

A New Aquatic Associated Genus of Trichopezinae from the Southern Hemisphere (Diptera: Empidoidea: Brachystomatidae)

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ABSTRACT. A new aquatic associated genus of Trichopezinae, *Gondwanodromia* gen. nov., with one new species from southern South America (*G. mikae* sp. nov.), six new species from eastern Australia (*G. bulbosa* sp. nov., *G. colomatta* sp. nov., *G. lutea* sp. nov., *G. tasmanica* sp. nov., *G. thredbo* sp. nov., *G. tonnoiri* sp. nov.) and four new species from New Zealand (*G. elongata* sp. nov., *G. femorata* sp. nov., *G. tongariro* sp. nov., *G. wardi* sp. nov.) are described. The following new combination is proposed for the New Zealand species *Gondwanodromia mutabilis* (Collin) comb. nov. and the male of this species is described for the first time. All species are illustrated, distributions mapped and the phylogenetic affinities of the new genus are discussed. A key to genera of Trichopezinae of the Southern Hemisphere and key to species of *Gondwanodromia* are presented.

Introduction

In the Southern Hemisphere, there are a number of endemic empidoid genera (exclusive of Dolichopodidae) that are closely associated with aquatic habitats, with adults often found on wet rocks in streams and rivers. These genera include *Ceratomerus* Philippi and *Glyphidopeza* Sinclair (Ceratomerinae), *Cladodromia* Bezzi (Hemerodromiinae), *Afroclinocera* Sinclair and *Proagomyia* Collin (Clinocerinae), *Hydropeza* Sinclair (Ragadinae) and a few new genera of the subfamily Trichopezinae. The latter subfamily is assigned to the family Brachystomatidae (Sinclair & Cumming, 2006), although a different classification has also been proposed (Wahlberg & Johanson, 2018). The aquatic immature stages are poorly known and a few New Zealand forms have been referred to in the broadly defined family “Empididae” (Winterbourn *et al.*, 2000).

The Trichopezinae are a heterogeneous group distinguished by the apically truncate female abdomen, with sclerites of segment 8 closely associated anteriorly, usually with strong setae on syntergite 9+10 and often there is an internal median apodeme projecting anteriorly from female tergite 8 (Sinclair & Cumming, 2006). In this study, a new genus of Trichopezinae is described based on adult specimens collected among emergent rocks in streams and creeks. In total, 12 species of this new genus are recorded from Argentina, Chile, New Zealand and Australia.

Material and methods

This study is based on material deposited in the following institutions: Australian Museum, Sydney, Australia (AMS); Australian National Insect Collection, Canberra, Australia (ANIC); Canterbury Museum, Christchurch, New Zealand

Keywords: new genus; new species; new combination; aquatic associated empidoids; Australia; Argentina; Chile; New Zealand

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(CMNZ); Canadian National Collection of Insects, Ottawa, Canada (CNC); University of Guelph Insect Collection, School of Environmental Sciences, University of Guelph, Guelph, Canada (DEBU); Biosystematics Laboratory, Kyushu University, Fukuoka, Japan (KUMF); Museum national d'Histoire naturelle, Paris, France (MNHN); New Zealand Arthropod Collection, Auckland, New Zealand (NZAC). Label data for primary types are cited from the top downward, with the data from each label in quotation marks. Labels are cited in full, with original spelling, punctuation, and date, and label lines are delimited by a slash (/). The repository of each type is given in parentheses. Secondary type data are abridged and listed alphabetically.

Maps were constructed by using the location data on the specimen labels. If coordinates were not present on specimen labels, the collection locality data were used to estimate approximate coordinates, through the use of Google Maps® and Google Earth®. SimpleMapp (Shorthouse, 2010) was used to plot the distribution of each species. Photographs of pinned specimens were taken with a Leica camera model DFC5400 using Leica Application Suite X. Photographs of cleared specimens were taken using an Olympus BX-50 and Nikon Coolpix 995 camera. Terms used for adult structures primarily follow those of Cumming & Wood (2017).

Taxonomy

Gondwanodromia gen. nov.

urn:lsid:zoobank.org:act:CBBBF605-C250-40CC-A747-E523086022D4

“new genus 3” Sinclair & Cumming, 2000: 185.

“Undescribed genus” Saigusa, 2006: 211.

“Undescribed genus A” Sinclair, 2011: 31.

Type species: *Gondwanodromia mikae* sp. nov.

Taxonomic note. This new genus was originally identified as “new genus 3” from Australia (Sinclair & Cumming, 2000). Saigusa (2006) listed some morphological characters of “undescribed genus” based on an undescribed species from northern Patagonia, which is now the type species of *Gondwanodromia*. Later, Sinclair (2011) identified a similar new genus from New Zealand, referred to as “Undescribed genus A”. These generic concepts have been re-evaluated and they are now considered congeneric.

Diagnosis. The genus is readily distinguished by the following combination of characters: eyes with or without ommatrichia; both sexes dichoptic with broad frons lacking setae; postpedicel subtriangular, gradually tapered with apical stylus or postpedicel strap-like, elongate, without apical stylus, bearing simply peg-like apical sensillum; palpus drooping, narrow and elongate (Figs 3, 30); female labrum more robust than male; R_{4+5} branched, veins without setae; male terminalia symmetrical, unrotated, held upright in part by enlarged sternite 8, erect, arched anteriorly, epandrium and hypandrium not fused, epandrium without dorsal bridge, phallus tubular, narrow; female tergite 7 without posterior fringe, female tergite 8 with or without short internal medial apodeme and female syntergite 9+10 (acanthophorites) with numerous short thickened setae.

Description. *Male. Head.* Dichoptic, eyes usually bare (Fig. 30); frons very broad and bare; face broad, shorter than membranous clypeus; ocellar triangle prominent with pair of

ocellar setae inserted anterior or anteromedial to lateral ocelli and 1–2 pairs of shorter setae; upper postocular seta arched over eye; 2–3 pairs of vertical setae. Antenna dark, scape subequal to or longer than pedicel, with short dorsal setae; pedicel with circlet of stout setae; postpedicel subtriangular, gradually tapered, subequal or slightly longer than apical stylus (Figs 13, 37, 44, 46), or postpedicel strap-like, greatly lengthened, pubescent, without apical stylus (Figs 16, 21, 30, 39); apex with short, peg-like, or longer sensillum. Proboscis elongate, longer than eye height (Fig. 30). Palpus drooping, arched and elongate along edge of proboscis (Figs 3, 30), one-half to three-quarters length of labrum; bearing fine setae longer than width of palpus. Lacinia slightly shorter than palpus, stylus-like; stipes long and narrow. Labrum stout, straight; epipharyngeal blades robust, articulated; epipharyngeal carina absent. Hypopharynx stout, straight, subequal in length to labrum. Labellum well developed, fleshy, with numerous short setae; prementum with several setae; 6–8 pseudotracheae well developed (Fig. 19). Clypeal ridge long and slender, as long as cibarium, articulated together with labrum at labrofulcral articulation point.

Thorax. Prosternum fused to proepisterna; proepisternum with scattered setae. Scutal setae long and conspicuous. Acrostichal setae uniserial or biserial, with pair of upright anterior setae; dorsocentral setae uniserial, anterior pair divergent from row and increasing in length posteriorly; 2–3 long notopleural setae; 1–2 pairs of scutellar setae on each side. Laterotergite with short setae; dorsal mesepimeron pocket present. *Wing* (Figs 16, 20, 38). Relatively slender, infusate; anal lobe weakly developed, without alular incision; alula not developed; basal costal seta present; pterostigma faint, elongate-oval overlapping apex of R_1 . Costa circumambient with biserial row of slender marginal setae, sometimes with erect dorsal setae; Sc incomplete, ending short of costa; all veins bare; R_{4+5} branched; R_1 slightly sinuous, ending slightly closer to R_{2+3} than to R_{4+5} ; cell dm emitting 3 veins, reaching wing margin; cell cua rounded with CuA recurrent; $CuA+CuP$ reduced to short streak. Halter with 2–3 setae below knob, occasionally shaft rather elongate. *Legs.* Fore tibia with anteroventral apical comb; hind tibia with posteroventral apical comb. Mid tibia often slightly to strongly swollen with modified setae (Fig. 13). Tarsomere 5 partially flattened, truncate apically, without apical projection (Figs 22, 23); claw moderately long; pulvillus pale, highly pubescent, shorter than claw; empodium slender, with distinct ventral pubescence (Figs 22, 23).

Abdomen. Male tergite 6 often with longest setae; male sternite 7 often prolonged posterolaterally (Figs 6, 40). Sternite 8 enlarged, broad, providing support to upright terminalia (Figs 6, 18, 40). *Terminalia* (Figs 5, 7, 18, 24–27, 31–33, 40, 43). Held upright, directed anterodorsally, symmetrical, unrotated. Epandrium and hypandrium not fused. Epandrium rounded or divided medially, without narrow dorsal bridge. Surstylus weakly differentiated or distinct, sometimes divided into anterior and posterior surstylar processes. Postgonites not differentiated. Phallus narrow, arched, tubular; ejaculatory apodeme narrow to broad, articulated at base of phallus.

Female. Similar to male except as follows: postpedicel shorter than male; labrum more robust than male; midleg unmodified. Abdomen truncate, caudal segments withdrawn into segment 7 (Figs 15, 38); posterior margin of tergite



Figures 1–4. Photographs of living *Gondwanodromia* and habitats: (1) Arroyo Torrontegui, Argentina; (2) Arroyo Torrontegui, Argentina, with collector Mika Sugimoto; (3) female, Altos del Lircay, Chile (photograph © Steve Marshall); (4) Dead Horse Gap trail, Kosciusko National Park, Australia; November 1994.

7 without row of fine setae. *Terminalia* (Figs 11, 28, 42). Sclerites of segment 8 articulated anterolaterally; anterodorsal margin of tergite 8 with or without short, narrow apodeme, extending into segment 7; posterior margin of tergite 8 with deep, median membranous cleft, medially with transverse row of short setae. Sternite 8 without posterior marginal setae. Syntergite 9+10 (acanthophorites) divided dorsomedially, subtriangular, with row(s) of strong, erect setae. Cercus heavily sclerotized, slightly arched posterodorsally or prolonged distally. Spermathecal receptacle elongate or spherical (Figs 29, 36), darkly pigmented, with long, unpigmented duct; genital fork small, U-shaped.

Etymology. The generic name is from the ancient super-continent Gondwana + the Greek, *dromia* (runner) based on its distributional range on the southern continents of South America and Australasia.

Distribution. *Gondwanodromia* is widely distributed in the Southern Hemisphere, recorded from Australia, New Zealand and southern South America.

Remarks. *Gondwanodromia* is assigned to the subfamily Trichopezinae on the basis of the modified female terminalia, especially the presence of a small apodeme on the anterior margin of tergite 8. Genera of Trichopezinae with similar elongate antennae (i.e., strap-like postpedicel) include *Ceratempis* Melander and *Niphogenia* Melander from the Nearctic Region, but they differ in the form of the male terminalia and the palpus is not drooping.

Adult flies are found in fast flowing streams and creeks, occurring on emergent rocks and boulders (Figs 1, 4). These habitats are primarily in mountainous and cool hilly regions. Adults can be swept from the rocks or sometimes aspirated directly from the rock surfaces (Fig. 2).

Key to genera of Southern Hemisphere Trichopezinae

Modified from Sinclair (2011)

- 1 Wing with only two longitudinal veins fully developed (R_{4+5} and M_1); very long arista-like stylus, longer than thorax; body size minute, 1.1–1.4 mm (New Zealand, Chile)
..... *Gondwanamyia* Sinclair, Cumming, Brooks, Plant, & Saigusa
- Wing with more than two longitudinal veins fully developed; arista-like stylus if present, shorter than thorax; body size larger, greater than 3 mm 2
- 2 Wing narrow, without anal lobe (New Zealand) *Sematopoda* Collin
- Wing broad, anal lobe developed 3
- 3 Laterotergite with group of setae 4
- Laterotergite bare 9
- 4 Vein R_{4+5} unbranched; postpedicel with arista-like stylus arising distinctly before apex (Chile) *Hyperperacera* Collin
- Vein R_{4+5} branched; postpedicel with arista-like stylus or stylus arising at apex or stylus absent 5
- 5 Vein R_1 with setae above (Australia, Chile, New Zealand) *Heterophlebus* Philippi
- Vein R_1 bare, without setae 6
- 6 Fork of vein R_{4+5} narrow and V-shaped; males holoptic (Ecuador) *Apalocnemis* Philippi [in part]
- Fork of vein R_{4+5} broad and bell-shaped (Fig. 20); males dichoptic 7
- 7 Palpus drooping, with long thin setae (Figs 3, 30) (Australia, New Zealand, South America) *Gondwanodromia* gen. nov.
- Palpus projected obliquely, sometimes with short, apical spine-like setae 8
- 8 Postpedicel with small swollen base, abruptly tapered, prolonged apically, longer than apical stylus (New Zealand) *Adipsomyia* Yang, Zhang, & Zhang
- Postpedicel ovate with slender extension bearing elongate and narrow stylus (Argentina, Chile)..... undescribed genus (Saigusa, 2006, unpubl. data)
- 9 R_{4+5} branched; costa circumambient; males holoptic (Australia, New Zealand, South America) *Apalocnemis* Philippi [in part]
- R_{4+5} unbranched; costa greatly weakened after R_{4+5} ; males dichoptic (New Zealand) undescribed genus C (see Sinclair, 2011)

Gondwanodromia bulbosa sp. nov.

urn:lsid:zoobank.org:act:35831E8F-63D3-4B21-9B83-DE174C5D5A5B

Figs 5, 6, 50

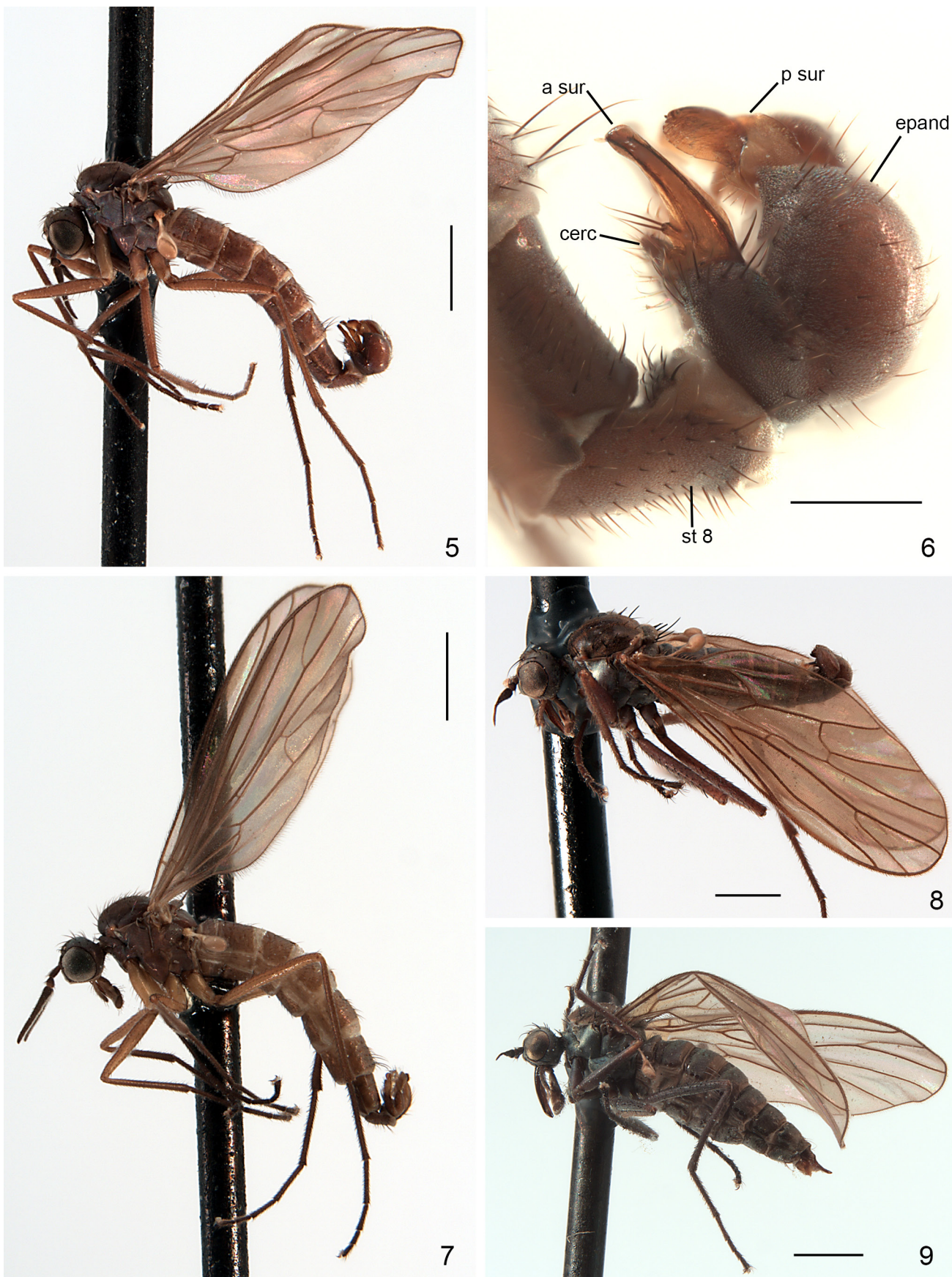
Holotype ♂, labelled: “AUST: NSW: Kosciusko NP/ 28.xi.1994, 1000m/ B.J. Sinclair/ ex. Leatherbarrel Ck. [36°31'32"S 148°11'37"E]”; “HOLOTYPE/ Gondwanodromia/ bulbosa/ Sinclair & Saigusa” (AMS K.594165).

Possible additional material. AUSTRALIA. Victoria: 1 ♀, Mt. Buffalo NP, 30.xi.1994, 400 m, B.J. Sinclair, ex. Eurobin Ck [36°42'59"S 146°50'26"E] (CNC).

Diagnosis. The species is readily distinguished by the bare eyes, male mid tibia somewhat swollen apically with pair of peg-like ventroapical setae, epandrium deeply V-shaped with narrow anterior and broadly inflated posterior halves, apex of cercus with pair of stout apical spine-like setae.

Description. Wing length 2.6–3.3 mm. *Male.* **Head.** Eye bare, without ommatrichia. Frons brown. Face with bluish pruinescence; broad, subequal to width of antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; one short posterior seta; 2–3 vertical setae, outer seta arched over margin of eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna (Fig. 5) with scape subequal to length of pedicel; postpedicel about 1.5× height of eye. Proboscis longer than head height; palpus brown, one half length of proboscis.

Thorax. Dark brown, with thin blue pruinescence laterally on scutum and pleura. Anteprepronotum with row of short setae, stronger laterally. Acrostichal setae uniserial with setae alternating in direction, more than half length of dorsocentral setae; 8–10 uniserial dorsocentral setae, anterior seta longer and set off laterally from row; 1 long postpronotal seta and 1–2 shorter anterior setae; 1 presutural supra-alar seta; 2



Figures 5–9. Australian and New Zealand species of *Gondwanodromia*, lateral view: (5) *G. bulbosa* sp. nov., male habitus, holotype, scale bar = 0.75 mm; (6) *G. bulbosa* sp. nov., male terminalia, scale bar = 0.25 mm; (7) *G. colomatta* sp. nov., male habitus, holotype, scale bar = 0.75 mm; (8) *G. elongata* sp. nov., male habitus, holotype (prior to abdomen dissection), scale bar = 0.5 mm; (9) *G. elongata* sp. nov., female habitus, scale bar = 0.75 mm. Abbreviations: *a sur* – anterior surstylus; *cerc* – cercus; *epand* – epandrium; *p sur* – posterior surstylus; *st* – sternite.

notopleural setae, upper seta stronger and nearly twice length of lower seta; 2 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair slightly more than half length of inner pair. Laterotergite with 4–5 short setae. *Wing*. Infusate; basal costal seta long and slender. Halter pale brown. *Legs*. Coxae yellowish brown, apical setae brown; remaining leg segments increasingly darker apically. Femora long and slender; fore femur with posteroventral row of slender setae; mid femur with row of short anteroventral and row of longer, stouter posteroventral setae; hind femur with erect dorsal setae near base. Fore tibia without apical anteroventral spine-like seta. Mid tibia expanded somewhat subapically with rows of short ventral setae; pair of peg-like apicoventral setae, shorter than width of tibia. Hind tibia with stout dorsal and ventral setae, shorter than width of tibia. Mid tarsomere 1 with row of strong posteroventral setae; 1 erect posteroventral seta at basal fifth.

Abdomen. Tergite 6 with long dorsal setae on posterior half, nearly as long as tergite, setae longer than on other tergites. Sternite 7 prolonged posterolaterally into narrow triangular lobe overlapping anterior margin of sternite 8. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites. *Terminalia* (not dissected) (Fig. 6). Cercus thinly sclerotized, narrow and tapered apically, bearing pair of long, spine-like setae directed posteriorly. Epiandrium deeply V-shaped laterally, anterior half narrow, posterior half twice as broad and strongly inflated; without dorsal bridge. Surstylus paired; anterior surstylus smoothly sclerotized, without microtrichia, arched medially, parallel-sided; apex rounded with peg-like preapical seta directed anteriorly; base of surstylus produced into short digitiform lobe, bearing pair of long apical setae; posterior surstylus produced apically into thin, flap-like lobe with stout apical sensillum. Hypandrium tubular, arched and recurved apically. Phallus narrow, projecting anteriorly beyond hypandrium.

Female. Similar to male except as follows: postpedicel less than 1.5× eye height; midleg unmodified. Syntergite 9+10 (acanthophorites) with 2 rows of strong, erect setae, posterior row longer.

Etymology. The specific name is from the Latin *bulbosus* (swollen), referring to the greatly swollen or inflated epiandrium.

Distribution. This species is confirmed only from Kosciusko National Park, New South Wales (Fig. 50).

Remarks. The holotype of this species was swept from emergent rocks in Leatherbarrel Creek in Australia.

Gondwanodromia colomatta sp. nov.

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Figs 7, 10–12, 50

Holotype ♂, labelled: “AUST: NSW: Wentworth/ Falls, Valley of the/ Waters, 10.vii.1994/ B.J. Sinclair/ ex. ck. below Vera Falls [33°43'45"S 150°21'39"E]”; “HOLOTYPE/ Gondwanodromia/ colomatta/ Sinclair & Saigusa” (AMS K.594166). **Paratypes:** AUSTRALIA. New South Wales: 15 ♂, 4 ♀, same data as holotype (AMS, CNC); 2 ♀, Blue Mtns NP, Grand Canyon [33°39'11"S 150°19'33"E],

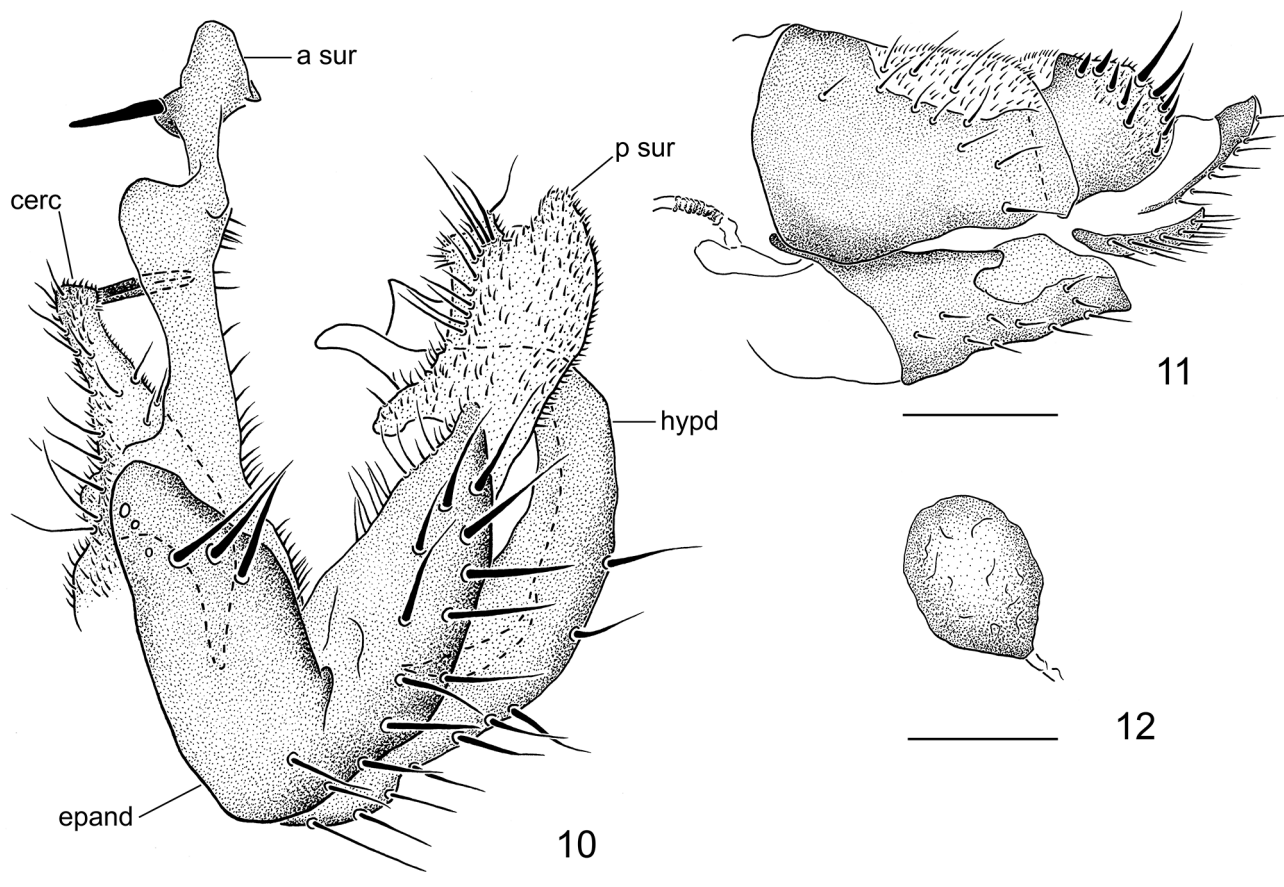
18.vii.1994, rainfor., B.J. Sinclair (CNC); 1 ♀, Blue Mtns NP, Blackheath, Govett Gorge, 18.vii.1994, B.J. Sinclair, ex. Greaves Ck [33°38'03"S 150°20'03"E] (CNC); 1 ♀, Blue Mtns NP, Grand Canyon, 11.vii.1994, B.J. Sinclair, ex. Greaves Ck [33°39'11"S 150°19'33"E] (CNC).

Diagnosis. The species is readily distinguished by the pubescent eyes, scape distinctly longer than pedicel, elongate male postpedicel, male mid tibia somewhat swollen apically with pair of peg-like ventroapical setae, epiandrium deeply V-shaped with equal anterior and posterior halves, apex of cercus with pair of stout apical spine-like setae.

Description. Wing length 3.2–3.9 mm. *Male. Head.* Eye clothed in dense ommatrichia. Frons brown. Face with bluish pruinescence; broad, subequal to width of antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; one shorter posterior seta; 2–3 vertical setae, outer seta arched over eye, subequal in length with ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna (Fig. 7) with scape twice length of pedicel; postpedicel longer than 2× height of eye. Proboscis slightly longer than head height; palpus pale brown, two-thirds length of proboscis.

Thorax. Dark brown, with thin blue pruinescence laterally on scutum, prescutellum, scutellum and pleura. Antepnotum with row of dark setae. Acrostichal setae uniserial with setae alternating in direction, more than half length of dorsocentral setae; 10–11 uniserial dorsocentral setae, anterior seta longer and set off laterally from row; 1 long postpronotal seta and 1–2 shorter anterior setae; 1 presutural supra-alar seta; 2–3 notopleural setae, middle seta stronger and twice length of other setae; 2–3 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair slightly more than half length of inner pair. Laterotergite with less than 10 setae. *Wing.* Infusate; basal costal seta long and slender. Halter pale brown. *Legs.* Coxae yellowish brown, apical setae brown; femora yellowish brown ventrally, remaining leg segments increasingly darker apically. Femora long and slender; fore femur with posteroventral row of slender setae; mid femur with row of short anteroventral and row of longer, stouter posteroventral setae; hind femur with erect dorsal setae near base. Fore tibia without apical spine-like setae. Mid tibia somewhat expanded subapically with rows of short ventral setae; pair of peg-like apicoventral setae, shorter than width of tibia. Hind tibia with stout dorsal and ventral setae, shorter than width of tibia. Mid tarsomere 1 with row of strong posteroventral setae; 1 erect posteroventral seta at basal fifth.

Abdomen. Tergite 6 with long dorsal setae on posterior half, nearly as long as tergite, setae longer than on other tergites. Sternite 7 prolonged posterolaterally into narrow lobe overlapping anterior margin of sternite 8. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites. *Terminalia* (Fig. 10). Cercus thinly sclerotized, narrow and tapered apically, bearing pair of long, spine-like setae directed posteriorly. Epiandrium deeply V-shaped laterally, anterior and posterior halves equally narrow; without dorsal bridge. Surstylus paired; anterior surstylus smoothly sclerotized, without microtrichia, convoluted on apical half; apex rounded with long, spine-like preapical seta directed anteriorly; posterior surstylus



Figures 10–12. Terminalia of *Gondwanodromia colomatta* sp. nov., lateral view: (10) male; (11) female; (12) spermatheca. Scale bar = 0.1 mm. Abbreviations: *a sur* – anterior surstylus; *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *p sur* – posterior surstylus.

produced apically into thinly sclerotized, setose lobe with marginal setae mounted on small projections. Hypandrium tubular, arched and recurved apically; narrow gonocoxal apodemes extending medially at anterior margin. Phallus narrow, arched within hypandrium; apex projecting anteriorly beyond hypandrium, unpigmented with rounded apex; ejaculatory apodeme small and narrow.

Female. Similar to male except as follows: scape less than twice length of pedicel; postpedicel nearly 1.5× eye height; midleg unmodified. *Terminalia.* Tergite 8 with short dorsomedial apodeme on anterior margin. Syntergite 9+10 (acanthophorites) with 2 rows of strong, erect setae, posterior row longer (Fig. 11). Spermatheca spherical (Fig. 12).

Etymology. The species name is an Aboriginal word used for the Blue Mountains.

Distribution. This species is currently known only from the Blue Mountains of New South Wales (Fig. 50).

Gondwanodromia elongata sp. nov.

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Figs 8, 9, 17, 51

Holotype ♂, labelled: “NEW ZEALAND: TO/ Pureora For. Pk./ 2.ii.1995, Kakaho/ str., Link Rd. [38°34’S 175°43’E]/ B.J. Sinclair”; “HOLOTYPE/ *Gondwanodromia/ elongata/ Sinclair & Saigusa* [red label]” (NZAC). **Paratypes:** **NEW ZEALAND.** **WN:** 1 ♀, Cloustonville, Akatarawa R. [40°58’S 175°07’E], YPT [yellow pan trap], 3–4.ii.1995, B.J. Sinclair (CNC).

Diagnosis. The species is readily distinguished by the scutum with shiny vittae between setal rows, lateral scutal setae spine-like, and male terminalia with epandrium not prolonged beyond base of surstylus in lateral view.

Description. Wing length 3.1–3.7 mm. *Male. Head.* Eye bare; widely separated on frons and face, wider than antennal sockets; face with bluish pruinescence. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer vertical seta arched over eye, longer than ocellar setae. Antennae inserted above middle of head; scape slightly longer than globular pedicel; postpedicel with broad base, gradually tapered; stylus slightly shorter than postpedicel, small basal segment and short apical peg-like sensillum (Fig. 8). Palpus long and slender, two-thirds height of head, bearing scattered dark setae; labrum greatly lengthened, longer than height of head, slightly incurved; labium shorter than labrum.

Thorax. Pleura, coxae with pale silvery-grey pruinescence. Scutum brown with shiny vittae between rows of acrostichals and dorsocentrals. Antepnotum with several pairs of stout setae. Acrostichals uniserial, slightly longer behind, extending to prescutellar depression; 6 uniserial dorsocentral setae, anterior seta strong, decreasing posteriorly; lateral setae spine-like; 2 postpronotal setae; 1 presutural supra-alar seta; 2 notopleural setae, lower slender and short; 3 short postsutural supra-alar setae; 1 postalar seta; 3 pairs of scutellar setae and outer pairs shorter than median pair. Laterotergite with patch of pale setae. *Wing.* Broad, infusate; basal costal seta short and stout; costa with erect dorsal setae beyond R_1 ; R_4 nearly

straight; halter pale yellowish-brown. *Legs.* Coxae with pale golden setae; knees yellowish-brown. Fore femur with anteroventral and posteroventral row of short, slender setae, shorter than width of femur; 3 stout dorsal setae on basal half, shorter than width of femur. Mid femur with anteroventral and posteroventral row of stout, black setae, posteroventral setae mostly longer than width of femur; apical half with rows of stout anterior and dorsal setae. Mid tibia lacking erect ventral setae. Hind femur arched with long, erect stout dorsal and anteroventral setae. Hind tibia with stout ventral and dorsal setae, shorter than width of tibia.

Abdomen. Brown, sparsely setose with setae mostly confined to the posterior margins. Segment 7 narrow posteriorly; sternite 7 with short, triangular posterolateral extension. *Terminalia* (Fig. 17). Lying dorsally over segments 7 and 8. Hypandrium round apically, encircling phallus (likely postgonites fused with hypandrium at apex). Phallus rounded apically with paired posterior projections; with broad membranous cap; ejaculatory apodeme broad and tapered ventrally. Epandrium oval-shaped, without narrowed and tapered posterodorsal corner. Surstylus subtriangular, apex rounded with short setae on posterior margin. Cercus thinly sclerotized, clothed in microtrichia; several long setae on anterior and posterior faces.

Female. Similar to male except as follows: Palpus subequal to height of eye. Abdominal sternites 3–4 with 2 long, lateral marginal setae; sternite 7 with two pairs of closely approximated ventral setae, length two-thirds width of segment. *Terminalia* [undissected] (Fig. 9). Sclerites of segment 8 sclerotized and shiny; sternite 8 prolonged beyond tergite 8. Cercus elongate, fused with syntergite 9+10, shiny, well sclerotized, projecting horizontally, longer than segment 8; with fine, short dorsal setae.

Etymology. This species is named after elongate female cerci.

Distribution. This species is currently known from the North Island of New Zealand (Fig. 51).

Gondwanodromia femorata sp. nov.

urn:lsid:zoobank.org:act:71FC82C4-7820-46F5-878C-5B3CC3B6B513

Figs 13–15, 51

Holotype ♂, labelled: “NEW ZEALAND: NC/ Arthur’s Pass NP/ alpine zone/ Twin Ck. [42°54’42.6”S 171°33’32.8”E]/ 11.ii.1995/ B.J. Sinclair”; “HOLOTYPE/ *Gondwanodromia femorata*/ Sinclair & Saigusa [red label]” (NZAC).

Paratypes: NEW ZEALAND. NC: 1 ♀, same data as holotype (CNC); 1 ♀, Kedron R. [42°38’S, 172°14’E], 1160 m, 2446358508, UV, 15.ii.1997, S.J. Morris (MNHM). WD: 1 ♀, Haast River/ Harris Ck/ Greenstone Ck., Glitterburn [43°56’S 169°07’E], 3.xi.1994, J.B. Ward (CMNZ).

Diagnosis. The species is readily distinguished by eyes bare, swollen mid femur and geniculate mid tibia, stylus slightly shorter than postpedicel, and male terminalia with epandrial lobe long, tapered apically, length longer than width, separated from surstylus by distance shorter than length of surstylus.

Description. Wing length 4.6–5.6 mm. *Male. Head.* Eye bare, without ommatrichia; face with bluish pruinescence, as wide as antennal sockets dorsally, divergent ventrally. Ocellar

setae long and divergent, inserted anteromedial to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer seta arched over margin of eye, slightly shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antennae inserted above middle of head; scape slightly longer than globular pedicel; postpedicel with broad base, gradually curved and tapered; stylus slightly shorter than postpedicel, small basal segment, apical sensillum style-like, slender (Fig. 13). Palpus long and slender, half height of head, bearing pale setae; labrum greatly lengthened, longer than height of head, slightly incurved; labium longer than labrum.

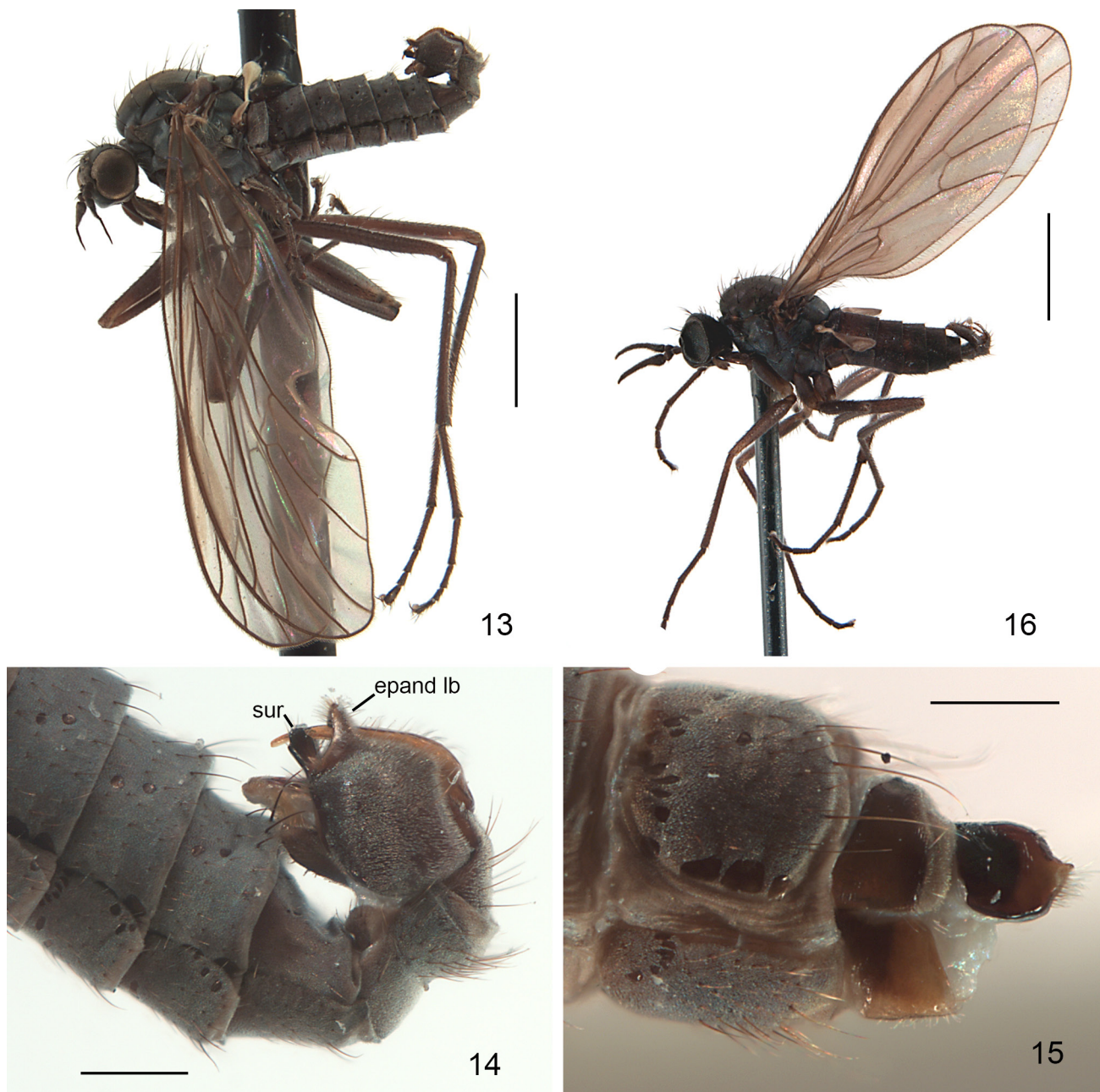
Thorax. Pleura, coxae, postpronotal lobe and notopleuron with pale blue pruinescence. Scutum brown with faint vittae between acrostichals and dorsocentrals. Antepronotum with several pairs of short setae. Acrostichals uniserial, slightly longer posteriorly, extending to prescutellar depression; 6 uniserial dorsocentral setae, intermixed with several long or short slender setae; 1 postpronotal seta, with 0–2 setulae; 1 presutural supra-alar seta; 2 notopleural setae, lower slender and short; 1 postsutural supra-alar seta; 1 postalar seta; 2 pairs of scutellar setae, outer pair slender and shorter. Laterotergite with patch of pale brown setae. *Wing.* Broad, infusate; basal costal seta long and slender; costa with erect dorsal setae beyond R_1 ; R_4 slightly sinuous; halter bright, pale brown. *Legs.* Coxae with pale golden setae; femora brown with bluish pruinescence, apex of femora slightly paler. Fore and mid femora broader than slender hind femur. Fore femur swollen, tapered apically, without ventral setae; white pile beneath; several thicker preapical anterior setae. Fore tibia subequal in length to femur, with white pile beneath; without outstanding setae. Mid femur strongly swollen, broader than fore femur, with anteroventral and posteroventral rows of stout, black setae, longer than width of tibia. Mid tibia geniculate, one-fifth shorter than femur, curved along femur margin; short strong setae beneath. Hind femur slender, longer than mid femur, straight with long, erect dorsal setae on basal half; anteroventrally with row of strong setae, shorter than width of femur. Hind tibia with dorsal row of strong setae. Tarsomere 1 slender with dense ventral setae on all legs.

Abdomen. Brown with thin bluish pruinescence, sparsely setose with setae mostly confined to the posterior margins. Sternite 7 with short posterolateral extension. *Terminalia* [undissected] (Fig. 14). Lying dorsally over segments 7 and 8. Phallus thickly sclerotized, long and tapered to narrow, rounded tip. Epandrium rounded, with long lobe near base of surstylus; width of lobe half as long as length. Surstylus digitiform, separated from epandrial lobe by distance shorter than length of surstylus.

Female. Similar to male except as follows: *Terminalia* [undissected] (Fig. 15). Sclerites of segment 8 shiny, without pruinescence; tergite 8 with fine setae along posterior margin; sternite 8 with fine setae ventrally. Syntergite 9+10 and cerci fused into shiny quadrate sclerite, narrowly cleft dorsally, produced apically into nipple-like projection; several short setulae along margin; lower half of posterior margin with dense setulae. Sternite 10 apparently absent. Spermatheca not examined.

Etymology. This species is named after the enlarged mid femora of this species.

Distribution. This species is currently known from several localities on South Island, New Zealand (Fig. 51).



Figures 13–16. Argentinian and New Zealand species of *Gondwanodromia*, lateral view: (13) *G. femorata* sp. nov., male habitus, holotype, scale bar = 1.0 mm; (14) *G. femorata* sp. nov., male terminalia, scale bar = 0.25 mm; (15) *G. femorata* sp. nov., female postabdomen, scale bar = 0.25 mm; (16) *G. mikae* sp. nov., male habitus, holotype, scale bar = 0.75 mm. Abbreviations: *epand lb* – epandrial lobe; *sur* – surstylus.

***Gondwanodromia lutea* sp. nov.**

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Figs 18, 50

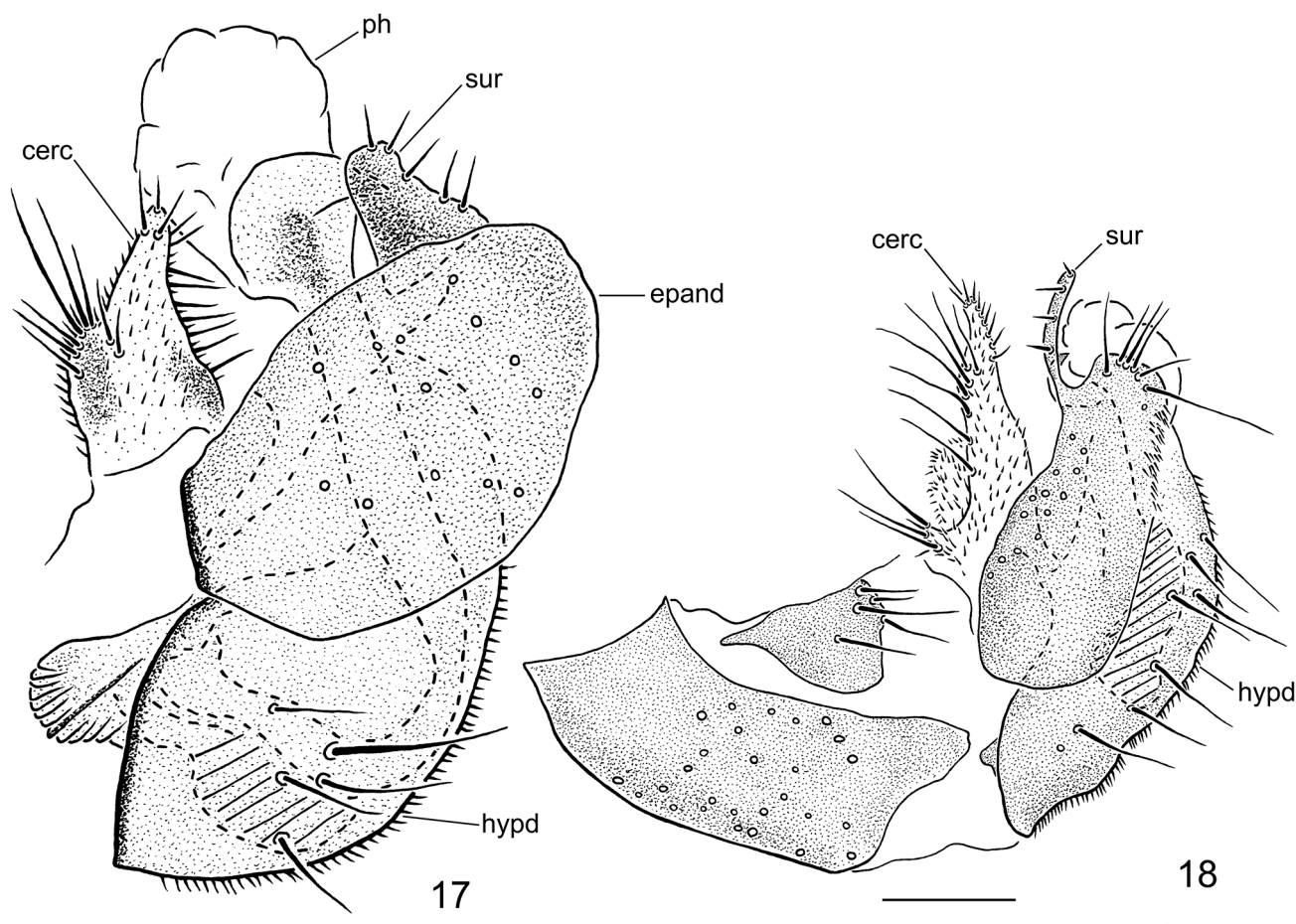
Holotype ♂, labelled: “Ben Cairn [37°43'N 145°37'E], 12 mls./ SE. of Healesville./ Vic[torian]./ 31 Aug. 1966/ N. Dobrotworsky”; “HOLOTYPE/ *Gondwanodromia/ lutea/ Sinclair & Saigusa*” (ANIC).

Diagnosis. The species is readily distinguished by the bright yellow legs and halteres and elongate postpedicel clothed in long microtrichia.

Description. Wing length 3.9 mm. **Male. Head.** Eye with ommatrichia. Frons brown. Face broad; broad, subequal to

width of antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; one shorter posterior seta; 2 vertical setae, outer seta erect above eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna with scape longer than pedicel; postpedicel more than 2× height of eye, with long microtrichia. Proboscis withdrawn into cranium, full length unknown; palpus pale brown.

Thorax. Dark brown, with greasy file obscuring pruinescence; apex of postpronotal lobe, postalar callus and wall yellow. Anteprepronotum not visible. Acrostichal setae uniserial, about half length of dorsocentral setae; 6–8 uniserial dorsocentral setae, anterior seta set off laterally from row; 1 long postpronotal seta and 1 shorter anterior



Figures 17–18. Male terminalia of New Zealand and Australian species of *Gondwanodromia*, lateral view: (17) *G. elongata* sp. nov.; (18) *G. lutea* sp. nov. Scale bar = 0.1 mm. Abbreviations: *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *ph* – phallus; *sur* – surstylus.

seta; 1 presutural supra-alar seta; 3 notopleural setae, middle seta stronger and nearly twice length of other setae; 2–3 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair more than half length of inner pair. Laterotergite without setae. *Wing*. Clear with extreme base yellowish; basal costal seta long and slender. Halter bright yellow. *Legs*. Coxae yellow, apical setae pale brown; femora and base of tibiae yellow, remaining leg segments increasingly darker apically. Femora long and slender; fore femur without distinct rows of ventral setae; mid femur with row of long posteroventral setae, setae at mid-length longer than width of femur; hind femur with erect dorsal setae near base. Tibiae and tarsi long and slender, without distinct setae.

Abdomen. Base yellowish brown. Tergites 5 and 6 with patch of dense lateral setae on posterior half; upper setae elongate and silky, lower setae very short. Tergite 6 with long dorsal setae on posterior half, nearly as long as tergite, setae longer than on other tergites. Sternite 7 not prolonged posterolaterally into narrow lobe. Tergite 8 trapezoidal, half-length of sternite 8; anterior and posterior margins deeply concave, bearing setae, denser on expanded lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites, prolonged posterolaterally to articulate with hypandrium. *Terminalia* (Fig. 18). Cercus thinly sclerotized, setose, tapered apically; base expanded laterally, bearing several long setae directed anterodorsally. Epandrium narrow, subrectangular, not divided, anterior and posterior halves equally narrow; without dorsal bridge. Surstylus

sickle-shaped, narrow and arched upright. Hypandrium tubular, arched; thin gonocoxal apodeme on anterior margin; apex with subapical sickle-shaped process flanking phallus. Phallus narrow, arched within hypandrium; ejaculatory apodeme elongate and narrow.

Female. Unknown.

Etymology. The species is named from the Latin *luteus* (yellow), in reference to the pale legs, halteres and base of the wing.

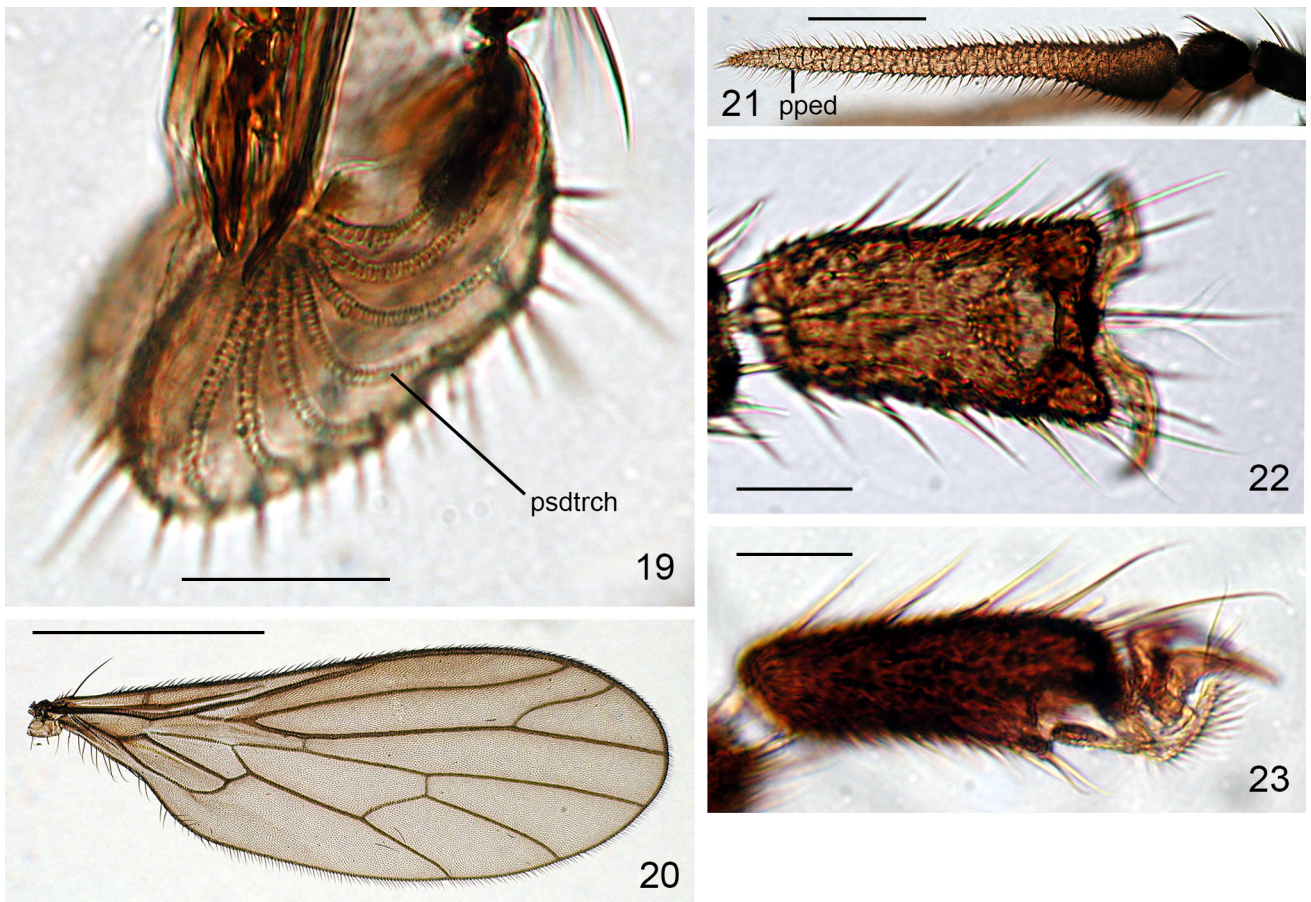
Distribution. This species is currently known only from the type locality in Victoria, Australia (Fig. 50).

Gondwanodromia mikae sp. nov.

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Figs 16, 19–33, 52

Holotype ♂, labelled: “Arr.[oyo] Casa de Piedra [ca 41°08'05"S 71°27'12"W]/ 15kmW of Bariloche/ Río Negro, Argentina/ 16.xi.2004/ T. SAIGUSA col.”; “HOLOTYPE/ Gondwanodromia/ mikae/ Sinclair & Saigusa” (KUMF). **Paratypes:** **ARGENTINA. Río Negro:** 1 ♀, Arroyo Torrontegui [ca 41°15'12"S 71°27'14"W], Lago Gutiérrez, Bariloche, 18.xi.2004, T. Saigusa (KUMF); 1 ♀, same data except, M. Sugimoto (KUMF). **Neuquen:** 1 ♂, Arroyo de la Estacada [ca 40°50'06"S 71°32'12"W], Lago Nahuel Huapi, 17.xi.2004, T. Saigusa (KUMF).



Figures 19–23. *Gondwanodromia mikae* sp. nov.: (19) labellum, lateral view, scale bar = 0.05 mm; (20) wing, scale bar = 1.0 mm; (21) male antenna, lateral view, scale bar = 0.1 mm; (22) tarsomere 5, dorsal view, scale bar = 0.05 mm; (23) tarsomere 5, lateral view, scale bar = 0.05 mm. Abbreviations: *pped* – postpedicel; *psdtrch* – pseudotrachea.

Possible additional material. CHILE. Region X (Los Lagos): 3 ♀, PN Puyehue, Rio Anticura above Salto Rio Anticura, 6.xii.2013, 40°40.268'S 72°10.215'W, 395 m, G.R. Curler, ex. riparian vegetation (CNC).

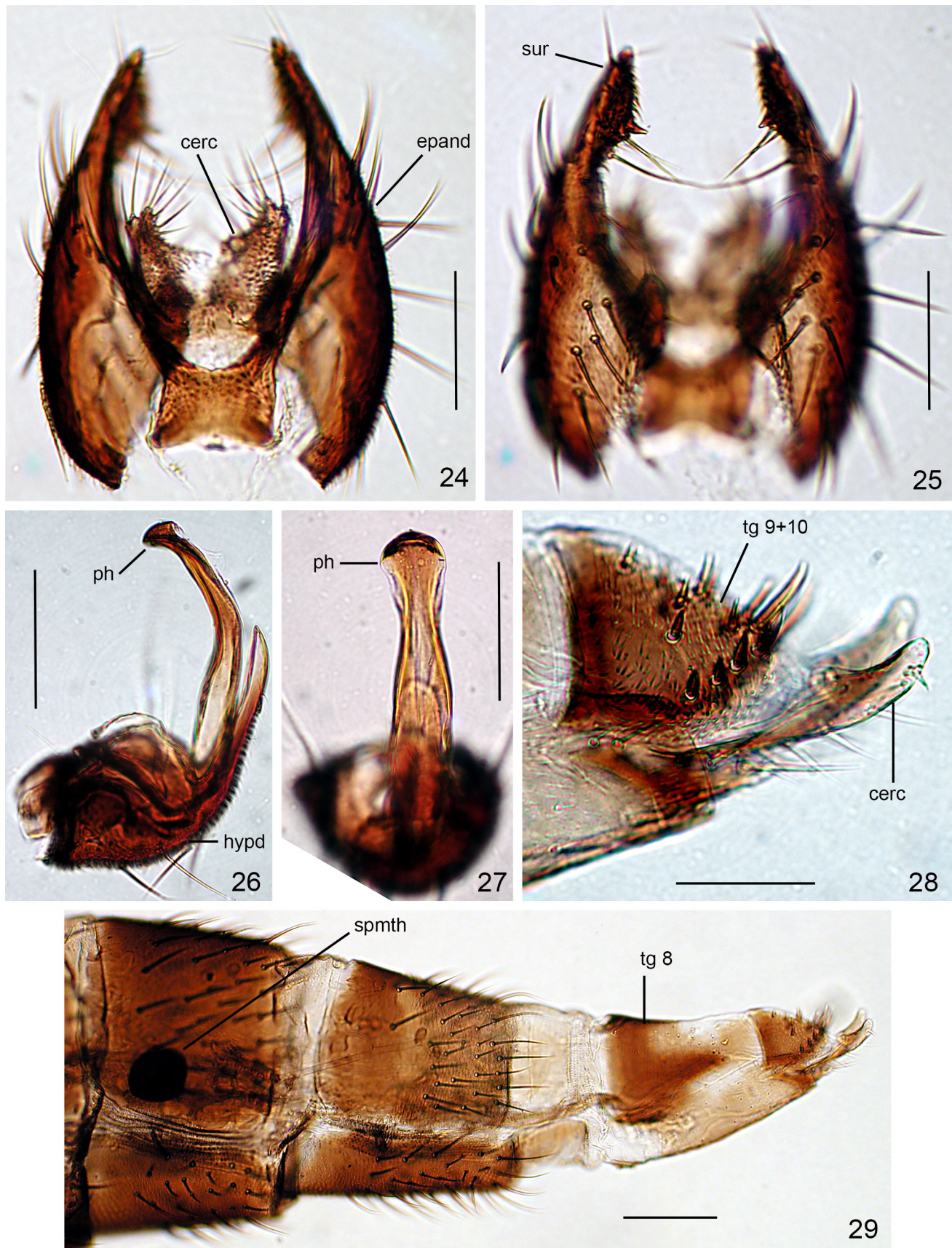
Diagnosis. The species is readily distinguished by bare eyes, male midlegs not modified, epandrium not visibly divided, with apical surstylus and hypandrium with narrow, upright apical half forming brace for phallus.

Description. Wing length 2.7–3.0 mm. **Male. Head** (Fig. 30). Eye bare, without ommatrichia. Frons brown. Face with bluish pruinescence; narrower than width of antennal sockets. Ocellar setae long and divergent, inserted anterior to lateral ocelli; pair of shorter anterior and posterior setae; 3 vertical setae with outer seta arched over margin of eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna (Figs 21, 30) with scape slightly longer than pedicel; postpedicel less than 1.5× height of eye. Proboscis subequal in length to head height; palpus pale brown, one-third length of proboscis.

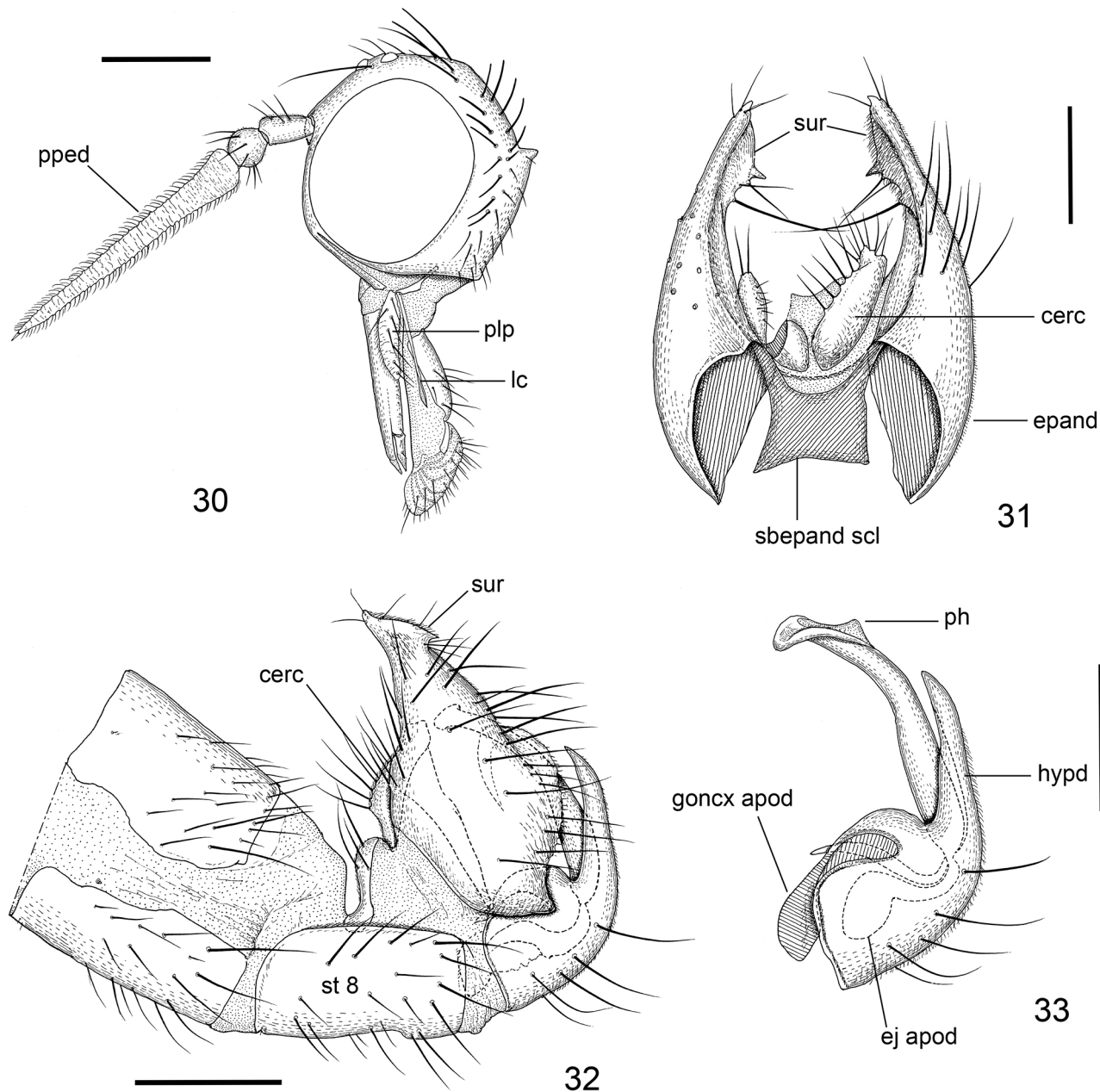
Thorax. Dark brown, with thin blue pruinescence laterally on scutum and pleura; faintly bivittate between rows of acrostichals and dorsocentrals. Antepnotum with several pairs of short, strong setae. Acrostichal setae with pair of strong anterior (scapular) setae, uniserial posteriorly with setae alternating in direction, more than half length of dorsocentral setae; 8–10 uniserial dorsocentral setae, anterior seta longer, set off laterally from row; 1 long postpronotal

seta and 1–2 shorter anterior setae; 1 presutural supra-alar seta; 3 notopleural setae, middle seta stronger and twice length of other setae; 3–4 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair about half length of inner pair. Laterotergite with several short setae. **Wing** (Fig. 20). Infusate; basal costal seta long and slender. Halter brown. **Legs.** Coxae pale brown with bluish pruinescence, apical setae brown, sometimes apex of coxae and trochanters yellowish brown; remaining leg segments increasingly darker apically. Femora short and slightly swollen; fore femur with ventral seta on proximal third, nearly as long as width of femur; mid femur with row of short posteroventral setae; hind femur with short, erect, strong dorsal setae near base. Fore tibia without apical spine-like setae. Mid tibia slender with row of short anteroventral and posteroventral setae; without pair of peg-like apicoventral setae. Hind tibia with strong ventral and dorsal setae, shorter than width of tibia. Mid tarsomere 1 without row of strong setae; without erect posteroventral seta at basal fifth.

Abdomen. Tergite 6 without dorsal setae longer than on other tergites. Sternite 7 not prolonged posterolaterally into narrow lobe. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites. **Terminalia** (Figs 24–27, 31–33). Cercus thinly sclerotized narrow, rectangular with truncate apex, bearing long setae along inner margin and apex. Epandrium triangular, tapered in lateral view with short



Figures 24–29. *Gondwanodromia mikae* sp. nov.: (24) epandrium, dorsal view; (25) epandrium, dorsal view; (26) hypandrium and phallus, lateral view; (27) hypandrium and phallus, posterior view; (28) female terminalia, lateral view, scale bar = 0.05 mm; (29) female abdomen, lateral view. Scale bars: Figs 24–28 = 0.05 mm; Fig. 29 = 0.1 mm. Abbreviations: *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *ph* – phallus; *spmth* – spermatheca; *sur* – surstylus; *tg* – tergite.



Figures 30–33. *Gondwanodromia mikae* sp. nov.: (30) male head, lateral view; (31) epandrium, dorsal view, right cercus removed; (32) terminalia, lateral view; (33) hypandrium and phallus, lateral view. Scale bars: Figs 31–33 = 0.05 mm; Fig. 30 = 0.1 mm. Abbreviations: *cerc* – cercus; *ej apod* – ejaculatory apodeme; *epand* – epandrium; *goncx apod* – gonocoxal apodeme; *hypd* – hypandrium; *lc* – lacinia; *ph* – phallus; *plp* – palpus; *pped* – postpedicel; *sbepand scl* – subepandrial sclerite; *st* – sternite; *sur* – surstylus.

oblong lobe along posteromedial margin; without dorsal bridge. Surstylus at apex of epandrium, without distinct separation; triangular; inner margin with short, pointed lobe and pair of long medially directed setae mounted on short tubercles, lower seta nearly touching opposite pair. Hypandrium with broad base and narrow apical half bracing phallus; gonocoxal apodeme broad, extending beyond anterior margin of hypandrium. Phallus narrow, tubular, upright beyond hypandrium, with expanded apex; ejaculatory apodeme nearly as broad as gonocoxal apodeme, articulated at base of phallus.

Female. Similar to male except as follows: scape subequal in length to pedicel; postpedicel subequal in length to eye height. *Terminalia* (Figs 28, 29). Tergite 8 with short dorsomedial apodeme on anterior margin. Syntergite 9+10

(acanthophorites) with 1 row of strong, erect setae, apical setae longer and strong setae scattered dorsally. Spermatheca spherical (Fig. 29).

Etymology. This species is named after Mika Sugimoto, who cooperated with Saigusa during field work of torrenticolous Empididae in northern Patagonia.

Distribution. This species is currently confirmed from several cascading streams around lakes Gutiérrez and Nahuel Huapi (Figs 1, 2) in Argentina (Fig. 52).

Remarks. Three female specimens listed above from Chile are possibly conspecific, but males from this region (*G. sp.*, Fig. 52) will need to be collected to confirm their identification.

***Gondwanodromia mutabilis* (Collin) comb. nov.**

Figs 34–36, 37, 51

Dipsomyia mutabilis Collin, 1928: 60; Smith, 1967: 44.*Adipsomyia mutabilis*.—Yang *et al.*, 2007: 21, 52.“Undescribed genus A” *mutabilis*.—Sinclair, 2011: 31.

Holotype ♀, labelled: “TYPE/ ♀ [circle label with red border]”; “New Zealand:/ Glenorchy [-44.849° 168.384°]/ 3.i.1923/ C.C. Fenwick./ B.M.1923 – 150”; “*Dipsomyia/ mutabilis* [dark circle label]”; “*Dipsomyia/ mutabilis/ TYPE* ♀ Collin”; “Wing of ♀ TYPE/ figured in text of/ author’s description”[dissected] (BMNH).

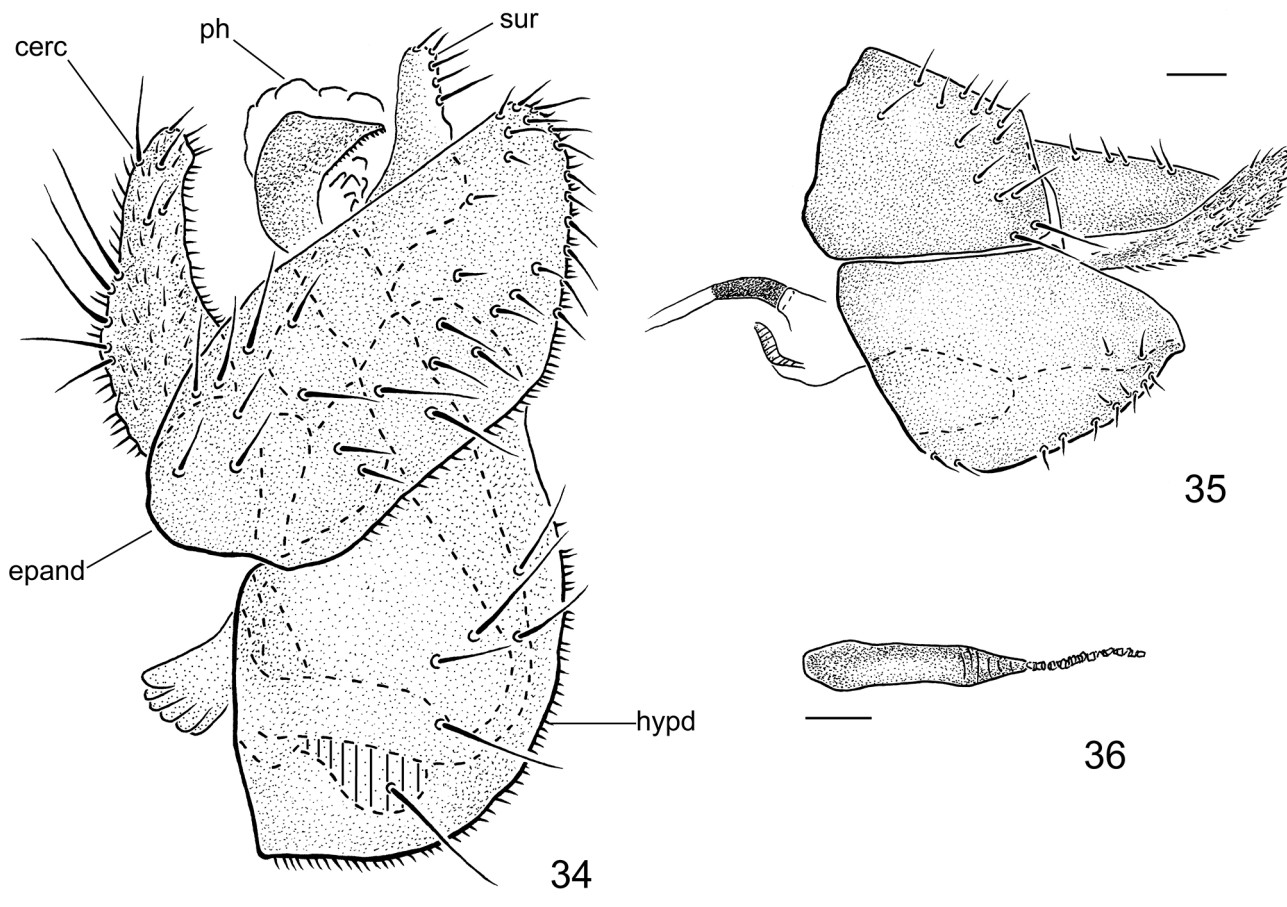
Additional material examined. New Zealand. WD: 4 ♂, 1 ♀, Haast River/ Harris Ck/ Greenstone Ck., Glitterburn [43°56’S 169°07’E], 3.xi.1994, J.B. Ward (CMNZ, CNC).

Diagnosis. The species is readily distinguished by eyes with sparse ommatrichia, scutum clothed in greyish pruinescence (Fig. 37), lateral scutal setae spine-like; female cercus slender, short subequal to length of tergite 10; male terminalia with epandrium prolonged beyond surstylus.

Description. Wing length 4–4.2 mm. **Male. Head.** Eye with sparse ommatrichia; face with bluish pruinescence, wider than antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer seta arched over margin of eye, longer than ocellar seta; occipital setae

shorter and thinner than vertical setae. Antennae inserted above middle of head; scape slightly longer than globular pedicel; postpedicel with broad base, gradually curved and tapered; stylus three-quarters length of postpedicel, small basal segment and short apical peg-like sensillum. Palpus very long and slender, three-quarters height of head, bearing scattered setae; labrum greatly lengthened, longer than height of head, slightly incurved; labium apparently slightly longer than palpus.

Thorax. Pleura, coxae, postpronotal lobe and notopleuron with pale blue pruinescence. Scutum brown with faint vittae between rows of acrostichals and dorsocentrals. Antepnotum with several pairs of short setulae. Acrostichals uniserial in front, slightly longer and biserial behind, extending to prescutellar depression; 6 dorsocentral setae, intermixed with long and short, slender setae; lateral setae spine-like: 1–3 postpronotal setae; 1 presutural supra-alar seta, with 2–3 short setae; 2 notopleural setae, lower slender and short; 2 postsutural supra-alar setae with 2–3 short setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair slender. Laterotergite with patch of pale brown setae. **Wing.** Broad, infuscate (see Collin, 1928, fig. 17); basal costal seta long and slender; costa with erect dorsal setae beyond *R*₁; *R*₁ slightly sinuous; halter pale brown. **Legs.** Coxae with pale golden setae. Femora elongate, narrowed subapically. Fore femur with anteroventral and posteroventral rows of short slender, shorter than width of femur. Mid femur with anteroventral and posteroventral rows of stout, black setae, mostly shorter



Figures 34–36. *Gondwanodromia mutabilis* (Collin), lateral view: (34) male terminalia; (35) female terminalia; (36) spermatheca. Scale bar = 0.1 mm. Abbreviations: *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *ph* – phallus; *sur* – surstylus.

than width of femur; apical half with 3–4 stout anterior and posterior setae. Mid tibia with row of short erect stout setae beneath, with several stronger preapical setae. Hind femur straight with long, erect pale dorsal and lateral setae from base to beyond middle. Tarsomere 1 slender with dense ventral setae on all legs.

Abdomen. Brown, sparsely setose with setae mostly confined to posterior margins. Segment 7 narrow posteriorly; sternite 7 with short, triangular posterolateral extension. *Terminalia* (Fig. 34). Lying dorsally over segments 7 and 8. Hypandrium round apically, encircling phallus (likely postgonites fused with hypandrium at apex). Phallus with cap-like apex; ejaculatory apodeme small and narrow. Epandrium narrow, not expanded with round posterodorsal corner; fused to hypandrium anteroventrally. Surstylus digitiform with short setae along posterior margin and medial face. Cercus membranous, clothed in microtrichia; several long, stout setae on anterior face.

Female. Similar to male except as follows: Fore femur with two rows of short, stout setae on inner face, from middle to near apex. *Terminalia* (Fig. 35). Tergite 8 with small membranous mid-dorsal cleft; sclerite bare, except for transverse row of small setae increasing in size towards lateral margin; sternite 8 broad, extending beneath segment 10. Syntergite 9+10 divided mid-dorsally into two rectangular sclerites; each sclerite with mid-dorsal row of 4–5 short setae. Sternite 10 apparently absent. Cercus narrow, arched dorsally, clothed in setulae. Spermatheca (Fig. 36) small, narrow, at apex of long duct arising from small genital fork.

Distribution. This species is currently known from two localities on South Island, New Zealand (Fig. 51).

Remarks. In a note added in proof, Sinclair (1995) recognized that *Dipsomyia mutabilis* was not congeneric with the type species, *D. spinifera* Bezzi and belonged to a new genus. Yang *et al.* (2007) transferred *mutabilis* to their new genus, *Adipsomyia* and later the species was removed and transferred to “Undescribed genus A” by Sinclair (2011) in a key to New Zealand Empidoidea.

The male of this species is described herein for the first time. The association of these new specimens is based in part upon the female terminalia.

Gondwanodromia tasmanica sp. nov.

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Figs 38, 41, 42, 50

Holotype ♂, labelled: “AUSTRALIA: TAS: 16kmW/ Geeveston, Arve R. [43°09'31"S 146°48'25"E]/ 16.ii.1994, on rocks/ B.J. Sinclair”; “HOLOTYPE/ Gondwanodromia/ tasmanica/ Sinclair & Saigusa” (AMS K.594167). **Paratypes:** AUSTRALIA. **Tasmania:** 7 ♀, same data as holotype (AMS, CNC); 1 ♀, 14 km W Geeveston, Arve R., 16–17.ii.1994, yellow pans, B.J. Sinclair (CNC); 1 ♀, Franklin & Gordon Wild Rivers NP, Lyell Hwy, 20.ii.1994, B.J. Sinclair, ex. Nelson River [42°06'S 145°44'E] (CNC); 1 ♀, Franklin & Gordon Wild Rivers NP, Lyell Hwy, 19.ii.1994, B.J. Sinclair, ex. Franklin River [42°12'S 146°01'E] (CNC); 1 ♀, Rd. C405, 12 km N of C401 [41°23'S 147°30'E], 23.ii.1994, B.J. Sinclair, ex. small ck (CNC).

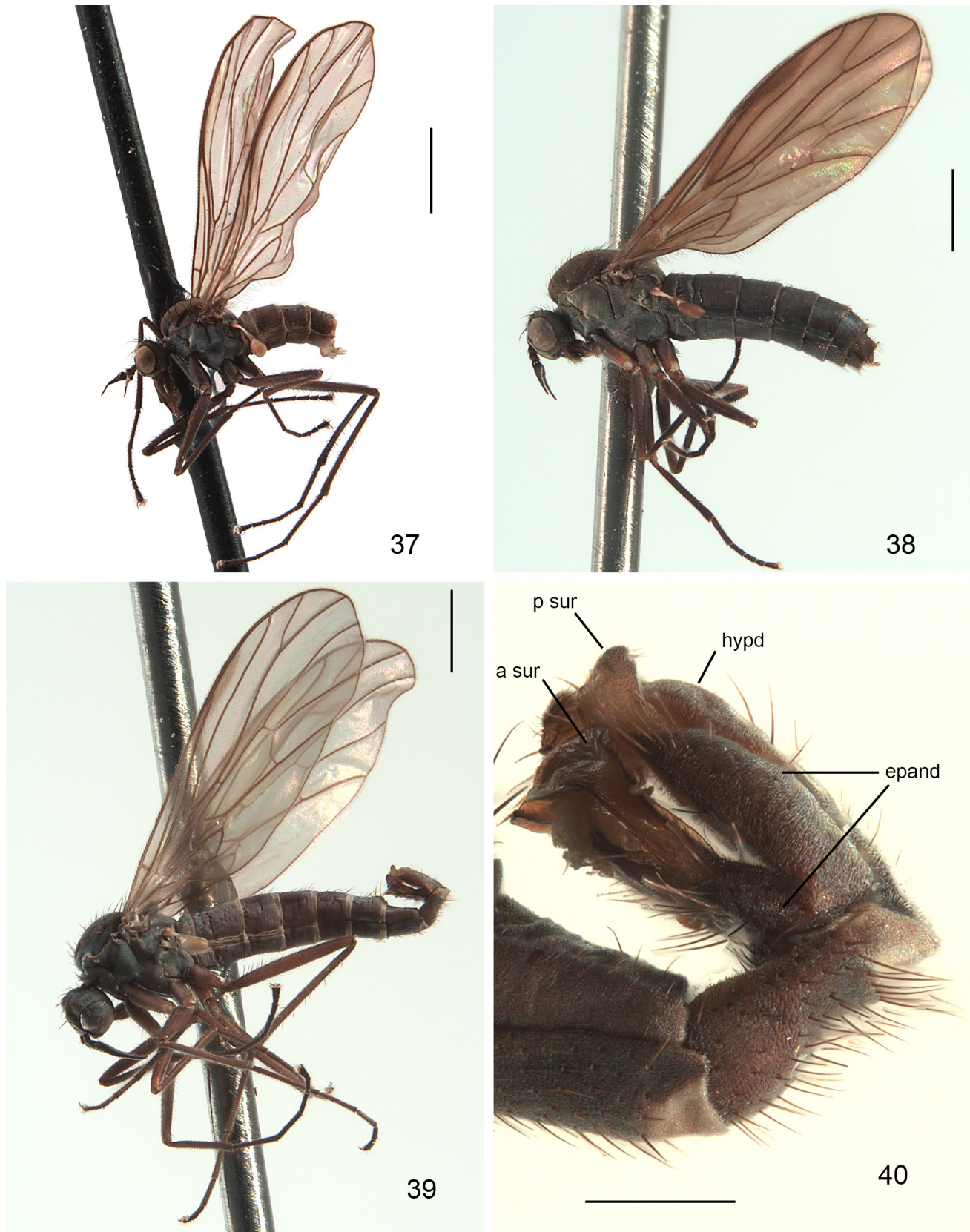
Diagnosis. The species is readily distinguished by bare eyes, dark coloured body, swollen male mid femur, darkly infusate wings, epandrium rounded, inflated, surstylus unpaired and cercus elongate with strongly tapered apically.

Description. Wing length 3.3–3.6 mm. *Male. Head.* Eye bare, without ommatrichia. Face with bluish pruinescence, narrower than width of antennal sockets. Ocellar setae long and divergent, inserted anterior to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer seta arched over margin of eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna with scape slightly longer than length of pedicel; postpedicel more than 1.5× height of eye. Proboscis subequal to height; palpus dark brown, three-quarters length of proboscis.

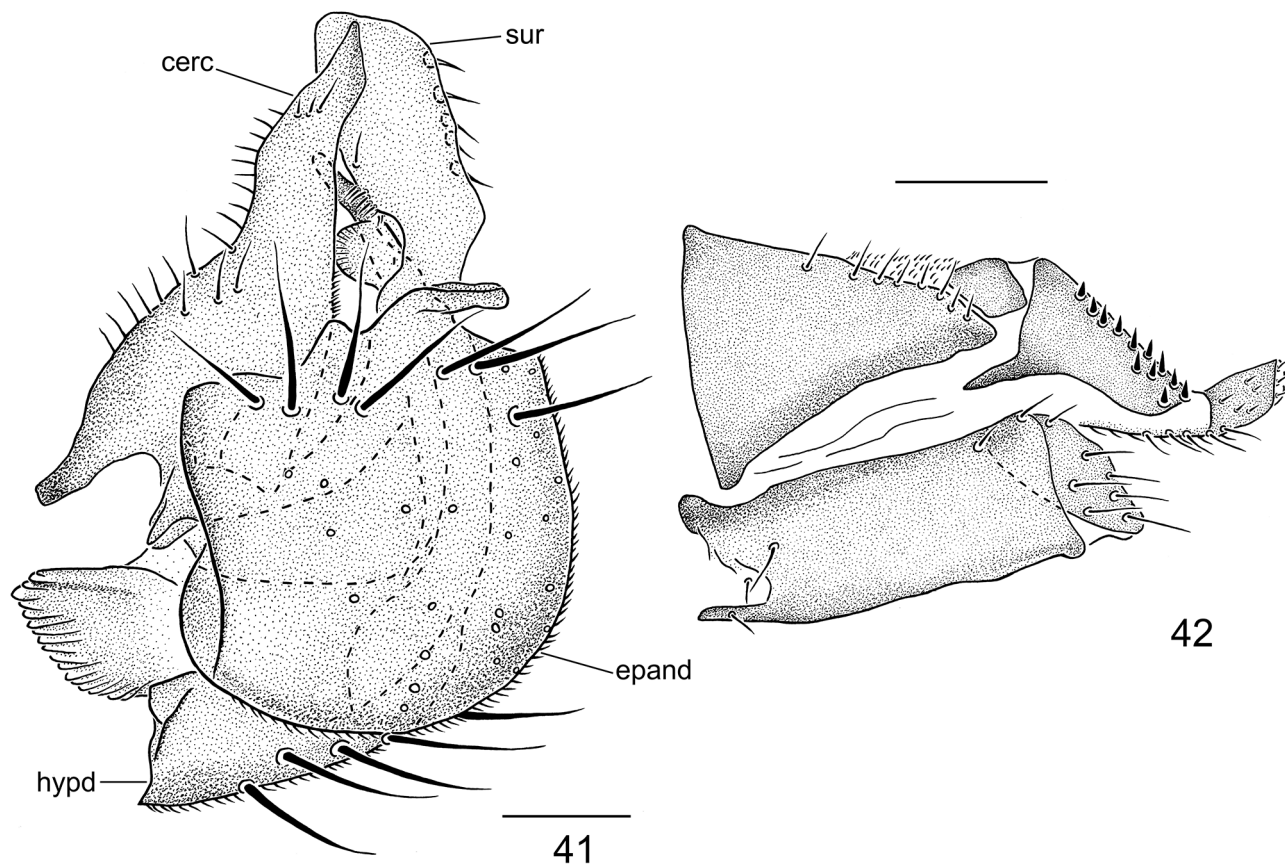
Thorax. Dark brown, with thin blue pruinescence laterally on scutum and pleura; faintly bivittate between rows of dorsocentrals and acrostichals. Anteppronotum with several pairs of short setulae. Acrostichal setae biserial more than half length of dorsocentral setae; more than 10 uniserial dorsocentral setae, anterior seta somewhat set off laterally from row, longer and stronger posteriorly; 1 long postpronotal seta and several shorter anterior setae; 1 or several presutural supra-alar seta; 3 notopleural setae, middle seta stronger and longer; 1 postsutural supra-alar seta; 1–2 postalar seta(e); 2 pairs of scutellar setae, outer pair slightly shorter than length of inner pair. Laterotergite with less than 10 short setae. *Wing.* Darkly infusate, somewhat smoky about veins; basal costal seta short and slender. Halter brown. *Legs.* Fore coxa pale brown apically; base of fore coxa and mid and hind coxae with bluish pruinescence; apical setae pale. Fore femur swollen basally with single basoventral seta, subequal to basal width. Mid femur strongly swollen on basal half, strongly narrowed on apical third; posteroventral row of setae erect on apical third, appressed on swollen section and longer proximally. Hind femur somewhat inflated with erect dorsal setae on basal third. Fore tibia without apical spine-like seta. Mid tibia somewhat expanded subapically with rows of short ventral setae; apex rounded with brush of strong setae. Tarsomere 1 slender with dense ventral setae on all legs.

Abdomen. Tergite and sternite 6 with long dorsal setae, half-length of sclerite, setae at least twice as long as on other sclerites. Sternite 7 without posterolateral prolongation. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 as long as preceding sternite, broader, trough-like, cupping genitalia upright. *Terminalia* (Fig. 41). Cercus strongly sclerotized, shiny, with microtrichia on inner face; elongate, narrowly tapered, with several stout preapical setae on inner face. Epandrium rounded, inflated, with stout setae along dorsal and posterior margins; without dorsal bridge. Surstylus without anterior lobe; posterior lobe long, rectangular apically with truncate apex; posterior margin with row of stout inner setae; inner face with microtrichia. Hypandrium tubular, arched, recurved and narrowed apically; gonocoxal apodeme broad, plate-like, extending beyond anterior margin of hypandrium. Phallus narrow, arched within hypandrium; apex projecting anteriorly beyond hypandrium, pigmented with narrow apex; ejaculatory apodeme broad, plate-like, similar to gonocoxal apodeme.

Female. Similar to male except as follows (Fig. 38): labrum more robust; postpedicel not greatly prolonged,



Figures 37–40. Australian and New Zealand species of *Gondwanodromia*, lateral view: (37) *G. mutabilis* (Collin), male habitus (abdomen dissected), scale bar = 1.0 mm; (38) *G. tasmanica* sp. nov., female habitus, scale bar = 0.75 mm; (39) *G. thredbo* sp. nov., male habitus, holotype, scale bar = 0.75 mm; (40) *G. thredbo* sp. nov., male terminalia, scale bar = 0.25 mm. Abbreviations: *a sur* – anterior surstylus; *epand* – epandrium; *hypd* – hypandrium; *p sur* – posterior surstylus.



Figures 41–42. *Gondwanodromia tasmanica* sp. nov., lateral view: (41) male terminalia; (42) female terminalia. Scale bar = 0.1 mm. Abbreviations: *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *sur* – surstylus.

with 2-article stylus one-third length of postpedicel; femora slender, midleg unmodified. Tergite 8 without dorsomedial apodeme on anterior margin. Syntergite 9+10 (acanthophorites) with 2 rows of strong, erect setae (Fig. 42). Spermatheca spherical.

Etymology. This species is named after the Australian state where specimens were collected.

Distribution. This species is widespread in Tasmania (Fig. 50).

Gondwanodromia thredbo sp. nov.

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Figs 39, 40, 50

Holotype ♂, labelled: “AUST: NSW: Kosciusko/ NP, Dead Horse Gap [36°31'21"S 148°15'50"E]/ 28.xi.1994, 1500m/ B.J. Sinclair/ ex. Thredbo River”; “HOLOTYPE/ *Gondwanodromia/ thredbo/ Sinclair & Saigusa*” (AMS K.594168).

Diagnosis. The species is readily distinguished by bare eyes, male fore tibia with pair of stout anteroventral setae arising from prolongation, mid tibia somewhat swollen apically with pair of peg-like ventroapical setae and epandrium deeply V-shaped with anterior half one-third height of posterior half.

Description. Wing length 3.7 mm. **Male. Head.** Eye bare, without ommatrichia. Frons brown. Face with bluish pruinescence; broad, subequal to width of antennal socket. Ocellar setae long and divergent, inserted anteromedial

to lateral ocelli; one short posterior seta; 3 vertical setae, outer seta arched over margin of eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna (Fig. 39) with scape nearly subequal in length with pedicel; postpedicel nearly 1.5× height of eye. Proboscis longer than head height; palpus brown, two-thirds length of proboscis.

Thorax. Dark brown, with thin blue pruinescence laterally on scutum, prescutellum, scutellum and pleura. Antepre-notum with several pairs of long setae, strongly laterally. Acrostichal setae uniserial with setae alternating in direction, more than half length of dorsocentral setae; 8 uniserial dorsocentral setae, anterior seta longer and set off laterally from row; 1 long postpronotal seta and 1–2 shorter anterior setae; 1 presutural supra-alar seta; 3 notopleural setae, middle seta stronger and twice length of other setae; 2 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair slightly more than half length of inner pair. Laterotergite with 4–5 setae. **Wing** (Fig. 39). Infusate; basal costal seta long and slender. Halter pale brown. **Legs.** Coxae brown with bluish pruinescence, apical setae brown; remaining leg segments increasingly darker apically. Femora long and slender; fore femur somewhat inflated, with posteroventral row of slender setae; mid femur with row of short anteroventral and row of longer posteroventral setae; hind femur with erect dorsal setae near base. Fore tibia produced anteroventrally, bearing pair of apical spine-like setae. Mid tibia expanded somewhat subapically with rows of short ventral setae; pair of peg-like apicoventral setae, shorter than width of tibia. Hind tibia with stout dorsal and ventral setae, shorter than width of tibia. Mid

tarsomere 1 with row of strong posteroventral setae; without erect posteroventral seta at basal fifth.

Abdomen. Tergite 6 with long dorsal setae on posterior half, nearly as long as tergite, setae longer than on other tergites. Sternite 7 prolonged posterolaterally into narrow lobe overlapping anterior margin of sternite 8. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites, especially along posterior margin. *Terminalia* (undissected) (Fig. 40). Cercus thinly sclerotized narrow and tapered apically [apex obscured by precipitate]. Epandrium deeply V-shaped laterally, anterior half one-third height of posterior half; without dorsal bridge. Surstylus paired; anterior surstylus smoothly sclerotized, without microtrichia, apical third expanded into triangular plate with long, spine-like preapical seta directed anteriorly; posterior surstylus produced apically into thinly sclerotized, setose lobe with marginal setae. Hypandrium tubular, arched and recurved apically. Phallus not observed.

Female. Unknown.

Etymology. The species is a noun in apposition, named after the river upon which the holotype was collected.

Distribution. This species is known only from the type locality (Fig. 4) in Kosciusko National Park, New South Wales, Australia (Fig. 50).

Gondwanodromia tongariro sp. nov.

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Figs 43, 51

Holotype ♂, labelled: “NEW ZEALAND: RI/ Tongariro NP, 15kN Ohakune/ Mangaturutura Tr. [39°18'S 175°31'E]/ 19.ii.1995, alpine/ z/str. B.J. Sinclair”; “HOLOTYPE/ *Gondwanodromia/ tongariro/* Sinclair & Saigusa [red label]” (NZAC).

Diagnosis. The species is readily distinguished by eyes with sparse ommatrichia, swollen mid femur and geniculate mid tibia, stylus slightly shorter than postpedicel, and male terminalia with epandrial lobe short, length subequal to width, separated from surstylus by distance longer than length of surstylus.

Description. Wing length 4.2 mm. *Male. Head.* Eye with sparse ommatrichia; face with bluish pruinescence, as wide as antennal sockets dorsally, divergent ventrally. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer seta arched over margin of eye, slightly shorter than

ocellar seta; occipital setae shorter and thinner than vertical setae. Antennae inserted above middle of head; scape slightly longer than globular pedicel; postpedicel with broad base, gradually curved and tapered; stylus slightly shorter than postpedicel, small basal segment, apical sensillum damaged. Palpus long and slender, half height of head, bearing pale setae; labrum greatly lengthened, longer than height of head, slightly incurved; labium longer than labrum.

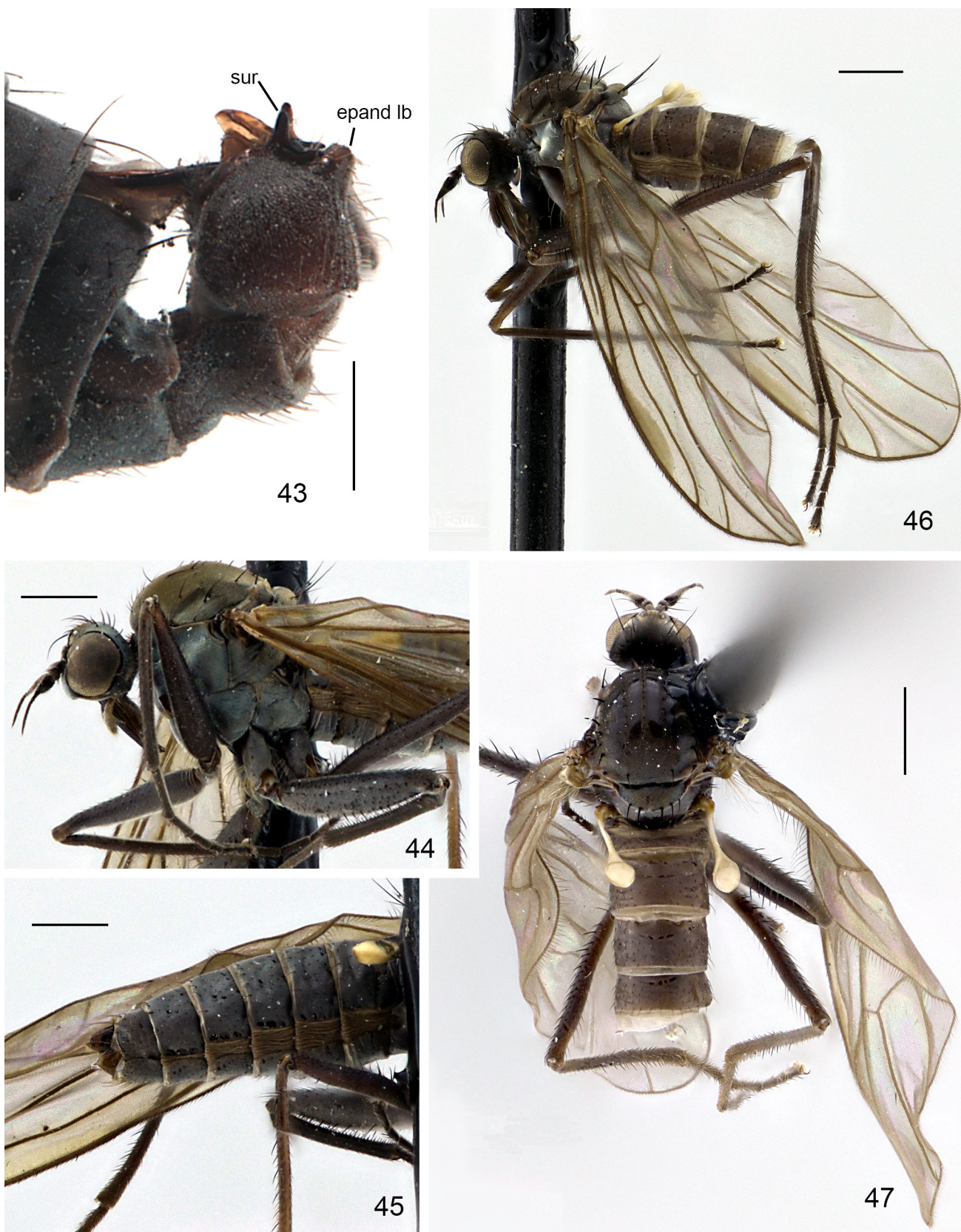
Thorax. Pleura, coxae, postpronotal lobe and notopleuron with pale blue pruinescence. Scutum brown with faint vittae between rows of acrostichals and dorsocentrals. Antepronotum with several pairs of short setae. Acrostichals uniserial, slightly longer posteriorly, extending to prescutellar depression; 5–6 uniserial dorsocentral setae, intermixed with several long or short slender setae; 1 postpronotal seta, with 1 setula; 1 presutural supra-alar seta; 2 notopleural setae, lower slender and short; 1 postsutural supra-alar seta; 1 postalar seta; 2 pairs of scutellar setae, outer pair slender and shorter. Laterotergite with patch of pale brown setae. *Wing.* Broad, infusate; basal costal seta long and slender; costa with erect dorsal setae beyond R_1 ; R_4 slightly sinuous; halter bright, pale brown. *Legs.* Coxae with pale golden setae; femora dark with bluish pruinescence, apex of femora slightly paler. Fore and mid femora broader than slender hind femur. Fore femur swollen, tapered apically, without ventral setae; white pile beneath; several thicker preapical anterior setae. Fore tibia subequal in length to femur, without outstanding setae. Mid femur strongly swollen, broader than fore femur, with anteroventral and posteroventral rows of stout, black setae, shorter than half width of femur. Mid tibia geniculate, one-fifth shorter than femur, curved along femur margin; short strong setae beneath. Hind femur slender, longer than mid femur, straight with long, erect dorsal setae on basal half; anteroventrally with row of strong setae, shorter than width of femur. Hind tibia with dorsal row of strong setae. Tarsomere 1 slender with dense ventral setae on all legs.

Abdomen. Brown with thin bluish pruinescence, sparsely setose with setae mostly confined to the posterior margins. Sternite 7 with short posterolateral extension. *Terminalia* [undissected] (Fig. 43). Lying dorsally over segments 7 and 8. Phallus thickly sclerotized, long and tapered. Epandrium rounded, with short lobe near base of surstylus; width of lobe subequal to length. Surstylus digitiform, separated from epandrial lobe by distance longer than length of surstylus.

Female. Unknown.

Etymology. This species is named after the type locality and is a noun in apposition.

Distribution. This species is currently known from the type locality on North Island, New Zealand (Fig. 51).



Figures 43–47. New Zealand species of *Gondwanodromia*: (43) *G. tongariro* sp. nov., holotype, male terminalia, scale bar = 0.25 mm; (44) *G. femorata* sp. nov., female midleg, scale bar = 0.5 mm (courtesy Canterbury Museum); (45) *G. femorata* sp. nov., female abdomen, scale bar = 0.5 mm (courtesy Canterbury Museum); (46) *G. wardi* sp. nov., holotype (abdomen dissected), lateral view, scale bar = 0.5 mm (courtesy Canterbury Museum); (47) *G. wardi* sp. nov., holotype (abdomen dissected), dorsal view, scale bar = 0.5 mm (courtesy Canterbury Museum). Abbreviations: *epand lb* – epandrial lobe; *sur* – surstylus.

***Gondwanodromia tonnoiri* sp. nov.**

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Figs 48, 50

Holotype ♂, labelled: “TAS: Double-Barrel/Ck. [42°11'S 145°57'E], Lyell Hwy; 27/-i-1989; rainfor./ D.Bickel; yellowpan”; “HOLOTYPE/ Gondwanodromia/ tonnoiri/ Sinclair & Saigusa” (AMS K.594169). **Paratypes:** **Australia. Tasmania:** 1 ♀, Hartz Mts [43°14'S 146°45'E], 10.xii.1922, A. Tonnoir (ANIC); 1 ♀, Cradle Mtn NP, Dove Lk [41°39'S 145°57'E], 920 m, dung pans in button grass, 16–17.xii.2003, S.A. Marshall, debu00247175 (DEBU).

Diagnosis. The species is readily distinguished by bare eyes, mid tibia not swollen apically and with pair of slightly stronger ventroapical setae and epandrium shallowly notched laterally.

Description. Wing length 3–3.7 mm. **Male. Head.** Eye bare, without ommatrichia. Frons brown. Face with bluish pruinescence; broad, subequal to width of antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; one shorter posterior seta; 2–3 vertical setae, outer seta arched over margin of eye, shorter than ocellar seta; occipital setae shorter and thinner than vertical setae. Antenna with scape subequal to length of pedicel; postpedicel more than 2× height of eye. Proboscis longer than head height; palpus pale brown, half-length of proboscis.

Thorax. Dark brown, with thin blue pruinescence laterally on scutum, prescutellum, scutellum and pleura. Anteprepronotum with several pairs of strong setae, longer laterally. Acrostichal setae uniserial with setae alternating in direction, more than half length of dorsocentral setae; 7–12 uniserial dorsocentral setae, anterior seta set off laterally from row; 1 long postpronotal seta and 1–2 shorter anterior setae; 1 presutural supra-alar seta; 3 notopleural setae, middle seta stronger and twice length of other setae; 2–3 postsutural supra-alar setae; 1 postalar seta; 2 pairs of scutellar setae, outer pair more than half length of inner pair. Laterotergite with about 5 setae. **Wing.** Infusate; basal costal seta long and slender. Halter pale brown. **Legs.** Coxae yellowish brown, apical setae brown; remaining leg segments increasingly darker apically. Femora short and slightly swollen; fore femur with posteroventral row of slender setae; mid femur with row of short anteroventral and row of longer posteroventral setae; hind femur with erect dorsal setae near base. Fore tibia without apical spine-like setae. Mid tibia slender, not expanded subapically; with anteroventral row and posteroventral row of short setae; with pair of slightly thickened apicoventral setae. Hind tibia with stout dorsal and ventral setae, shorter than width of tibia. Mid tarsomere 1 with row of strong posteroventral setae; 1 erect posteroventral seta at basal fifth.

Abdomen. Tergite 6 with long dorsal setae on posterior half, nearly as long as tergite, setae longer than on other tergites. Sternite 7 prolonged posterolaterally into narrow lobe overlapping anterior margin of sternite 8. Tergite 8 trapezoidal, half-length of sternite 8; posterior margin wider than anterior margin, bearing numerous setae, denser on lateral margin; sternite 8 trapezoidal, with setae longer than anterior sternites with pair of posteroapical sclerites. **Terminalia** (Fig. 48). Cercus thinly sclerotized, thumb-like and tapered apically, bearing pair of long, spine-like setae

directed posteriorly. Epandrium shallowly notched laterally, anterior and posterior halves equally narrow; without dorsal bridge. Surstylus paired; anterior surstylus smoothly sclerotized, without microtrichia, forked, with lower branch triangular bearing subapical seta; upper lobe rounded apically with subapical seta; posterior surstylus clothed in microtrichia, produced apically into thin, flap-like lobe with several marginal setae mounted on small projections. Hypandrium tubular, arched and recurved apically; narrow gonocoxal apodemes medially, directed ventrally. Phallus narrow, arched within hypandrium; apex tapered, projecting anteriorly beyond hypandrium; ejaculatory apodeme fused to base of phallus.

Female. Similar to male except as follows: postpedicel less than 1.5× eye height; midleg unmodified. Syntergite 9+10 (acanthophorites) with 2 rows of strong, erect setae.

Etymology. The species is named after the collector of the first specimen of this new genus, André Léon Tonnoir.

Distribution. This species is currently known from three localities in Tasmania (Fig. 50).

***Gondwanodromia wardi* sp. nov.**

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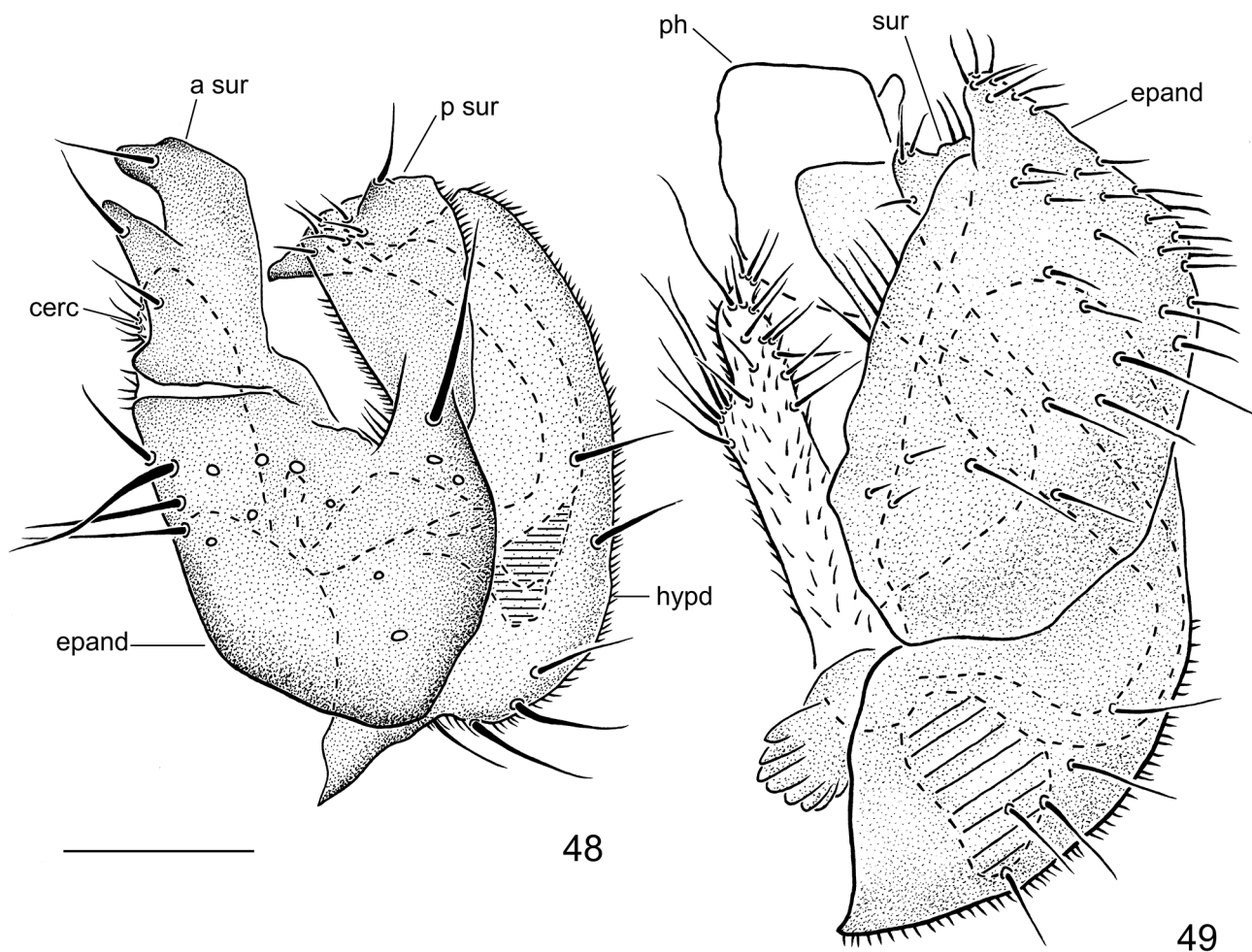
Figs 46, 47, 49, 51

Holotype ♂, labelled: “NEW ZEALAND:/ Haast R./ Harris Ck./ Greenstone Ck./ Glitterburn [43°56'S 169°07'E], 3.xi.1994/ J.B. Ward”; “HOLOTYPE/ Gondwanodromia/ wardi/ Sinclair & Saigusa [red label]” [dissected] (CMNZ). **Paratype:** 1 ♀, same data as holotype (CMNZ).

Diagnosis. The species is readily distinguished by the scutum with shiny vittae between setal rows, lateral scutal setae spine-like, and male terminalia with epandrium prolonged beyond base of surstylus in lateral view.

Description. Wing length 3.8–4 mm. **Male. Head.** Eye bare; widely separated on frons and face, wider than antennal sockets. Ocellar setae long and divergent, inserted anteromedial to lateral ocelli; 2 pairs of shorter posterior setae; 2 vertical setae, outer seta arched over eye, longer than ocellar setae. Antennae (Fig. 46) inserted above middle of head; scape slightly longer than globular pedicel; postpedicel with broad base, gradually curved and tapered; stylus three-quarters length of postpedicel, small basal segment and short apical peg-like sensillum. Palpus long and slender, two-thirds height of head, bearing scattered setae; labrum greatly lengthened, longer than height of head, slightly incurved; labium subequal in length to labrum.

Thorax. Pleura, coxae, pprn and lower margin of npl with pale silvery-grey pruinescence (Fig. 46). Scutum brown with shiny vittae between rows of acrostichals and dorsocentrals (Fig. 47). Anteprepronotum with several pairs of short setulae. Acrostichals uniserial in front, slightly longer and biserial behind, extending to prescutellar depression; 6 dorsocentral setae, intermixed with long and short, slender setae; lateral setae spine-like: 1 postpronotal seta; 1 presutural supra-alar seta; 2 notopleural setae, lower slender and short; 3 postsutural supra-alar setae with 1–2 short setae; 1 postalar seta; 2–3 pairs scutellar setae and outer pairs shorter than median pair. Laterotergite with patch of dark brown setae



Figures 48–49. Male terminalia of Australian and New Zealand species of *Gondwanodromia*, lateral view: (48) *G. tonnoiri* sp. nov.; (49) *G. wardi* sp. nov. Scale bar = 0.1 mm. Abbreviations: *a sur* – anterior surstylus; *cerc* – cercus; *epand* – epandrium; *hypd* – hypandrium; *p sur* – posterior surstylus; *ph* – phallus; *sur* – surstylus.

Wing. Broad, infuscate; basal costal seta long and slender; costa with erect dorsal setae beyond R_1 ; R_4 slightly sinuous; halter pale yellowish-brown. **Legs.** Coxae with pale golden setae; knees yellowish-brown. Fore femur with anteroventral and posteroventral row of short, slender setae, shorter than width of femur except basal posteroventral setae longer than width; 3 stout dorsal setae on basal half, subequal to width of femur. Mid femur with anteroventral and posteroventral rows of stout, black setae, posteroventral setae mostly longer than width of femur; apical half with 3–4 stout anterior setae. Mid tibia lacking erect ventral setae. Hind femur sinuous with long, erect black dorsal and anteroventral setae from base to beyond middle. Hind tibia with stout ventral and dorsal setae, shorter than width of tibia.

Abdomen. Brown, sparsely setose with setae mostly confined to the posterior margins. Segment 7 narrow posteriorly; sternite 7 with short, triangular posterolateral extension. **Terminalia** (Fig. 49). Lying dorsally over segments 7 and 8. Hypandrium round apically, encircling phallus (likely

postgonites fused with hypandrium at apex). Phallus with broad membranous cap; ejaculatory apodeme broad and tapered ventrally. Epandrium broad, with narrowed and tapered posterodorsal corner. Surstylus subtriangular with short setae on apex and medial face. Cercus membranous, clothed in microtrichia; several long, setae on anterior and posterior faces.

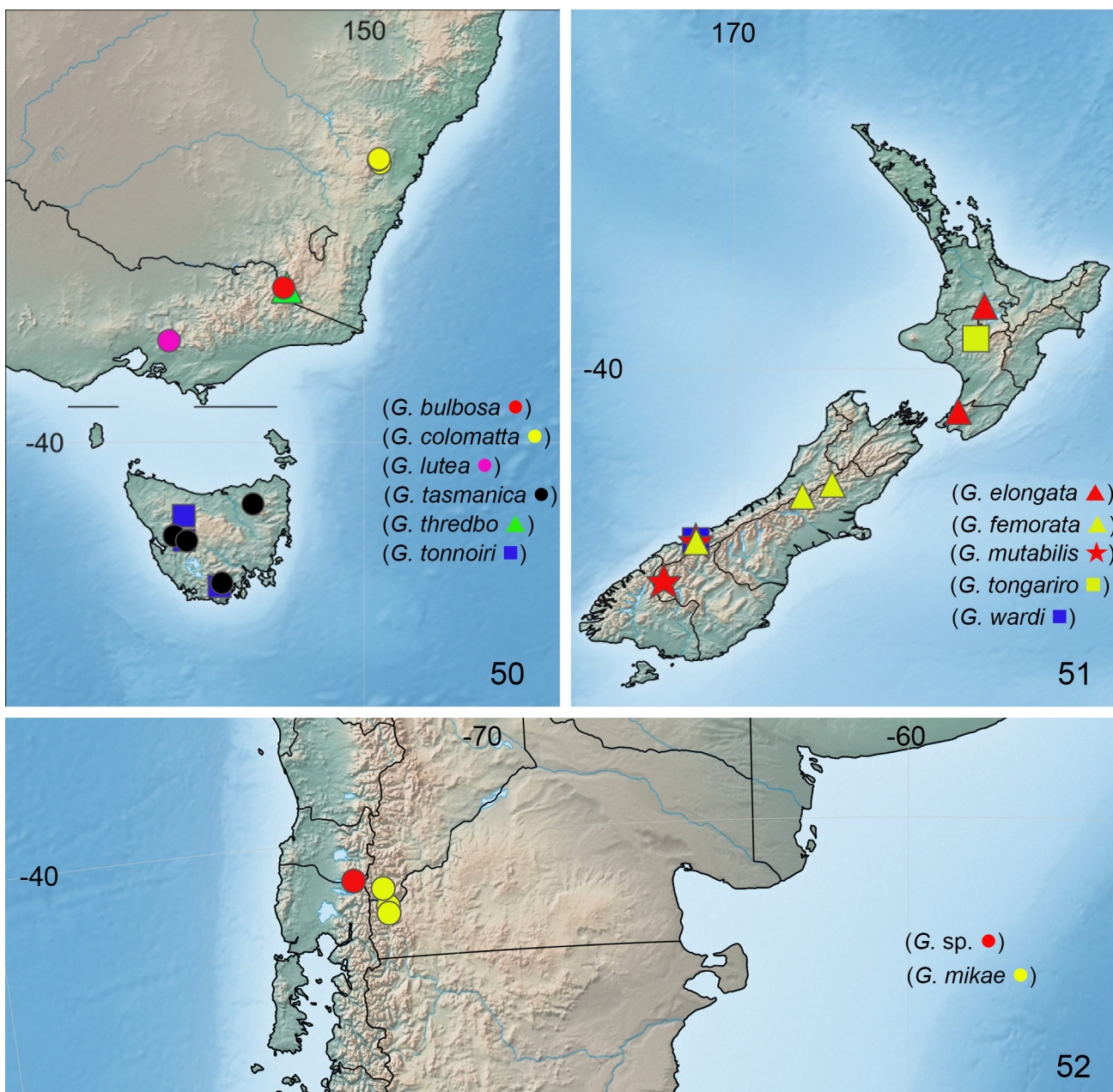
Female. Similar to male except as follows: Abdominal sternites 3–6 with lateral marginal tuft of long setae; sternite 7 with two pairs of closely approximated ventral setae, length two-thirds width of segment. **Terminalia** [undissected]. Cercus elongate, shiny, well sclerotized, projecting horizontally, longer than segment 8.

Etymology. This species is named after the collector of the type series, John Ward, who collected many valuable species of Empidoidea.

Distribution. This species is currently known from the type locality on South Island, New Zealand (Fig. 51).

Key to species of *Gondwanodromia*

- 1 Coxae, halteres, postalar ridge and abdomen yellow [Australia: Victoria] *G. lutea* sp. nov.
 — Coxae, halteres, postalar ridge and abdomen pale brown and dark brown 2
- 2 Eyes with dense ommatrichia; male cercus with pair of spine-like apical setae directed posteriorly (Fig. 10) [Australia: New South Wales] *G. colomatta* sp. nov.
 — Eyes bare or with very sparse ommatrichia; male cercus without spine-like apical setae 3
- 3 Scutum with shiny vittae between rows of dorsocentral and acrostichal setae (Fig. 47) [New Zealand] 4
 — Scutum without shiny vittae 5
- 4 Scutellum with strong marginal setae; basal costal seta slender (Fig. 47); wing length 3.8 mm or longer; epandrium prolonged beyond base of surstylus in lateral view (Fig. 49) *G. wardi* sp. nov.
 — Scutellum with spine-like setae; basal costal seta spine-like; wing length less than 3.8 mm; epandrium not prolonged beyond base of surstylus in lateral view (Fig. 17) *G. elongata* sp. nov.
- 5 Male and female mid femur swollen and mid tibia geniculate at base (Figs 13, 44) [New Zealand] 6
 — Male and female mid femur not swollen (Fig. 37); if male mid femur swollen, then mid tibia not geniculate at base 7
- 6 Wing length 4.5 mm or longer; epandrial lobe tapered apically, extending well beyond epandrium; surstylus broader than epandrial lobe, with truncate apex (Fig. 14) *G. femorata* sp. nov.
 — Wing length less than 4.5 mm; epandrial lobe digitiform, broad apically, extending only partially beyond epandrium; surstylus more slender than epandrial lobe, with tapered apex (Fig. 43) *G. tongariro* sp. nov.
- 7 Antennal stylus nearly as long as postpedicel (Fig. 37); scutal setae outstandingly strong [New Zealand] *G. mutabilis* (Collin)
 — Antennal stylus very short, much shorter than postpedicel or not distinguishable from elongate postpedicel (Figs 5, 30, 38); scutal setae not unusually strong 8
- 8 South America [Argentina] *G. mikae* sp. nov.
 — Australia [females beyond this couplet not readily distinguished] 9
- 9 Coxae with dark pruinescence basally, similar to thoracic pleura (Figs 38, 39) 10
 — Coxae pale brown to bright yellow (Fig. 5), distinctly paler than thoracic pleura 11
- 10 Male mid femur swollen; male fore tibia without anteroventral spine-like apical seta; epandrium rounded, not divided laterally (Fig. 41) [Tasmania] *G. tasmanica* sp. nov.
 — Male mid femur not swollen; male fore tibia with anteroventral spine-like apical seta; epandrium deeply divided laterally forming anterior and posterior halves (Fig. 40) [New South Wales] *G. thredbo* sp. nov.
- 11 Male mid tibia swollen near apex; epandrium inflated laterally; anterior surstylus rod-like [New South Wales] (Fig. 6) *G. bulbosa* sp. nov.
 — Male mid tibia not swollen near apex; epandrium not inflated laterally; anterior surstylus broad, forked [Tasmania] (Fig. 48) *G. tonnoiri* sp. nov.



Figures 50–52. Distribution of *Gondwanodromia*: (50) Australian species; (51) New Zealand species; (52) South American species.

Discussion

The following four species groups of *Gondwanodromia* are currently recognized:

Gondwanodromia mutabilis group (*G. elongata*, *G. femorata*, *G. tongariro*, *G. wardi*). This New Zealand species group is defined by the presence of a distinct antennal stylus; surstylus not articulated, short, projecting with apex of epandrium; thoracic setae often rather stout, especially laterally and including scutellar setae; female with tergite and sternite 8, syntergite 9+10 and cercus strongly sclerotized and shiny.

This group could possibly include *G. tasmanica* on the basis of the enlarged male mid femur, which is also present in *G. femorata* and *G. tongariro*.

Gondwanodromia bulbosa group (*G. bulbosa*, *G.*

colomatta, *G. thredbo*, *G. tonnoiri*). This Australia species group is defined by the elongate, strap-like postpedicel and divided epandrium into anterior and posterior halves, with associated anterior and posterior surstyli.

Gondwanodromia mikae group (*G. mikae*). This South American species group is defined solely by geography and could possibly be related to the *G. bulbosa* species group on the basis of the elongate, strap-like postpedicel.

Gondwanodromia lutea group (*G. lutea*). This odd Australian monotypic species group is characterized by the yellow colouration of the coxae, halteres, postalar ridge and abdomen.

Additional collecting from emergent rocks and boulders is required to fill in the distributional gaps. This is especially true in southern South America, where this genus has been generally overlooked until recently.

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