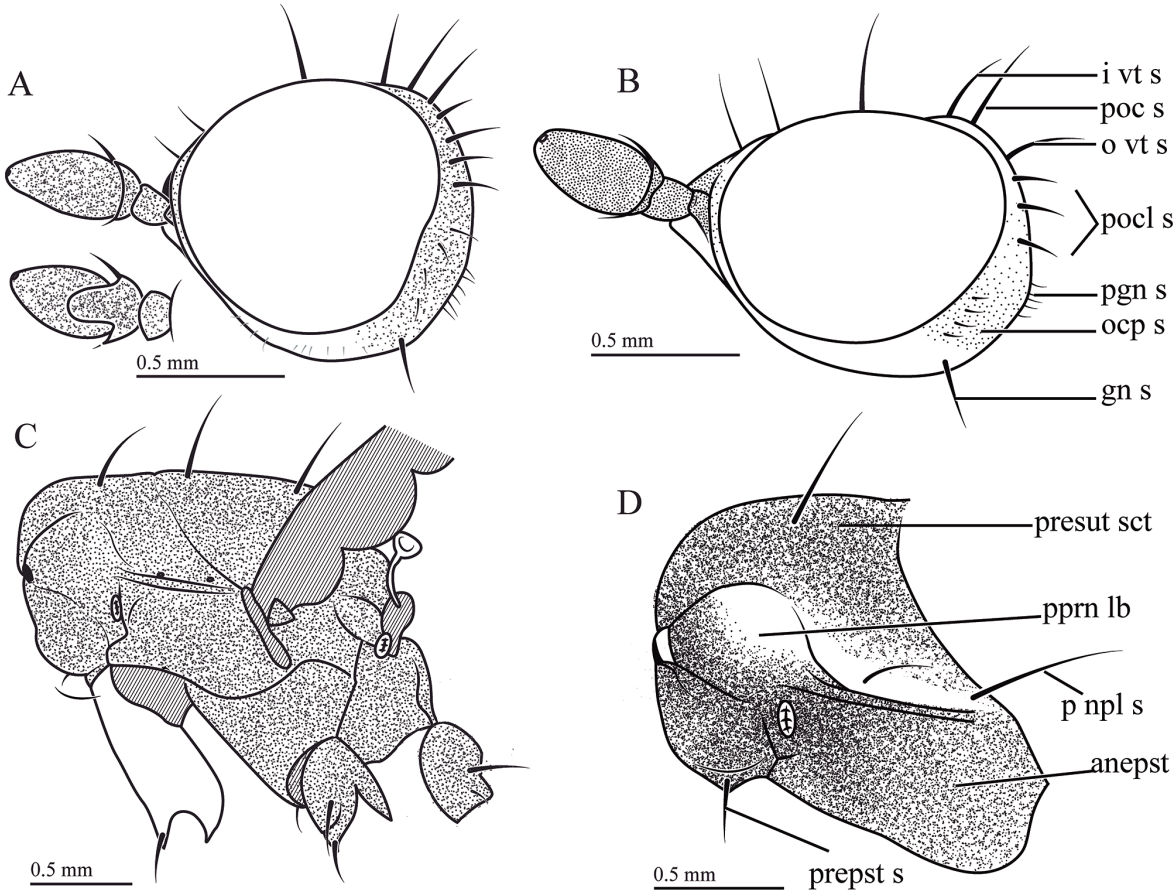

Fig. 1. Head and thorax in lateral view. **A**, **C**. *Teloneria apicata* (Edwards, 1919) comb. nov. (UCDC 1821). **B**, **D**. *Teloneria bimaculata* (Edwards, 1919) comb. nov. (*Telostylinus ornatipennis*, lectotype, ♀, ZMHB). Abbreviations: anepst = anepisternum; gn s = genal seta; i vt s = inner vertical seta; ocp s = occipital seta; o vt s = outer vertical seta; pgn s = postgenal seta; p npl s = posterior notopleural seta; poc s = postocellar seta; pocl s = postocular seta; pprn lb = postpronotal lobe; prepst s = proepisternal seta; presut sct = presutural scutum.

116°14′53″ E; alt. 720 m; 15 Oct. 2011; S. Gaimari and M. Hauser leg.; SDG11-15; CSCA 2807 • 1 ♀; same collection data as for preceding; CSCA 2808 • 1 ♀; Borneo, Sarawak, S Gunung Buda, 64 km S of Limbang; 4°12′ N, 114°56′ E; 20 Dec. 1996; S.L. Heydon and S. Fung leg.; UCDC 1821.

Redescription

Male

Measurements. Body length 4.7–5.0 mm. Wing length 4.7–4.9 mm and width 1.2–1.5 mm.

Head (Fig. 1A). First flagellomere ovate, narrowing on distal half, with broad apex (Fig. 7J). Anterior margin of frons slightly convex, projecting over small antennal base without surpassing anterior margin of parafacial (Fig. 7N). Fronto-orbital plate broad and shiny, sometimes with three or four fronto-orbital setae. Parafacial pale brown. Vertex and median occipital sclerite blackish-brown; outer vertical seta aligned with four postocular setae, almost of same size; row of 2−5 occipital setae very short.

Thorax (Figs 1C; 8G). Dorsal longitudinal stripe of faint gray pruinescence; anterior notopleural seta subequal to posterior notopleural seta. Femora entirely brown; fore femur with several long anteroventral setae, diminishing in size distally and absent on distal third; ventro-apical surface of fore fourth tarsomere with four very thick setae.

Abdomen. Dark brown with several long setulae laterally on posterior half of syntergite 1+2. Syntergosternite 8 protrudes basally, with two distal setae; epandrium twice the length of syntergosternite 8, reaching posterior half of third segment ventrally; surstylus narrow linear; cercus broad linear, slightly narrowing on distal third, with broad round apex; length of cercus half length of epandrium and twice length of surstylus; distiphallus partially sclerotized, flattened and bifurcated, with distal and coiled membranous area bearing a sclerotized spike (Fig. 2A).

Female

Body length 4.6–5.6 mm. Fore femur and fourth tarsomere without thick ventral setae. Oviscape brown and shiny.

Distribution

Thailand, Malaysia* (Pahang, Sarawak), Indonesia (Sumatra).

Remarks

Despite being a syntype labeled as TYPE, we are hereby designating the male specimen in the most complete condition of preservation as lectotype to stabilize the taxonomic concept of this species and its name.

Teloneria bimaculata (Edwards, 1919) comb. nov.
Figs 1B, D, 2B, 3C–D, 6C, E, 7K, O, 8H, K, 9

Telostylus bimaculatus Edwards, 1919: 53.
Telostylinus ornatipennis Enderlein, 1922: 143.

Telostylus bimaculatus – Hennig 1937: 270 (key), 279 (catalogue).
Teloneria bimaculatus – Aczél 1955: 30 (key).
Chaetonerius bimaculatus – Steyskal 1977: 9 (combination).
Telostylinus ornatipennis – Hennig 1937: 279 (synonymy). — Steyskal 1977: 10 (catalogue). — Mello & Ziegler 2012 (type material).

Fig. 2. Male genitalia. **A**. *Teloneria apicata* (Edwards, 1919) comb. nov. **B**. *Teloneria bimaculata* (Edwards, 1919) comb. nov. **C**. *Teloneria juceliae* Sepúlveda & Souza sp. nov. **D**. *Teloneria ladyae* Sepúlveda & Souza sp. nov.

Fig. 3. Type material, habitus, lateral view. **A**. *Telostylus apicatus* Edwards, 1919, lectotype, ♀. **B**. *Telostylinus apicalis* Enderlein, 1922, lectotype, ♂. **C**. *Telostylus bimaculatus* Edwards, 1919, holotype, ♀. **D**. *Telostylinus ornatipennis* Enderlein, 1922, lectotype, ♀.

Diagnosis

Teloneria bimaculata and *T. apicata* can be differentiated from *T. juceliae* sp. nov. and *T. ladyae* sp. nov. by the general darker color and the inner vertical and outer vertical setae being of almost the same length. *Teloneria bimaculata* and *T. juceliae* sp. nov. have the head elongate and mostly yellow, except for the black frontal vitta and pale brown ventral half of the occiput in the former. Other brown-colored structures that differentiate *T. bimaculata* from the yellow *T. juceliae* sp. nov. and *T. ladyae* sp. nov. are the proepisternum, femora (yellow only at base), and dorsal scutum and pleuron (yellow at postpronotal lobe). Exclusive characters of *T. bimaculata* include four fronto-orbital setae of almost the same length and the female wing cells r1 and r2+3 being basally infuscate.

Material examined

Holotype of *Telostylus bimaculatus* Edwards, 1919

INDONESIA • ♀; "HOLOTYPE [red perimeter label] // 1916. Scolak Daras, 65. W. Sumatra, 1914. (Robinson & Kloss) // HOLOTYPE, *Telostylus bimaculatus* Edwards, det. J. E. Chainey, 1995 // NHMUK01241421"; NHMUK (Fig. 3C).

Lectotype of *Telostylinus ornatipennis* Enderlein, 1922 (here designated)

INDONESIA • ♀; "Ober-Langkat, Deli, Sumatra, 1894, M. U. de S. // Type [red label] // *Telostylinus ornatipennis*, Type Enderlein ♀, Dr. Enderlein det. 1921 // Zool. Mus. Berlin // SYNTYPE, *Telostylinus ornatipennis* Enderlein, 1922, det. Mello & Ziegler 2010 [red label]"; ZMHB (Fig. 3D).

Paralectotype of *Telostylinus ornatipennis* Enderlein, 1922

THAILAND • 1 ♀; "Ober-Langkat, Deli, Sumatra, 1894, M.U. de S. // Type [red label] // *Telostylinus ornatipennis*, Type Enderlein ♀, Dr. Enderlein det. 1921 // Zool. Mus. Berlin // SYNTYPE, *Telostylinus ornatipennis* Enderlein, 1922, det. Mello & Ziegler 2010 [red label]"; ZMHB.

Other material (4 ♂♂, 2 ♀♀)

MALAYSIA • 1 ♂; "Neriidae, Gen. Spec. [hand-written] // Siam: Talum. 9 Jan. 1902 // H. O. Robinson & N. Annandale. 1916-21"; NHMUK 1899 • 1 ♂; "Gentig Tea Estate, Gentig Sembah, forest 2000 feet // 24–27 Dec. 1972 // W. MALASYA: Selangor, A. E. Stubbs, BMNH 1974-87"; NHMUK 1827 • 1 ♀; same collection data as for preceding; NHMUK 2023.

BORNEO • 1 ♂; Sarawak, Buda Camp, Sw. Gn. Buda, 64 km S of Limbang; 4°13′ N, 114°56′ E; 10–20 Nov. 1996; S.L. Heydon and S. Fung leg.; UCDC 1824 • 1 ♂; same collection data as for preceding; UCDC 1825 • 1 ♀; same collection data as for preceding; UCDC 1826.

Redescription

Male

Measurements. Body length 5.3–6.3 mm. Wing length 4.5–5.9 mm and width 1.2–1.6 mm.

Head (Figs 1B, 6C, E, 7O). First flagellomere ovate, narrowing on distal half, with broad apex (Fig. 7K). Anterior margin of frons convex, projecting over small antennal base without surpassing anterior margin of parafacial (or at most surpassing it very discreetly). Fronto-orbital plate broad and shiny. Parafacial pale brown to yellow. Vertex blackish-brown and median occipital sclerite paler; outer vertical seta aligned with 2−4 postocular setae of almost same length; row of 2−4 very short and hair-like occipital setae.

Thorax (Figs 1D, 8H). Dorsally brown or pale brown; dorsal longitudinal stripe of faint gray pruinescence; anterior notopleural seta subequal to posterior notopleural seta. Fore and mid coxae yellow, hind coxa brown. Femora brown with yellow base; fore femur without long anteroventral setae; fore tarsomeres with ventral row of short thick setae.

Abdomen. Dark brown, with several long setulae laterally on posterior half of syntergite 1 + 2. Syntergosternite 8 with three median setae; epandrium 1.5−2.0 times as long as syntergosternite 8, reaching anterior half of third segment ventrally; distal margin of epandrium extended laterally; surstylus narrow linear; cercus broad and spatulate; length of cercus ½ to ⅔ length of epandrium and three times length of surstylus; distal margin of cercus with conspicuously long and thick setae; distiphallus partially sclerotized, with median membranous area distally bifurcated in a sclerotized spike and a membranous coiled up tube (Fig. 2B).

Female

Body length 4.9–5.5 mm. Fore femur without strong ventral setae; tarsomeres without thick ventral setae. Oviscape brown and shiny.

Distribution

Taiwan, Malaysia* (Pahang, Selangor, Sarawak), Indonesia (Sumatra).

Remarks

The abdomen of the holotype is lost. However, the basally infuscate wing cells r_1 and r_{2+3} indicate that it is a female specimen. The cercus morphologically differentiated varies in length among specimens and presents conspicuously long distal setae. According to Van Steenis & Hippa (2012), the material labeled as 'Siam: Talum' by O. Robinson and N. Annandale (9 Jan. 1902) was collected in Lubok, Tamang, Pahang, F.M.S.

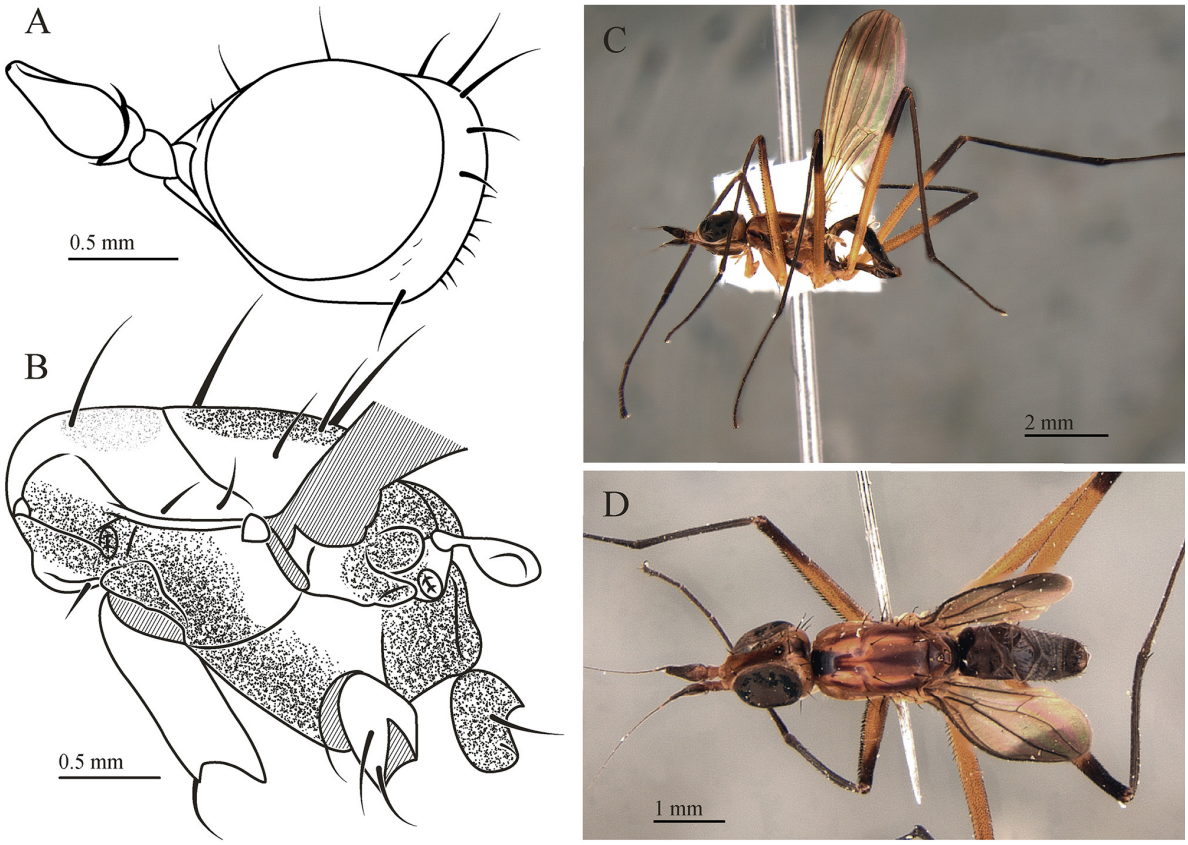

Fig. 4. *Teloneria juceliae* Sepúlveda & Souza sp. nov. **A**. Head, lateral view, ♀, paratype (TAUI 1003). **B**. Thorax, lateral view, ♂, holotype (TAUI 1004). **C**. Habitus, lateral view, holotype, (TAUI 1004). **D**. Habitus, dorsal view, holotype (TAUI 1004).

Teloneria juceliae Sepúlveda & Souza sp. nov.
urn:lsid:zoobank.org:act:883AAEBF-A213-4BF0-A4D7-680436FB37C3
Figs 2C, 4A–D, 9

Diagnosis

Teloneria juceliae sp. nov. and *T. bimaculata* have the head elongate and mostly yellow, except for the black frontal vitta and pale brown ventral half of occiput of the latter. *Teloneria juceliae* sp. nov. and *T. ladyae* sp. nov. are very similar in general color, both having the thorax yellowish-brown sub-shiny with dorsal brown and yellow areas; postpronotal lobe, notopleura, anepisternum, anepimeron and katepisternum partially yellow; and femora yellow with distal fourth black. These two species also have the inner vertical seta one third or more shorter than the length of the outer vertical seta. Exclusive characters of *T. juceliae* sp. nov. include having the first flagellomere pear-shaped with the distal half slightly twisted up (Fig. 4A), two well-developed fronto-orbital setae, a broad median dark brown line on the dorsal scutum (Fig. 4D) and the male fore femur with three rows of short and thick ventral setae.

Etymology

The specific epithet '*juceliae*' is dedicated to D.S. Souza's mother, Jucelia Pereira de Santana Souza.

Material examined

Holotype

THAILAND • ♂; Mae Hong Son Prov., Tham Pla NP, Pha Sua waterfall; alt. 350 m; 19°29.45′ N, 97°57.44′ E; 14 May 2004; Ilan Yarom leg.; SMNH-TAUI 205885; TAUI 1004 (Fig. 4C–D).

Paratypes (10 ♂♂, 4 ♀♀)

INDIA • 1 ♂; "Meghalaya, Nonghpoh Forest; 7 Nov. 2002; A. FREIDBERG; SMNH-TAUI 205837"; TAUI 672 • 1 ♂; same collection data as for preceding but SMNH-TAUI 205834; TAUI 675 • 1 ♂; same collection data as for preceding but SMNH-TAUI 205829; TAUI 681 • 1 ♀; same collection data as for preceding but SMNH-TAUI 205835; TAUI 674.

THAILAND • 1 ♂ (dissected); same collection data as for holotype; SMNH-TAUI 205884; TAUI 1005 • 1 ♂; "160759. Soppong, 10kmE, Rt.1095, near Ban Nam Rin // 19°28′ N, 98°18′ E // 810 m, 5 Nov. 2012, A. FREIDBERG"; TAUI 977 • 1 ♂; "160228. Soppong, 6 km E., Rt. 1095 // 19°30′ N 98°17′ E // 700 m, 1–2 Nov. 2012; A. FREIDBERG"; TAUI 998 • 1 ♂; same collection data as for holotype; 160340; TAUI 994 • 1 ♂; same collection data as for holotype; 162316; TAUI 996 • 1 ♀; same collection data as for holotype; 160230; TAUI 997 • 1 ♀; same collection data as for holotype; 160338; TAUI 985 • 1 ♀; "NW: Soppong, 8 kmS Rt. 1095, near Ban Man Rim // 28–30 Oct. 2002 // A. FREIDBERG, SMNH-TAUI 205970"; TAUI 1022 • 1 ♂; "S. TakuaPa, Rt. 401 // 21 Oct. 1993 // F: KAPLAN & A. FREIDBERG // SMNH-TAUI 205886"; TAUI 1003 • 1 ♂; "S. TakuaPa, Rt. 401 // 21 Oct. 1993 // F: KAPLAN & A. FREIDBERG // SMNH-TAUI 205971"; TAUI 1023.

Description

Male (holotype)

Measurements. Body length 5.3 mm. Wing length 5.2 mm and width 1.3 mm.

Head (Fig. 4A). Anterior margin of frons straight; anterior fronto-orbital seta absent; middle fronto-orbital seta positioned near anterior margin of eye and as long as inner vertical seta; posterior fronto-orbital seta lost; outer vertical seta aligned with two subequal postocular setae; occipital setae inconspicuous.

Thorax (Fig. 4B). Sub-shiny and partially brown with yellow areas; broad median presutural dark brown line, medially divided near transverse suture; broad median brown postsutural line narrow near

transverse suture, widening toward scutellum; scutellum brown dorsally and yellow laterally; anterior notopleural seta subequal to posterior notopleural seta; proepisternum yellow; ventral katepisternal seta hair-like and short. Fore and mid coxae yellow, hind coxa brown. Femora yellow with dark brown distal fourth, slightly paler on fore femur; fore tarsomeres without ventral setae; mid tibia cylindrical and thin; mid tarsomeres without ventral setae; hind trochanter without ventral patch of setulae.

Abdomen. Dark brown with several long setulae laterally on posterior half of syntergite 1+2. Syntergosternite 8 not protruded basally and without marginal setae; epandrium only slightly longer than syntergosternite 8, reaching anterior half of third segment ventrally; surstylus narrow linear; cercus broad linear, narrowing distally; length of cercus half length of epandrium and ⅔ length of surstylus (Fig. 2C).

Variation (males)

Body length 4.6–6.6 mm. Wing length 5.2–6.5 mm and width 1.3–1.7 mm. Inner process of pedicel broad linear to slightly triangular. Anterior margin of frons straight to slightly convex; posterior fronto-orbital seta longer than inner vertical seta; postocular setae vary from three long setae to one short plus three long setae or one short seta plus two long setae. Yellow parts of body slightly darker and dorsal longitudinal lines of thorax vary in intensity, especially on anterior half, where these can be yellow to black. Proepisternum brown. Specimens from India (TAUI 674, 681, 672,-675) and two from Thailand (TAUI 1023, 1003) with thorax and pleuron mostly brown. Distiphallus partially sclerotized and flattened, with distal half divided by median membranous area and apex branched in two short membranous spikes.

Female

Body length 4.5–6.3 mm. Ventral katepisternal seta inconspicuous to absent in most females. Fore femur without ventral setae. Oviscape shiny, with dorsal line brown and laterally yellow to entirely brown.

Distribution

India, Thailand.

Teloneria ladyae Sepúlveda & Souza sp. nov.
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Figs 2D, 5A–D, 9

Diagnosis

Teloneria ladyae sp. nov. and *T. juceliae* sp. nov. are very similar in general color, both with thorax yellowish-brown sub-shiny with dorsal brown and yellow areas; postpronotal lobe, notopleura, anepisternum, anepimeron and katepisternum partially yellow; and femora yellow with distal fourth black. These species also bear an inner vertical seta one third or more shorter than the length of the outer vertical seta. Exclusive characters of *T. ladyae* sp. nov. include anterior margin of frons very convex, three well-developed fronto-orbital setae, hind trochanter with ventral patch of setulae and thorax mostly yellow, with two suprahumeral dark brown spots and one presutural median brown line. Within Neriidae, *T. ladyae* sp. nov. is the only species in which males bear strong mid legs, represented in the mid tibia thickening distally and mid tarsomeres with ventral setae.

Etymology

The specific epithet '*ladyae*' is dedicated to T.A. Sepúlveda's mother, Luz Lady Villa Toro.

Material examined

Holotype

MALAYSIA • ♂; "W. Malaysia, Selangor, Gentig Tea Estate, Gentig Sembah, forest 2000 feet, 24−27 Dec. 1972 // A. E. Stubbs // BMNH 1974-87"; NHMUK 1898 (Fig. 5B, D).

Paratypes (3 ♂♂, 2 ♀♀)

MALAYSIA • 1 ♂; same collection data as for holotype; NHMUK 1823 • 1 ♀, same collection data as for holotype; NHMUK 1629.

THAILAND • 1 ♂; "S. Khao Lak 100, Km. N. Phuket, 19 Oct. 1993, F. KAPLAN & A. FRIEDBERG // SMNH-TAUI 205845"; TAUI 666 • 1 ♂; same collection data as for preceding; SMNH-TAUI 205846; TAUI 665 • 1 ♀; "South Ton Nga Chase N.P. 20 km SW Hat Yai // 20−24 Oct. 2002, A. FREIDBERG // SMNH-TAUI 205965"; TAUI 1015.

Description

Male (holotype)

Measurement. Body length 6.3 mm. Wing length 5.7 mm and width 1.4 mm.

Head (Fig. 5A). Rounded. First flagellomere ovate, with acute apex. Anterior margin of frons projecting over small antennal bases and between antennae, surpassing anterior margin of parafacial; outer vertical seta aligned with three subequal postocular setae; occipital setae very thin.

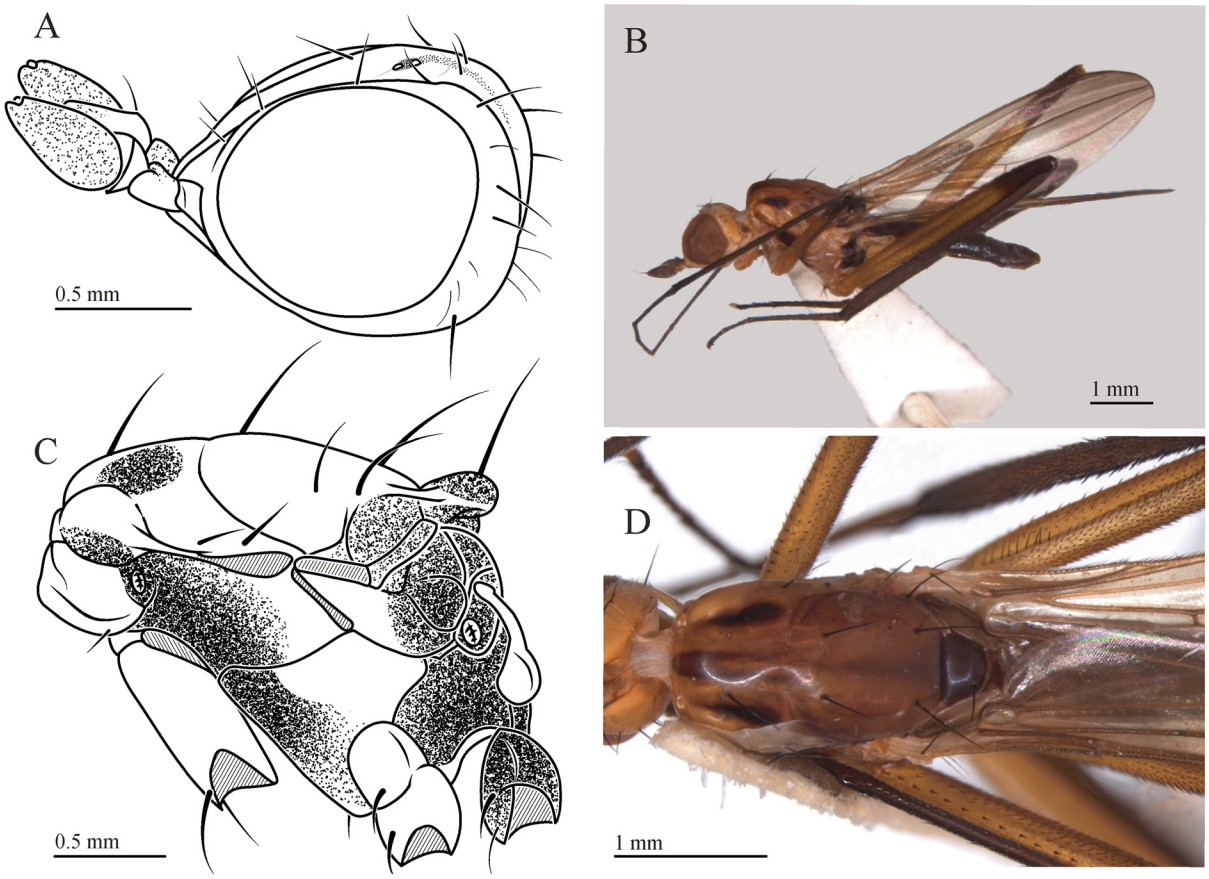

Fig. 5. *Teloneria ladyae* Sepúlveda & Souza sp. nov., holotype (NHMUK 1898). **A**. Head, lateral view. **B**. Thorax, lateral view. **C**. Habitus, lateral view. **D**. Habitus, dorsal view.

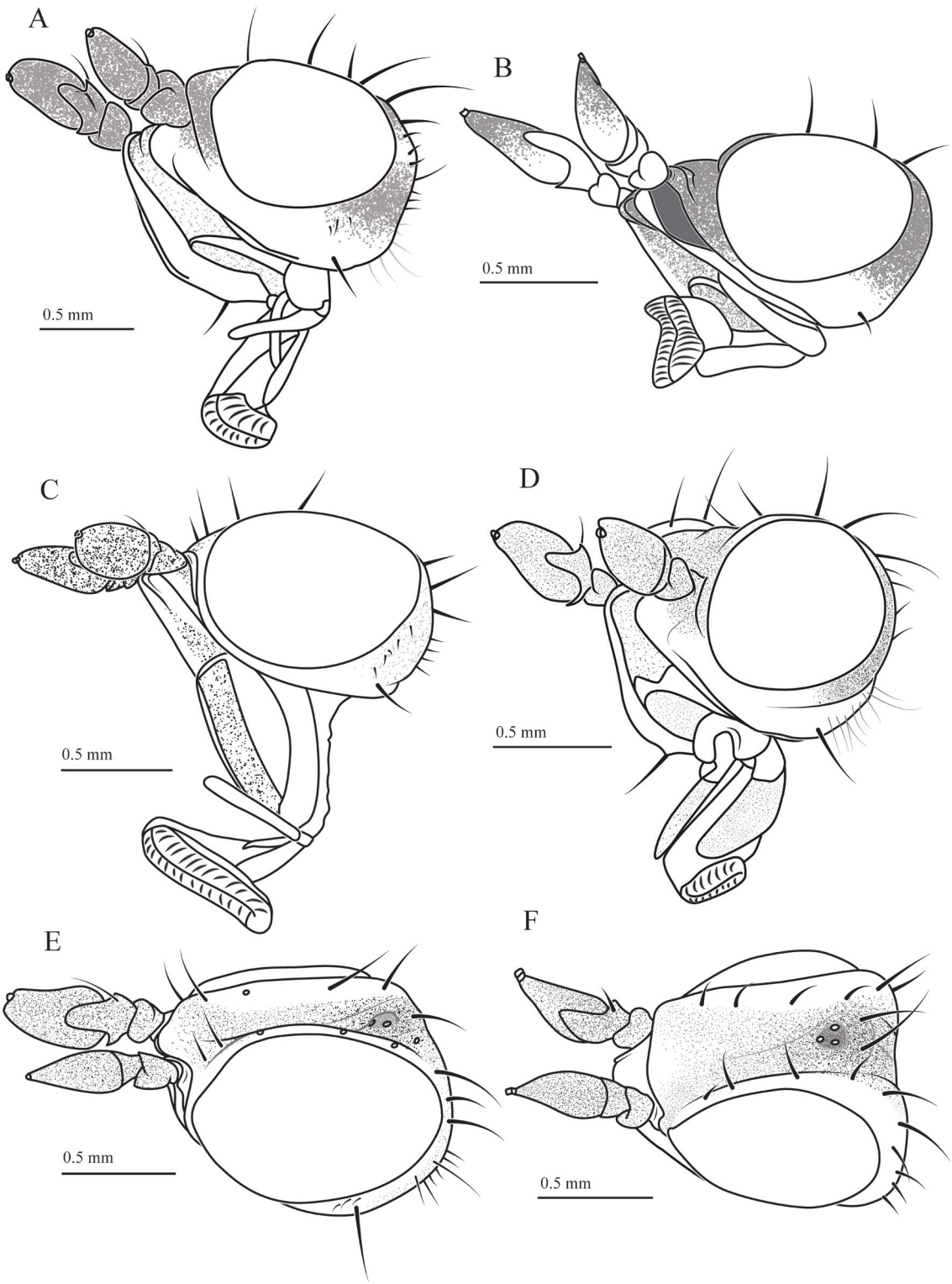

Fig. 6. Head in lateral view. **A**. *Chaetonerius nolae* Barraclough, 1993 (NHMUK 2804). **B**. *Telostylus niger* Bezzi, 1913 (NHMUK 1919). **C**. *Teloneria bimaculata* (Edwards, 1919) (NHMUK 2023). **D**. *Chaetonerius inermis* (Schiner, 1868) (NHMUK 1828). **E**. *Teloneria bimaculata* (NHMUK 2023). **F**. *Chaetonerius inermis* (NHMUK 1828).

Thorax (Fig. 5C). Dorsal median brown line very pale, scutellum dark brown dorsally and yellow laterally; anterior notopleural seta subequal to posterior notopleural seta. Proepistermun yellow. Ventral katepisternal seta hair-like and short. Fore and mid coxae yellow, hind coxa brown. Femora yellow with brown distal fourth, slightly paler on fore femur; fore femur without ventral rows of setae; fore tarsomeres without ventral setae.

Abdomen. Dark brown except yellow lateral of syntergite 1 + 2 at proximal half; syntergite 1 + 2 with several long setulae laterally on posterior half. Syntergosternite 8 protruding basally and dorsally, with seven setae; epandrium only slightly longer than syntergosternite 8, reaching anterior half of

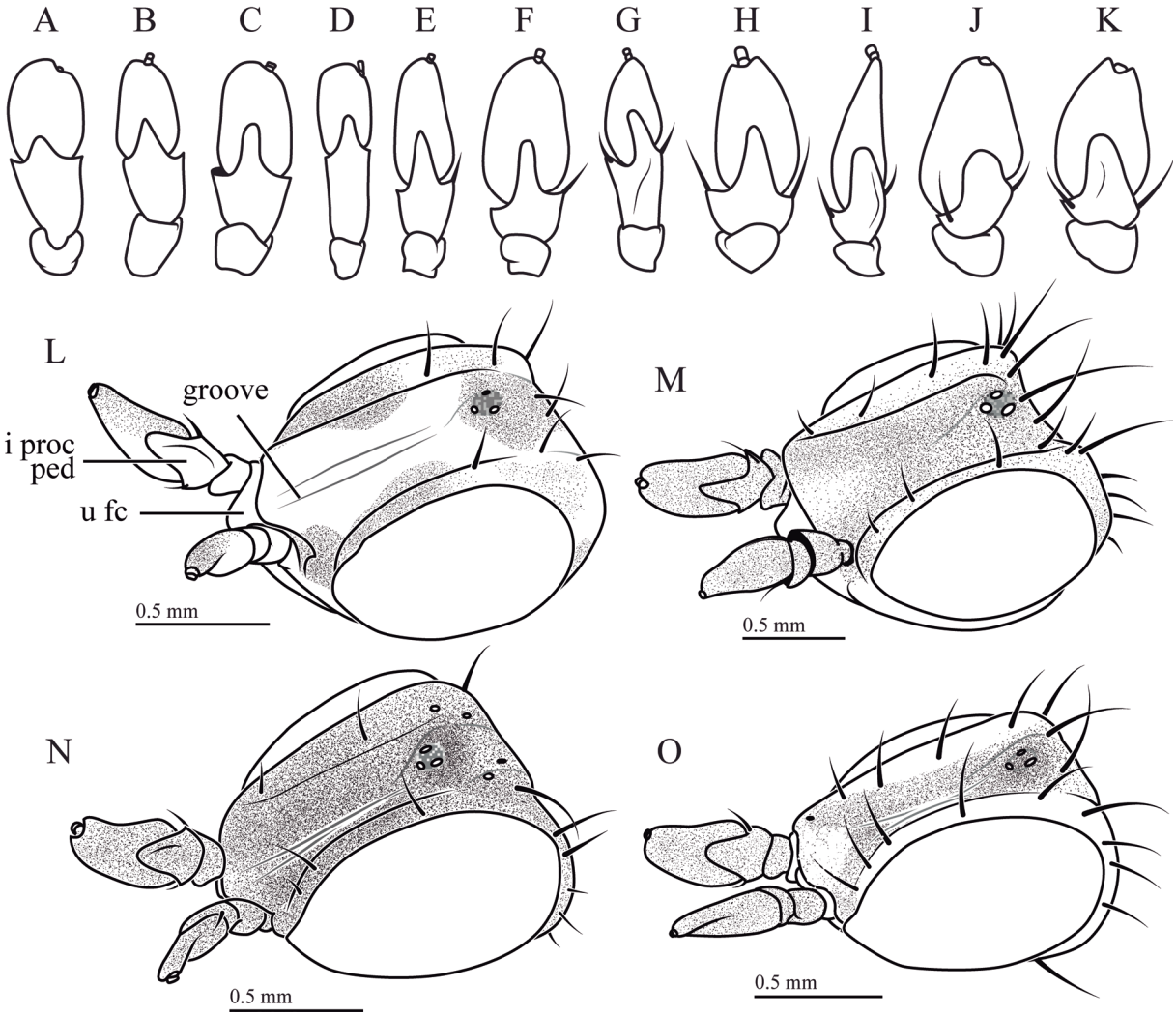

Fig. 7. Inner margin of antenna and head in lateral view. **A**. *Nerius czernyi* Aczél, 1961. **B**. *Antillonerius cinereus* (Röder, 1885). **C**. *Eoneria blanchardi* Aczél, 1951. **D**. *Cerantichir enderleini* Hennig, 1937. **E**. *Glyphidops bullatus* (Enderlein, 1922). **F**. *Glyphidops durus* (Cresson, 1926). **G**. *Indonesicesa annulipes* (Doleschall, 1857). **H**. *Chaetonerius claricoxa* Enderlein, 1922. **I**. *Telostylus philippinensis* Cresson, 1926. **J**. *Teloneria apicata* (Edwards, 1919) comb. nov. **K**. *Teloneria bimaculata* (Edwards, 1919) comb. nov. **L**. *Telostylus marshalli* Sepúlveda & de Carvalho, 2019 (NHMUK 1179). **M**. *Chaetonerius claricoxa* (TAUI 895). **N**. *Teloneria apicata* comb. nov. (UCDC 1821). **O**. *Teloneria bimaculata* comb. nov. (ZMHB). Abbreviations: i proc ped = inner process of pedicel; u fc = upper face.

third segment ventrally; surstylus narrow linear; cercus broad linear, tapering distally toward inner margin; length of cercus half length of epandrium and twice length of surstylus (Fig. 2D).

Variation (males)

Body length 4.9–6.32 mm. Wing length 5.4–6.0 mm and width 1.2–1.6 mm. Head dark yellow. Anterior margin of frons very to slightly convex. Thorax with brownish-yellow longitudinal lines dorsally. One

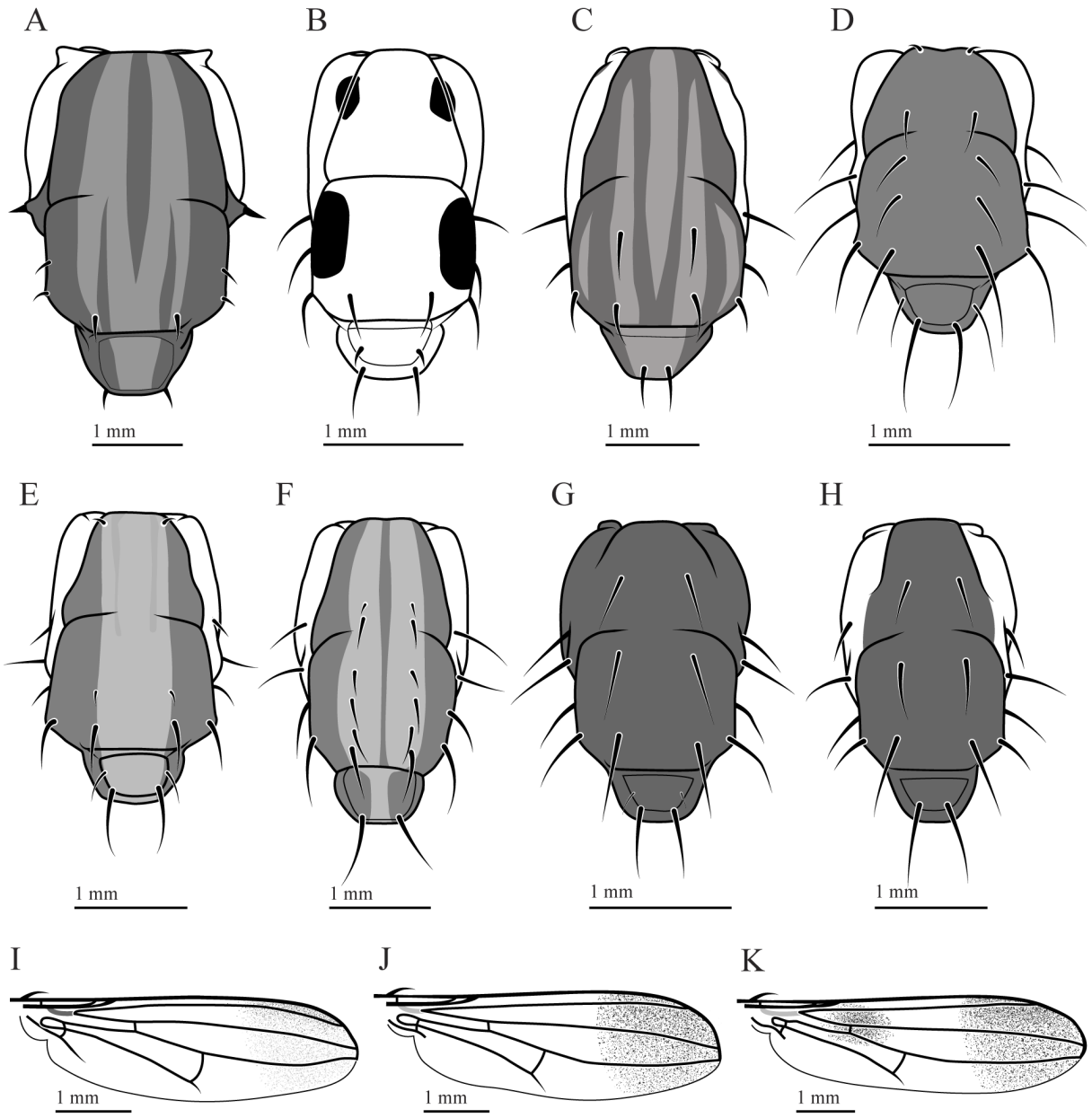

Fig. 8. Thorax in dorsal view and wing. **A**. *Loxozus cornutus* (Walker, 1853). **B**. *Telostylus philippinensis* Cresson, 1926. **C**. *Derocephalus angusticollis* Cresson, 1926. **D**. *Chaetonerius claricoxa* Enderlein, 1922. **E**. *Chaetonerius latifemur* Enderlein, 1922. **F**. *Eoneria blanchardi* Aczél, 1951. **G**. *Teloneria apicata* (Edwards, 1919) comb. nov. **H**. *Teloneria bimaculata* (Edwards, 1919) comb. nov. **I**. *Telostylus marshalli* Sepúlvesa & de Carvalho, 2019 (NHMUK 1179). **J**. *Teloneria apicata* comb. nov. (UCDC 1821). **K**. *Teloneria bimaculata* comb. nov. (ZMHB).

male from Selangor, Malaysia (NHMUK 1823) with anterior fronto-orbital seta longer than average and two ventral lines of short, spine-like setae on fore femur. Distiphallus partially sclerotized, with median membranous area followed by a sclerotized and flattened, coiled up distal part and apex with sclerotized spikes.

Female

Body length 4.4–5.9 mm. Thorax and legs darker. Mid tibia only slightly broader than fore tibia; hind trochanter without ventral patch of setulae. Oviscape entirely brown.

Distribution

Thailand, Malaysia (Selangor).

Key to Chaetonerius, Telostylus *and* Teloneria, *with emphasis on the identification of the species of* Teloneria

1. One or two postsutural dorsocentral setae (Figs 8B, G–H). Frontal vitta with a median longitudinal groove (Fig. 7L, N–O). Tegument shiny, mostly yellow or partially to entirely brown (Fig. 3). Abdomen homogeneously colored. Wing infuscate on distal third (Fig. 8I–K) 2
− Four postsutural dorsocentral setae (Fig. 8D). Frontal vitta without median longitudinal groove (Fig. 7M). Tegument opaque, brown and partially yellow to entirely brown. Abdomen with one dorsomedian yellow line. Wing slightly infuscate around meeting point of veins R2+3 and C .....***Chaetonerius*** Hendel, 1913

2. Presutural dorsocentral seta absent and one pair of postsutural dorsocentral setae present (Fig. 8B). Postocullar setae absent (Fig. 7L). Transverse suture complete. Antennal base with membranous extension of upper face positioned dorsally ..... ***Telostylus*** Bigot, 1859
− One pair of presutural and two pairs of postsutual setae present (Fig. 8G, K). Postocular setae well-developed (Fig. 7N–O). Transverse suture incomplete, vanishing medially on dorsal surface of scutum. Antennal base without dorsal membranous area .....3... ***Teloneria*** Aczél, 1954

3. Postpronotal lobe and notopleura brown to pale brown (Fig. 3A). Fronto-orbital plate entirely black. Head around eye brown, only yellow near gena; occiput entirely brown .. .. *Teloneria apicata* (Edwards), 1919 comb. nov.
− Postpronotal lobe and notopleura pale brown to yellow (Fig. 3D). Fronto-orbital plate at least partially to entirely yellow (Fig. 3C). Head around eye mostly to entirely yellow; occiput pale brown or yellow on dorsal half 4

4. Frontal vitta mostly black, with a yellow spot on anterior third. Anepisternum, anepimeron and katepisternum brown .. .. ***Teloneria bimaculata*** (Edwards)
− Frontal vitta pale brown or yellow and ocellar triangle black. Anepisternum, anepimeron and katepisternum partially yellow (Fig. 4C) 5

5. Anterior margin of frons straight to slightly convex, not projected between antennal bases. First flagellomere pear-shaped with distal half slightly twisted up (Fig. 4A). Scutum with median brown to black broad line from anterior margin to scutoscutellar suture, interrupted on transverse suture by a median yellow area; presutural and postsutural scutum laterally with brown longitudinal lines (Fig. 4D) ..... ***Teloneria juceliae*** Sepúlveda & Souza sp. nov.
− Anterior margin of frons strongly convex (V-shaped) and projected between antennal bases. First flagellomere ovate (Fig. 5A). Scutum with pale brownish median line on presutural scutum; presutural scutum with dark brown intra-alar spot and postsutural scutum laterally without brown lines (Fig. 5D) ..... ***Teloneria ladyae*** Sepúlveda & Souza sp. nov.

Discussion

Main features that differentiate *Teloneria* from other genera of Neriidae

Arista

The arista in *Teloneria* is apically brown, with shorter pubescence at the base and longer towards the apex. In *Telostylus*, the arista is apically white, densely pubescent and, in *Chaetonerius*, it is usually subapically, brown and micropilose.

Antennal base

The absence of an antennal base has been historically used to associate the genera *Telostylus* and *Chaetonerius* (Aczél 1961) (Figs 6C, 7M). However, Sepúlveda *et al.* (2019) demonstrated that the species of *Telostylus* and *Telostylinus* have a shiny deflated antennal base with a characteristic membranous extension of the upper face dorsally (Figs 6A, 7L), which is absent in *Teloneria* (Figs 6B, E, 7N–O). Similarly, three other Oriental species of *Chaetonerius* present a distinctive yet incipient protruding antennal base (Fig. 6D, F): *Chaetonerius comperei* Cresson, 1926, *Chaetonerius inermis* (Schiner,

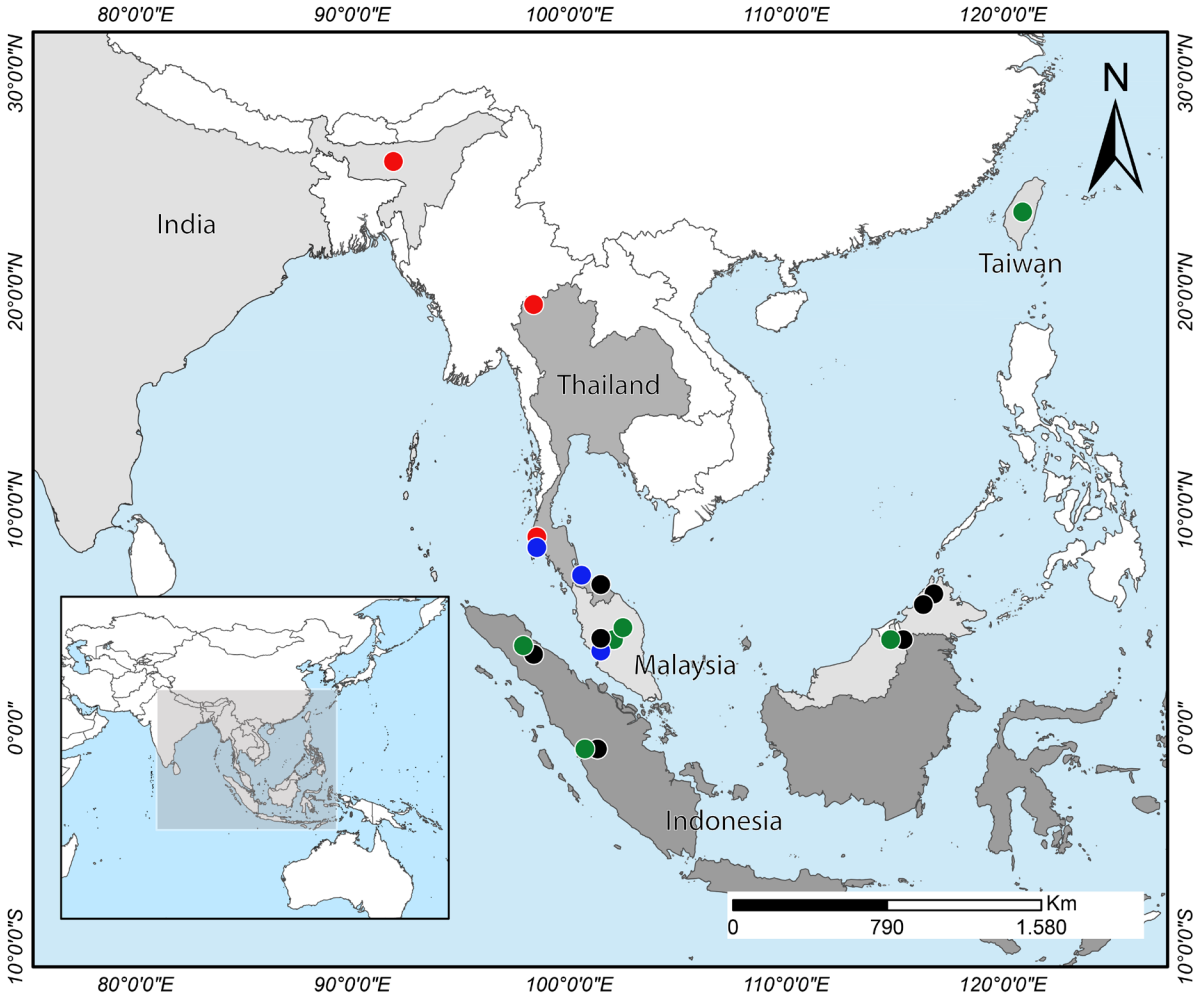

Fig. 9. Distribution of species of *Teloneria* Aczél, 1954. Conventions: *Teloneria apicata* (Edwards, 1919) comb. nov. (●); *Teloneria bimaculata* (Edwards, 1919) comb. nov. (●); *Teloneria juceliae* Sepúlveda & Souza sp. nov. (●); *Teloneria ladyae* Sepúlveda & Souza sp. nov. (●).

1868) and *Chaetonerius obscurus* (Brunetti, 1913) (Sepúlveda & de Carvalho 2019). In *Teloneria*, the antennal base is clearly well-developed and surrounds the antennal socket in all the extension of its circumference with clear limits (Fig. 6E), whereas, in *Chaetonerius*, the limits of the antennal base and upper face vanish in the inner margin (Fig. 6F).

Inner process of pedicel

The inner process of pedicel is a diagnostic character for Neriidae (Buck 2010) and the differences in its shape have been broadly used as diagnostic for generic identification (Aczél 1961; Buck 2010; Sepúlveda & Souza 2020). Two main shapes have been described for Neotropical species of Neriidae: broad triangular, characteristic of *Nerius* Fabricius, 1805 (Fig. 7A) and narrow triangular to finger-like for the other genera (Fig. 7B−H). A third shape, broad linear and positioned on the dorsal half, was described for *Telostylus* (Sepúlveda *et al.* 2019) (Fig. 7I), and is similarly observed in the species of *Teloneria* (Fig. 7J–K).

Fronto-orbital setae

Species of *Chaetonerius* bear three equally spaced fronto-orbital setae (Figs 6F, 7M) and most of the *Telostylus* species lack anterior and middle fronto-orbital seta (Figs 6A, 7L) (only present in *Telostylus decemnotatus* Hendel, 1913). In both *Chaetonerius* and *Telostylus*, the posterior fronto-orbital seta is positioned at the level of the posterior third of the eye, whereas in *Teloneria*, it is positioned at the level of the mid length of the eye (Fig. 7N–O). Moreover, the middle fronto-orbital seta in *Teloneria* is positioned at the anterior third of the eye, near the anterior fronto-orbital seta, which is positioned almost at the level of the anterior margin of eye.

Dorsocentral setae

The number of dorsocentral setae is a taxonomically informative character for the determination of the genera in Neriidae (Aczél 1961; Sepúlveda & Souza 2020). The presutural dorsocental seta is only present in *Chaetonerius*, *Eoneria* Aczél, 1951*, Odontoloxozus* Enderlein, 1922, *Nipponerius* Cresson, 1926, *Protonerius* de Meijere, 1924 and *Stypocladius* Enderlein, 1922, and the number of postsutural dorsocentral setae is accurately constant amongst the genera of Neriidae *Cerantichir* Enderlein, 1922, *Glyphidops* Enderlein, 1922*, Gymnonerius* Hendel, 1913, *Longina* Wiedemann, 1830, *Loxozus* Enderlein, 1922 (Fig. 8A), *Nerius*, *Paranerius* Bigot, 1883, *Telostylinus* and *Telostylus* (Fig. 8B) have 1 seta; *Derocephalus* Enderlein, 1922 (Fig. 8C), *Nipponerius* and *Stypocladius* have 2 setae; *Chaetonerius* (Fig. 8D) has 3 setae, except for *Chaetonerius latifemur* Enderlein, 1922, which has 2 setae (Fig. 8E); and *Eoneria* (Fig. 8F) and *Protonerius* have 4 setae.

The postsutural dorsocentral setae in *Teloneria* are constant in number, position and size, with one pair of very long setae positioned near the anterior and posterior margins of the postsutural scutum (Fig. 8G–H). These are different from the three equally spaced setae in *Chaetonerius* and the two prescutellar setae in *C. latifemur*, which likely represent a secondary loss within the genus. Likewise, the presutural dorsocentral seta, common in *Chaetonerius* and other genera with two or more postsutural setae, is also present in *Teloneria.* The position of this seta in *Teloneria* is only similarly found in *Protonerius*, being differently placed medially on the presutural scutum, when compared with other genera bearing this seta near the transverse suture.

Barraclough (1993) referred to the ‘scapular seta’ as a very small seta positioned just lateral to the dorsocentral line, at the anterior margin of the presutural scutum (Fig. 8D–E). This seta was described as a diagnostic character for *Chaetonerius* by Sepúlveda & de Carvalho (2019) and for the Neotropical *Cerantichir* (Sepúlveda *et al.* 2013) and it is not known to be present in any other Oriental or Austral-Oceanic group of Neriidae. The scapular seta is also absent in *Teloneria.*

Wing

Morphological similarities are evident among the species of *Telostylus* and *Teloneria*, such as the wing being distally infuscate (Fig. 8H–J). Notwithstanding, patterns of wing infuscation can be differentiated by the highly defined limits on *Teloneria* and the darker infuscation on the apex of cell r1 in *Telostylus*.

Male genitalia

The male genitalia of representatives of *Telostylus* are uniform and taxonomically uninformative (Sepúlveda *et al.* 2019), whereas in *Chaetonerius*, they are the most accurate source of information for the identification of many species (Barraclough 1993). The male genitalia of *Teloneria* are similar to those of *Chaetonerius*. Both genera have an elongate and cape-shaped sternite 6 and, in some cases, the cercus is very elongate and has dense setae. However, differently from *Chaetonerius*, the epandrium, cercus and surstylus in *Teloneria* do not present conspicuous transformations.

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