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Revision of the genus *Leptodromia* Sinclair & Cumming, 2000 (Diptera: Hybotidae: Ocydromiinae), with the description of six new species

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Abstract. Ten genera of Ocydromiinae (Diptera: Hybotidae) are recorded from the Australasian Region, including *Leptodromia* Sinclair & Cumming, 2000. The endemic Australian genus *Leptodromia* is revised with seven species recognized, including six new species (*L. bickeli* Barros & Sinclair sp. nov., *L. castanea* Barros & Sinclair sp. nov., *L. immaculata* Barros, Freitas-Silva & Sinclair sp. nov., *L. lineata* Barros & Sinclair sp. nov., *L. nebulosa* Barros & Sinclair sp. nov. and *L. t-maculatum* Barros, Freitas-Silva & Sinclair sp. nov.). The type species, *L. bimaculata* (Bezzi, 1904) is redescribed. An identification key to species is provided and the species distributions mapped.

Keywords: Empidoidea, taxonomy, dance flies, Australia
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Introduction

The Ocydromiinae is a subfamily of Hybotidae (Diptera: Empidoidea), and has a cosmopolitan distribution (Sinclair & Cumming, 2006). Currently there are 106 described species belonging to the subfamily, included in 15 genera, of which 10 are recorded in the Australasian Region. In Australia, there are 22 described species, distributed in six genera: *Apterodromia* Oldroyd, 1949 [12 species], *Austropeza* Plant, 1989 [one species], *Chvalaea* Papp & Földvári, 2002 [one species], *Hoplopeza* Bezzi,1909 [four species], *Leptodromia* Sinclair & Cumming, 2000 [one species] and *Leptopezella* Sinclair & Cumming, 2007 [three species] (Yang *et al*., 2007; Sinclair and Cumming, 2007; Barros *et al*., 2022).

Bezzi (1904) described the first Australian species of Ocydromiinae, collected from Mt. Victoria, New South Wales: *Leptopeza bimaculata* Bezzi, *L. pulcherrima* Bezzi and *L. tachydromiaeformis* Bezzi. White (1916) later described three additional species from Tasmania: *Leptopeza levicosta* White, *L. rubrithorax* White and *L. serraticosta* White. The Australasian *Leptopeza* differs from the concept of this Northern Hemisphere genus and the above species have been transferred to different genera (Plant, 1989; Smith, 1989; Sinclair & Cumming, 2000; Yang *et al*., 2007). Among these six species, only *L. bimaculata* with its shortened M_1 vein resembles *Leptopeza*. Following the observations of Plant (1989), Sinclair and Cumming (2000) erected a new genus, *Leptodromia* for *L. bimaculata*. The diagnostic characters of *Leptodromia* not shared with species of *Leptopeza* are the anal lobe not developed, antennae situated slightly above the middle of the head, three veins from discal cell and short cell cua.

Prior to this study, *Leptodromia* included a single described species and several undescribed species (Sinclair & Cumming, 2000). This is one of several Australian genera of Ocydromiinae in need of revision, especially since there are no published images of its external morphology and illustrations of the male and female terminalia. The aim of this study is to review the taxonomy of *Leptodromia* and describe and illustrate new species, provide an identification key to species and plot their distributions.

Material and methods

The material examined during this study are housed in the Australian Museum (AMS), Sydney, Australia; Canadian National Collection of Insects, Arachnids and Nematodes (CNC), Ottawa, Canada; Coleção de Invertebrados do Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brazil; and Tasmanian Museum and Art Gallery (TMAG), Hobart, Australia. Terms used for adult structures and abbreviations follow Cumming and Wood (2017). We describe the hybotid male terminalia based on its unrotated position, considering the cerci positioned dorsally. In descriptions and figures, the male terminalia and their parts are oriented with their basal (anterior) part at the bottom and the apical (posterior) part at the top of the figure. Female terminalia are shown with the anterior part oriented to the right and the posterior part to the left.

Terminalia were removed from the abdomen, treated with hot 85% lactic acid and kept in a microvial with glycerine. Wings were photographed after being removed from the body, mounted between cover slides with Canada balsam and glued by one side to a small piece of carton. Microvials and cover slides were pinned together with their respective specimens.

Specimens were photographed with a Leica MC170 HD camera, attached on a Leica M165C stereomicroscope. Posteriorly, photographs were stacked and combined using Leica Application Suite V4.11. The distribution map was created with QGIS Las Palmas ver. 2.18.10 software (QGIS Development Team, 2016) using data from specimen labels.

Taxonomy

During the study of this genus, we found that the male terminalia did not significantly differ between species, with most distinct differences discovered in the apex of the phallus. The most apparent species differences were found in the external colour patterns of the thorax and abdomen and detailed examination of the male terminalia proved unnecessary. Consequently, given the limited number of male specimens available, the terminalia were illustrated for only four of the seven species, and available males for species *Leptodromia nebulosa* sp. nov., *L. castanea* sp. nov. and *L. bickeli* sp. nov. were not dissected and terminalia not described.

Family Hybotidae Meigen, 1820

Subfamily Ocydromiinae Schiner, 1862

Genus *Leptodromia*

Sinclair & Cumming, 2000

Leptodromia Sinclair & Cumming, 2000: 181. Type species: *Leptopeza bimaculata* Bezzi, 1904.

Diagnosis. Distinguished from other Southern Hemisphere genera of Ocydromiinae by the long Rs vein, arising near middle of cell bm, M_1 very short, reduced to short stump, anal lobe not developed (Figs 21, 22), and antennae inserted above middle of head.

Redescription. Head. Eye bare, facets not enlarged. Frons and face slender, narrowly separated; face about twice length of frons. Gena and postgena not developed. Ocellar triangle with 1–2 pairs of ocellar setae proclinate, short and slender. Antennae situated above middle of head; scape and pedicel subequal in length; scape devoid of setulae; pedicel cylindrical, with circlet of short preapical setae; postpedicel elongate, lanceolate, covered with dense microtrichia; arista-like stylus with microtrichia. Proboscis with several short, slender setae; palpus broad, flattened, as long as proboscis, covered with pruinosity and setulae. Occiput with two rows of setae, 1 row postoculars and 1 row occipital. **Thorax.** Not strongly arched. Postpronotal lobe and postalar callus well developed. Anteprontum with 1 row of short, slender setae. Acrostichals biserial and dorsocentrals uniserial, all short and slender; two pairs of dorsocentrals slightly longer on prescutellar disc; some short and slender setae on postpronotal lobe; 1 long, strong notopleural seta; postalar callus usually with 2 slender setae; scutellum with pair of short, slender lateral setae and pair of long, strong apical setae. **Wing.** Membrane hyaline to infuscate. Costa

fading beyond R_{4+5}; Sc evanescent, extending to beyond branching of R_{2+3} and R_{4+5}; Rs long, arising near middle of cell br. Vein R_1 long, ending at apical 1/3 of wing. Cell dm shorter than basal cells; M_1 reduced to short stub, M_2 and M_4 fading out before wing margin; cell br subequal in length with cell bm; cell cua more than half-length of cell bm; CuA complete, reaching CuP; CuA+CuP evanescent, long, not reaching wing margin. Anal lobe not developed. Halter pale. **Abdomen.** Covered with short, slender yellow setae, longer on lateral margins. Tergites heavily sclerotized. Sternites thinly sclerotized. Sclerites of segment 8 not fused. Terminalia asymmetrical, rotated approximately 90° to right. Cercus symmetrical short, slender, digitiform-like and weakly sclerotized. Hypandrium short, posterior margin shallowly bilobed; dorsal bridge well sclerotized. Epandrium deeply cleft, not strongly asymmetrical. Bacilliform sclerites asymmetrical elongate, bearing several setae. Right surstylus elongate, cylindrical, bearing setae, longer than left; left surstylus short, more strongly arched. Hypoproct divided in two small, narrow sclerites. Phallic shaft short, strongly curved near base, apex expanded, cup-like, bearing flexible cap and subapical process; articulated distiphallus with ventral phallic sclerite as long as phallic shaft, with bifid apex; ventral phallic sclerite sickle-shaped, encircling apex of phallic shaft; ejaculatory apodeme fused to base of phallus.

Female. Similar to male, except by differences of spots on scutum and antepisternum in male and female of *L. bimaculata*.

Remarks. The genus can be identified using the key to Southern Hemisphere genera of Ocydromiinae in Sinclair and Cumming (2000).

Key to species of *Leptodromia* Sinclair & Cumming, 2000

1	Pleura with broad, brown transverse upper stripe from lateral margin of antepronotum to laterotergite (Fig. 23) ..... *L. lineata* sp. nov.
——	Pleura with vertical spot on anepisternum (Fig. 27), or without dark markings (Fig. 1) or pleura mostly completely darkly coloured (Fig. 9) 2
2	Scutum with dark spots or stripes (Figs 2, 10, 29) 3
——	Scutum without dark spots or stripes (Figs 6, 14) 7
3	Pleura yellow without dark markings (Figs 1, 30); abdominal terga pale posteriorly with dark anterior margin extending medially (Figs 2, 35) 4
——	Pleura yellow with dark markings (Fig. 3) or mostly darkly coloured (Fig. 9); abdominal terga mostly dark, without dark medial stripe (Fig. 9) 5
4	Scutal spots oval, not extended narrowly anteriorly (Fig. 33); antepronotum yellow ..... *L. t-maculatum* sp. nov.
——	Scutal spots extended narrowly anteriorly (Fig. 2); antepronotum brown ..... *L. bickeli* sp. nov.
5	Pleura mostly completely darkly coloured, except proepisternum yellow (Fig. 9) ..... *L. castanea* sp. nov.
——	Pleura with dark spot confined to posterior half of anepisternum (Figs 3, 26, 27) 6
6	Large dark spot on anepisternum extending to dorsal margin (Figs 26, 27); arista-like stylus less than half-length of postpedicel (Figs 28, 29) ..... *L. nebulosa* sp. nov.
——	Small dark spot on anepisternum not extending to dorsal margin (Fig. 3); arista-like stylus more than half-length of postpedicel [males only] ..... *L. bimaculata* (Bezzi, 1904)
7	Antenna completely brown with microtrichia; hind femur with row of strong, dark anteroventral setae; abdominal terga with pale lateral spots [females only] (Fig. 5) ..... *L. bimaculata* (Bezzi, 1904)
——	Antenna brown, except inner margin of scape and pedicel paler and shiny (Fig. 12); hind femur without strong, dark anteroventral setae (Fig. 15); abdominal terga with pale posterior margin [males, females] (Fig. 16) ..... *L. immaculata* sp. nov.

Leptodromia bickeli

Barros & Sinclair sp. nov.

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Figs 1–2, 42

Diagnosis. Antenna brown, except scape, pedicel and base of postpedicel yellow; stylus longer than postpedicel. Scutum orange yellow, except for two black spots on prescutellar disc, that reach the scutellum, extended narrowly anteriorly; pleura completely yellow, without dark spots or stripes; mediotergite with two black stripes to almost entirely dark. Hind femur yellow, without dark spot. Abdomen yellow, with black T-shaped pattern on anterior margin of all tergites.

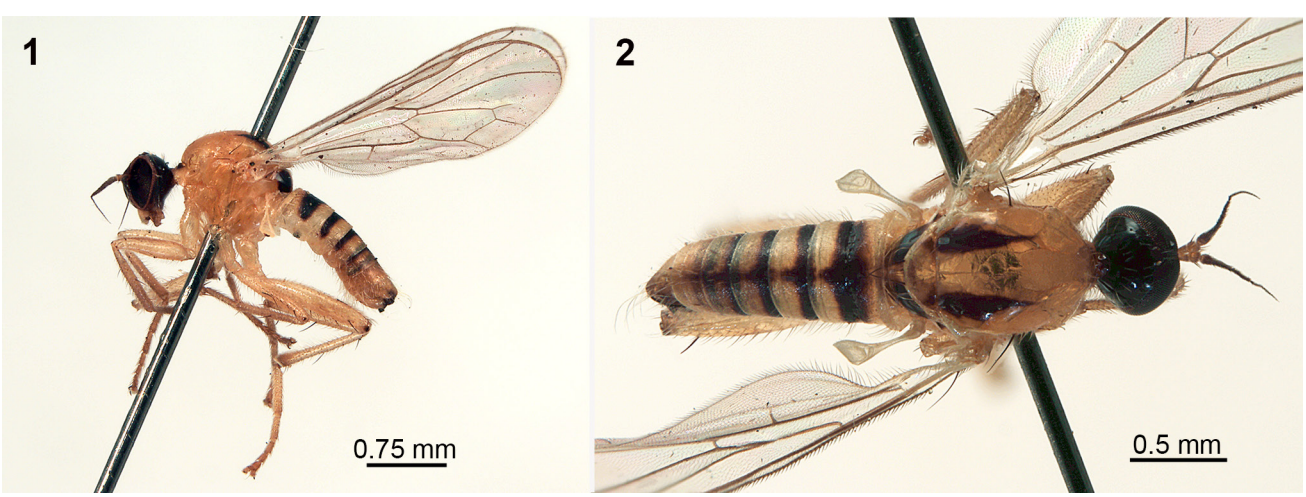
Description. Holotype male (Fig. 1). Body length: 3.8 mm. Wing length: 3.5 mm. **Head.** Ocellar triangle shiny, with 1 pair of ocellar setae proclinate, short and slender. Frons shiny black. Face with dense grey pruinescence. Antenna brown, except scape, pedicel and inner base of postpedicel yellow; postpedicel elongate, lanceolate, about 2.5 times length of scape and pedicel combined, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, longer than postpedicel. Proboscis yellow; palpus oval, yellow, as long as proboscis, covered with dense yellow pruinosity and setulae. Occiput shiny black; two rows of long and slender yellow setae, 1 row postoculars and 1 row occipital, lower setae longer. **Thorax.** Antepronotum brown with 1 row of short, slender yellow setae. Scutum orange yellow, except for two black spots on prescutellar disc, reaching scutellum [extending onto scutellum in paratypes], extended narrowly anteriorly (Fig. 2). Scutellum and mediotergite yellow, except two black, rounded spots on lateral margins of mediotergite. Pleuron yellow, without dark spots or stripes. Postalar callus with 1 long, strong seta and 1 short, slender anterior setula. **Wing** (Fig. 1). Broad, membrane hyaline; 1 long, strong, black basal costal seta; pterostigma clear, elongated and narrow, situated at apex of cell c. Cell dm more than 2.5 times longer than wide, M_1 short, longer than crossvein r-m. Halter whitish yellow. **Legs.** Yellow, except extreme apex black of mid and hind femora, tarsi slight darker, light brown. Fore and hind femora swollen (Fig. 1). Fore femur with 1 long, strong, black posterodorsal preapical seta and anteroventral row of pale setae. Mid femur with row of anterodorsal black setae on apical half, with stronger preapical seta. Hind femur with 1 long, strong, black anterodorsal preapical seta. Mid and hind femora with row of dark anteroventral setae. Fore tibia with 1 long, strong black posteroventral seta proximal to mid-length. Mid tibia with 1 short, strong black anterodorsal seta near base; 1 anterodorsal and 1 posterodorsal long, strong black seta near mid-length; apex with several long, strong, yellow ventral setae. Hind tibia with 1 shorter anterodorsal seta near base and 1 longer anterodorsal seta near mid-length; apex with 2 strong, yellow anteroventral setae. **Abdomen** (Figs 1–2). Yellow, with black T-shaped marking on anterior margins of syntergite 1+2 and tergites 3–6, covered with short, slender yellow setae, longer on lateral margins. **Male terminalia:** not dissected. **Female.** Similar to male. **Female terminalia:** not dissected.

Type material. Holotype ♂, labelled: "VIC: Delley's Dell,/ 4km SSW of Halls Gap,/ Grampians Nat Pk/ 37:11S 142:31E/ 30 Nov. 1992/ Moulds, McEvey, McAlpine"; "Australian Museum/ K 607767"; "HOLOTYPE/ *Leptodromia/ bickeli/* Barros & Sinclair [red label]" (AMS). Holotype in good condition. **Paratypes: Australia: Tasmania:** Ellendale, Willow Bridge, 42.6206°S 146.7105°E, sweeping, 18.xii.2019, M. Pollet (1 ♀, TMAG). **Victoria:** Grampians NP, Splitters Falls [-37.146, 142.501], 30.xi.1992, Moulds, McEvey, McAlpine (1 ♂ K 608308, 1 ♀ K 608311, AMS); Grampians, Wannon R. nr Jimmy's Ck [-37.372, 142.501], 10.xii.1977, D.K. McAlpine, M.A. Schneider (1 ♀ K 607768, AMS).

Etymology. The species is named after Dr. Daniel Bickel for his contribution to the knowledge of the taxonomy of Empidoidea.

Distribution. This species is known from central Tasmania and Grampian Mountains in western Victoria (Fig. 42).

Remarks. This species is very similar to *L. t-maculatum* sp. nov., differing in the narrow scutal stripes and brown anteprontum compared to oval scutal spots and yellow antepronotum in *L. t-maculatum* sp. nov.



Figures 1–2. *Leptodromia bickeli* sp. nov. male holotype. (*1*) Lateral habitus; (*2*) Dorsal habitus.

Leptodromia bimaculata (Bezzi, 1904)

Figs 3–8, 42

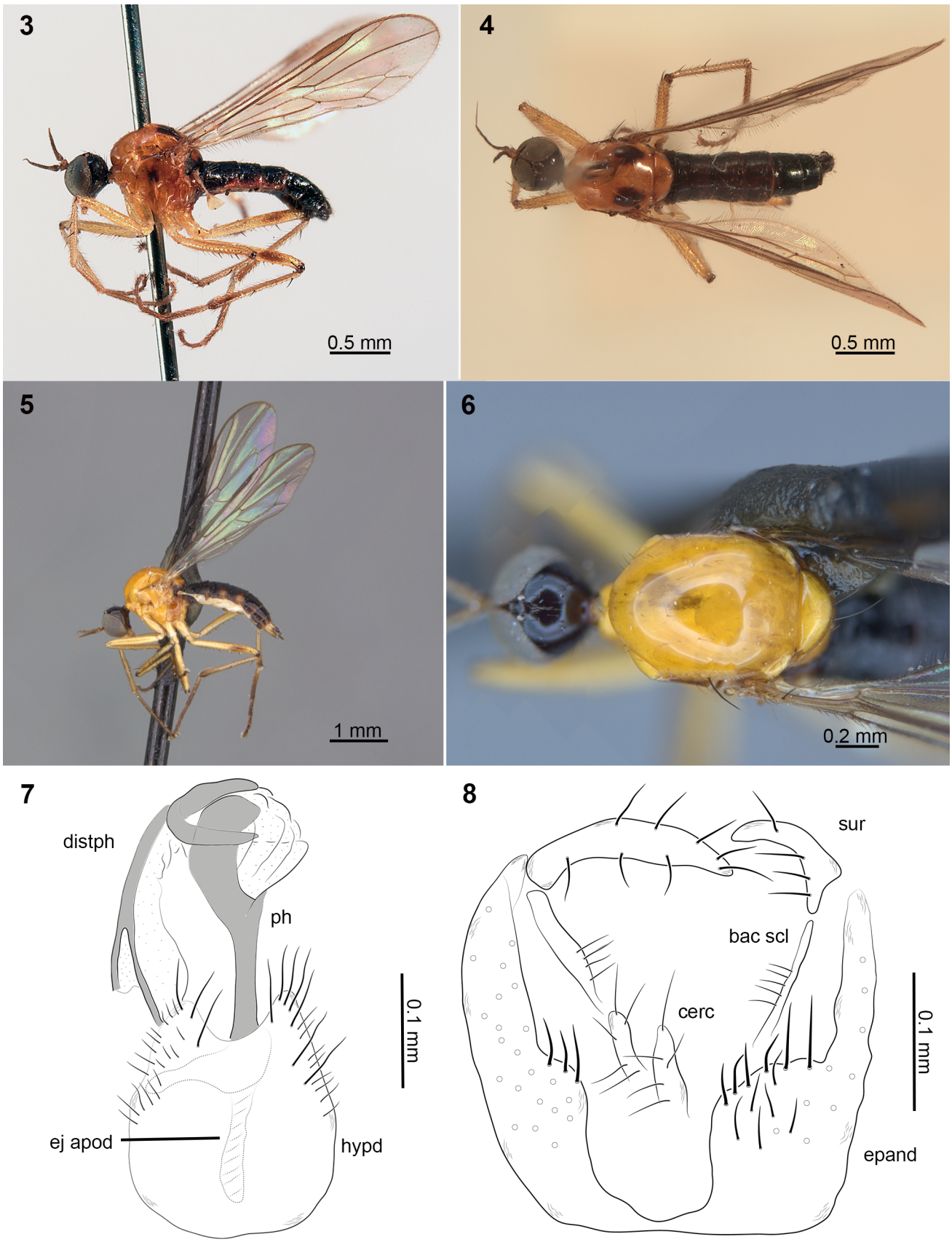
Leptopeza bimaculata Bezzi, 1904: 22. Type locality: Mt. Victoria, NSW.
Leptopeza bimaculata: White, 1916: 242 [redescription]; Smith, 1989: 388 [catalogue].
Leptodromia bimaculata: Sinclair & Cumming, 2000: 181 [new combination]; Yang *et al*., 2007: 330 [catalogue].

Diagnosis. Antenna with postpedicel lengthened, with stylus longer than half length of postpedicel. Scutum orange yellow, with (male) or without (female) pair of dark spots on either side of prescutellar depression; pleura yellow, with (male) or without (female) dark spot or marking on anepisternum, not extending to dorsal margin. Hind femur with brown preapical band. Abdomen black, except pale distal margin of syntergite 1+2 and pale spot on the lateroposterior margins of tergites 3–4, without medial stripe.

Description. Male (Fig. 3). Body length: 3.2 mm. Wing length: 3.5 mm (Fig. 3). **Head.** Ocellar triangle shiny, not protuberant, with 1 pair of ocellar setae proclinate, short and slender. Frons brown with pruinescence on lower half. Face with grey pruinescence. Antenna brown; postpedicel elongate, lanceolate, more than 3 times length of scape and pedicel combined, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, more than half-length of postpedicel. Proboscis brownish; palpus oval, yellow, covered with dense yellow pruinosity and 1 long, slender yellow seta near middle. Occiput shiny black, with small triangular patch of grey pruinescence behind ocellar triangle; two rows of dark setae: 1 row of postoculars shorter and 1 row of occipital setae with lower setae longer. **Thorax.** Prosternum narrow (prosternum not fused to proepisternum and not forming precoxal bridge). Antepronotum orange yellow, with row of short, slender yellow setae. Scutum orange yellow, with pair of dark spots on either side of prescutellar depression (Fig. 4). Scutellum yellow; mediotergite yellow, except lateral margin with dark marking above halter. Pleura yellow, anepisternum with dark spot or marking on posterior half, not extending to dorsal margin. **Wing** (Fig. 3). Broad, membrane hyaline; pterostigma brown, elongated, narrow, situated at apex of cell c. Cell dm more than 3 times longer than wide, M_1 very short, longer than crossvein r-m; M_2 and M_4 reaching wing margin; CuA+CuP evanescent, long, straight, but not reaching wing margin. Halter whitish yellow. **Legs.** Yellow, except joint of mid and hind femora black; hind femur with dark subapical band (Figs 3, 5); tibiae light brown, apex of hind tibia darker; tarsi darker, brown. Fore femur with anteroventral and posteroventral row of slender setae. Mid femur with 1 long, strong preapical anterodorsal seta; setae of anteroventral row stronger and sparser than setae of posteroventral row. Hind femur with 1 long, strong anterodorsal setae near apex; setae of anteroventral row stronger and sparser that setae of posteroventral row, distal most seta stout. Fore tibia with 1 long, strong posterior seta, proximal to middle. Mid tibia with 2 long, strong anterodorsal setae: 1 near base and 1 near middle; 1 long, strong posterodorsal seta near middle; apex with several long, strong ventral setae. Hind tibia with 2 long, strong anterodorsal setae: 1 near base and 1 near middle. **Abdomen** (Figs 3–5). Black, except pale distal margin of syntergite 1+2; tergites 3–4 with yellowish, rounded lateral spot. **Male terminalia** (Figs 7, 8): Hypandrium short, small, slightly narrowing toward apex, with deep concavity in middle on apical margin forming bilobed apex and several short, slender setae. Phallus short, about same length as epandrial lamella; phallic shaft strongly curved near base, cylindrical, without protuberances; apex expanded, cup-like. Articulated distiphallus with long ventral sclerite as long as phallic shaft, with bifid apex; ventral phallic sclerite sickle-shaped, encircling apex of phallic shaft; ejaculatory apodeme one-third length of hypandrium. Epandrial lamella subtriangular, with several short and slender setae on surface, longer on apical margin; right epandrial lamella 1.5 times longer than wide, with several thickened setae on inner margin near cercus; left epandrial lamella 1.5 times longer than wide with slight concavity and expanded section laterodorsally, bearing several thickened setae; dorsal connection between lamellae short and very narrow. Right surstylus longer than left, 3 times longer than wide, apex attenuated; left surstylus shorter than left, strongly bent, with sharp apex; several short, slender setae on both surstyli. Cerci symmetrical short, digitiform-like, weakly sclerotized, covered with short and slender setae. Bacilliform sclerite asymmetrical, with short, slender setae on inner margin. Basal margin of subepandrial sclerite truncate, deeply split forming rounded concavity at middle; hypoproct divided in two small, narrow sclerites. **Female** (Figs 5, 6). Similar to male except, scutum without pair of dark spots; antepisternum with dark spot or marking. **Female terminalia:** not dissected.

Notes on type. Holotype ♂: New South Wales, Mt. Victoria, 10.xi.1900, L. Biró (Bezzi, 1904). All types collected by Biró and studied by Bezzi (1904) were destroyed in the 1956 fire in the Diptera collection of the Hungarian Natural History Museum (L. Papp, pers. comm., 1999). A neotype was not designated because there was no exceptional need as there is little doubt in the identity of the species (see Article 75, ICZN, 1999). A male specimen from Mt. Wilson with database number "K 607764" (AMS) is identified as a good representative of this species.

Material examined. Australia. Australian Capital Territory: Black Mtn, 9.x.1979, Z. Liepa (1 ♂ K 607763, AMS); Canberra, Black Mtn., 35°16'S 149°06'E, 1–15. iv.1999, MT, G. Gibson (1 ♀, CNC). **New South Wales:** Blue Mtns, below Govetts Leap, 7.xii.1956, D.K. McAlpine (1 ♂, 1 ♀ K 607765, AMS); same data except, Mt. Wilson [-33.500, 150.392], 5.xii.1956 (1 ♂, 4 ♀ K 608303, AMS); same data except, 23.xi.1982 (1 ♂ K 607764, AMS); same data except, xii.1997, R. Meier, D. McAlpine (1 ♂ K 608815, AMS); Blue Mtns NP, Blackheath, Grose Gorge, 1.xii.1993, Govett's Ck [33°38'03"S 150°20'03"E], B.J. Sinclair (1 ♀, CNC); Blue Mtns NP, Mt. Wilson, 22.xi.1993, rainfor., Waterfall Ck, B.J. Sinclair (1 ♀, INPA); Brown Mtn [36°35'S 149°23'E], 50 km W Bega, 1100 m, 28.i.1984, L. Masner (1 ♂, CNC); Clyde Mtn [-35.54, 149.95], nr. Braidwood, 2400 ft, 25.ii.1961, D.K. McAlpine (1 ♀ K 603655, AMS); Katoomba [-33.72, 150.31], 21.xii.1950, 20,25.x.1955, 3,15,20,21,29.xii.1956, 23.x.1968, 30.x., 5,13,19,22,28.xi., 5.xii.1960, 15,29.i., 14.xii.1961, 12.x., 6.xi.1962, G.H. Hardy (3 ♂ K 603652, K 607762, K 607731, 20 ♀ K 603638-603651, K 603653, K 603654, K 603657, K 603807, AMS); Kosciuszko NP, Sawpit Ck [-36.34, 148.54], 21.i.1987. G.J.A. Holloway (1 ♀ K 603843, AMS); Paddy's



Figures 3–8. *Leptodromia bimaculata* (Bezzi, 1904) (*3*). Male, lateral habitus; (*4*) Male, dorsal habitus; (*5*) Female, lateral habitus; (*6*) Female, scutum, dorsal view; (*7*) Male terminalia, hypandrium and phallus, ventral view; (*8*) Male terminalia, dorsal view. Abbreviations: *bac scl* = bacilliform sclerite; *cerc* = cercus; *distph* = distiphalus; *ej apod* = ejaculatory apodeme; *epand* = epandrium; *hypd* = hypandrium; *ph* = phallus; *sur* = surstylus.

R., nr. Marulan, 22.iv.1956, D.K. McAlpine (3 ♂ K 608803, AMS); Werrikimbe, 31°15'S 152°14'E, xii.1990, canopy fog, R. Kitching (1 ♀ K 608824, AMS). **Tasmania:** Arve R. Picnic Area, 43.1588°S 146.807°E, 24.x.2019, S.J. Grove (1 ♂, 2 ♀, TMAG); Franklin R. crossing [-42.215, 146.019], Lyell Hwy, 16.i.1960, D.K. McAlpine (1 ♀ K 603656, AMS); Mt. Field NP [42°40'S, 146°42'E], 7.i.1984, L. Masner (1 ♂, CNC); Mt. Field NP, nr. Russell Falls [42°40'S, 146°42'E], 13.i.1960, D.K. McAlpine (1 ♂ K 607715, AMS). **Victoria:** Fernshaw nr. Healesville [-37.62, 145.60], 12.iv.1963, D.K. McAlpine (1 ♀ K 603845, AMS); Grampians NP, Delley's Dell, 4 km SSW Halls Gap, 37°11'S 142°31'E, 30.xi.1992, Moulds, McEvey, McAlpine (1 ♂ K 608310, AMS); Grampians NP, 3 km SW Halls Gap, 30.xi.1992, D.K. McAlpine (1 ♂ K 608312, AMS); Warburton [-37.71, 145.74], 19.i.1966, D.K. McAlpine (1 ♀ K 603844, AMS).

Distribution (Fig. 42). This species is known from southeastern Australia, from northern New South Wales through Victoria at least to the Grampian Mountains, and Tasmania.

Leptodromia castanea

Barros & Sinclair sp. nov.

urn:lsid:zoobank.org:act:4553368A-BCEE-415B-A2E0-AB98C8F52938

Figs 9–10, 42

Diagnosis. Antenna with postpedicel elongate, with stylus longer than half-length of postpedicel. Scutum yellow, with pair of black stripes on prescutellar disc; pleura dark, except proepisternum; scutellum, mediotergite and laterotergite brown. Legs yellow, with brown subapical band on hind femur. Abdomen dark, with yellowish band on posterior margin of tergites, without dark medial stripe.

Description. Holotype male (Fig. 9). Body length: 3.5 mm. Wing length: 3.3 mm. **Head.** Ocellar triangle shiny, not protuberant, with pair of short, slender proclinate ocellar setae and pair of shorter posterior setae. Frons shiny, dark brown with pruinosity on lower half. Face with dense grey microtrichia. Antenna brown, except inner margin of scape and pedicel paler and shiny; postpedicel elongate, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, more than half length of postpedicel. Proboscis yellowish; palpus oval, yellow, covered with dense yellow pruinosity and long, slender yellow setae. Occiput shiny brown (Fig. 10); two rows of short, slender yellow setae, 1 row postoculars and 1 row occipital, lower setae longer. **Thorax.** Antepronotum brown, with row of short, slender yellow setae. Scutum yellow, except for two black stripes on prescutellar disc (Fig. 10). Scutellum brown; mediotergite and laterotergite brown, yellowish above halter. Pleura dark, brown, except proepisternum yellow. **Wing.** Broad, membrane hyaline; pterostigma pale, elongated and narrow, situated at apex of cell c. Cell dm more than 3 times longer than wide; M_1 short, extending less than halfway to wing margin; M_2 and M_4 reaching wing margin; CuA+CuP long, curved, not reaching wing margin. Halter whitish yellow. **Legs.** Yellow, except tarsi brownish, increasingly darker apically. Mid and hind tarsomeres 3–5 slightly broader than fore tarsomeres, ventrally flattened. Hind femur with brown subapical band (Fig. 9). Fore femur with anteroventral row of long slender setae. Mid and hind femora with anteroventral and posteroventral row of pale setae; apex with preapical anterodorsal seta. Mid and hind tibiae with 1 basal anterodorsal seta; mid tibia with 1 anterodorsal and 1 posterodorsal seta near mid-length; hind tibia with 1 anterodorsal seta near mid-length. **Abdomen** (Fig. 9). Brown, posterior margins of tergites with pale band, broader laterally. **Male terminalia:** not dissected. **Female.** Similar to male, except abdominal tergites with pale medial stripe. **Female terminalia:** not dissected.

Type material. Holotype ♂, labelled: "NSW: nr Gloucester Tops [32°04'S 151°35'E]; 14-19-xi-1988/ el.1290m; D.Bickel/ Nothofagus for."; "Australian Museum/ K 603840"; "HOLOTYPE/ *Leptodromia/ castanea/* Barros & Sinclair [red label]" (AMS). Holotype in good condition. **Paratypes: Australia. New South Wales:** same data as holotype (1 ♀ K 603842, AMS).

Distribution. This species is known only from Nothofagus forest above 1200 m on Gloucester Tops, New South Wales (Fig. 42).

Etymology. From Latin "*castaneus*" (brown), in reference to the brown colour of the pleura.

Figures 9–10. *Leptodromia castanea* sp. nov. male holotype. (*9*) Lateral habitus; (*10*) Scutum, dorsal view.

Leptodromia immaculata

Barros, Freitas-Silva & Sinclair sp. nov.

urn:lsid:zoobank.org:act:0FB1A592-0822-45D8-B4BA-10E87DE3E326

Figs 11–21, 42

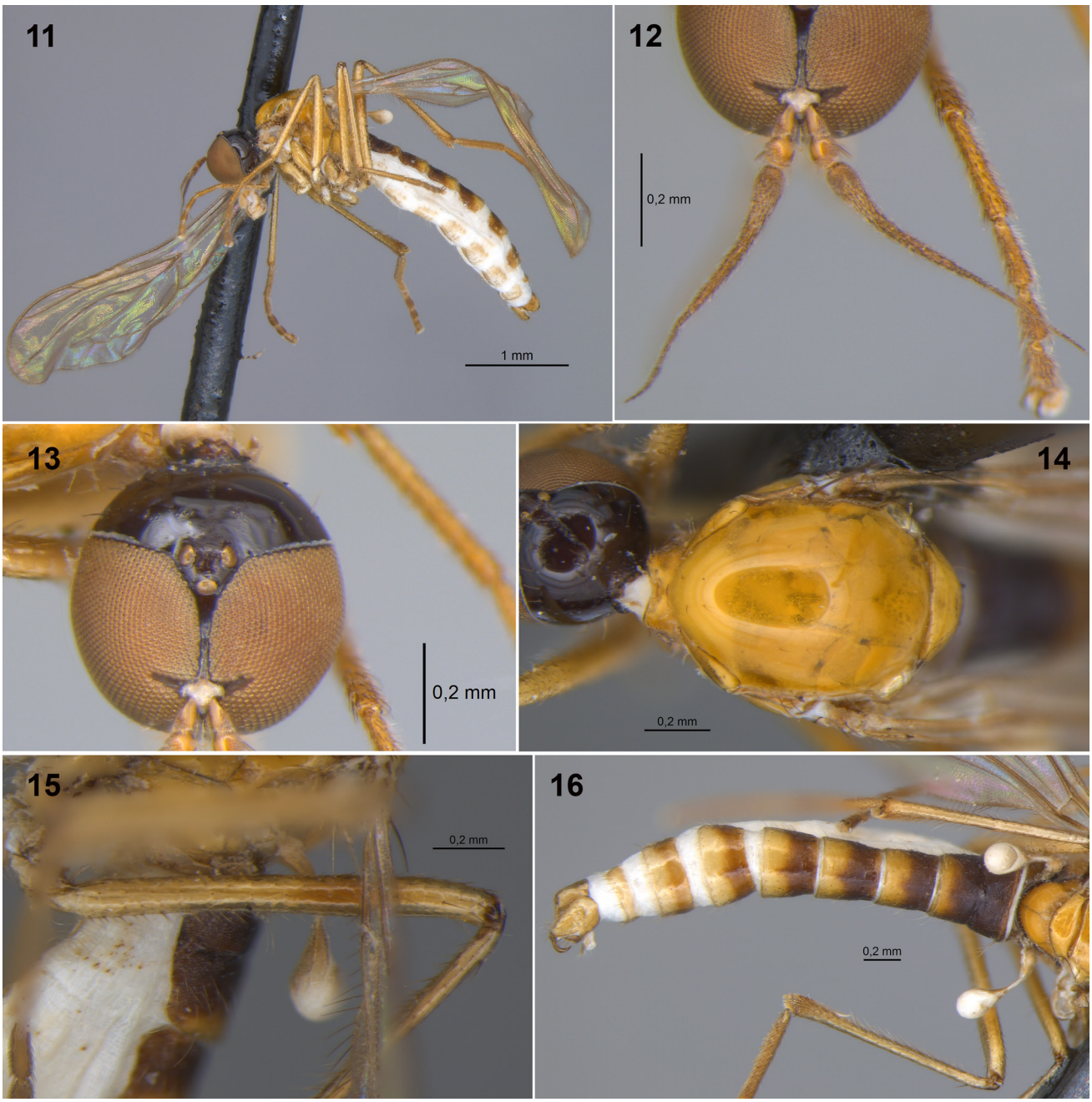
Diagnosis. Antenna brown. Scutum, pleura and mediotergite yellow, dark brown above halter. Legs yellowish, hind femur with brown subapical band on anterior face. Abdomen yellow with broad, brown anterior half with medial extension.

Description. Holotype male (Fig. 11). Body length: 3.5 mm. Wing length: 3.3 mm (Fig. 41). **Head.** Ocellar triangle shiny, with 1 pair of short, slender proclinate ocellar setae. Frons shiny, dark brown with pruinosity on lower half. Face with dense grey pruinescence. Antenna (Fig. 12) brown, except inner margin of scape and pedicel paler and shiny; postpedicel elongate, lanceolate, about 2.5 times length of scape and pedicel combined, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, slightly shorter than length of postpedicel. Proboscis yellow; palpus oval, covered with dense pale pruinosity and 1 long, slender yellow seta near middle. Occiput dark brown, shiny (Figs 13, 14); two rows of short, slender yellow setae, 1 row postoculars and 1 row occipital, lower setae slightly longer. **Thorax.** Prosternum narrow (prosternum is not fused to the proepisternum not forming a precoxal bridge). Antepronotum yellow with row of short, slender yellow setae. Scutum yellow (Fig. 14). Scutellum, mediotergite and pleura yellow with brown spot above halter. Postalar callus with 1 long, strong seta and 1 short, slender anterior setula. **Wing** (Fig. 21). Broad, membrane slightly infuscate; pterostigma brown, elongated, and narrow, situated at apex of cell c. Cell dm approximately 4 times longer than wide, M_1 very short, longer than crossvein r-m, M_2 and M_4 ending at wing margin; cell cua two-thirds length of cell bm. Halter whitish yellow. **Legs.** Slender, yellowish brown, except apex of mid and hind femora black, tarsi slight darker. Mid and hind tarsomeres 3–5 slightly broader than fore tarsomeres, ventrally flattened. Hind femora with brown subapical band on anterior face (Figs 11, 15). Fore femur with row of pale anteroventral setae. Mid femur with row of pale anteroventral setae; 1 long, dark subapical anterodorsal seta. Hind femur with rows anteroventral and posteroventral of pale and slender setae. Fore tibia without outstanding setae. Mid tibia with 2 anterodorsal setae: 1 near base and 1 near mid-length and 1 posterodorsal seta near mid-length; apex of 1 strong anteroventral and 1 strong posteroventral setae. Hind tibia with 2 anterodorsal black and strong setae: 1 near base and 1 near mid-length; apex with 1 strong posteroventral seta. **Abdomen** (Fig. 16). Covered with short, yellow, slender setae. Yellow, with broad brown anterior band on syntergite 1+2 and tergites 6–7, tergite 3–5 with broad anterior band with short medial extension. **Male terminalia** (Figs 17–20): Hypandrium short, small, slightly narrowing toward apex, with deep concavity in middle on apical margin forming bilobed apex and several short, slender setae. Phallus short, about same length as epandrial lamella; phallic shaft strongly curved near base, cylindrical, without protuberances; apex expanded, cup-like. Articulated distiphallus as long as phallic shaft with single dorsal sclerite with bifid apex; ejaculatory apodeme one-third length of hypandrium. Epandrial lamella subtriangular, with several short and slender setae on surface, longer on apical margin; right epandrial lamella 1.5 longer than wide, with several thickened setae on inner margin near cercus; left epandrial lamella 1.5 longer than wide with slight concavity and expanded section laterodorsally, bearing several thickened setae; dorsal connection between lamellae short and very narrow. Right surstylus longer than left, 3x longer than wide, apex attenuated; left surstylus shorter than left, strongly bent, with sharp apex; several short, slender setae on both surstyli. Cerci symmetrical short, digitiform-like, weakly sclerotized, covered with short and slender setae. Bacilliform sclerite asymmetrical, with short, slender setae on inner margin. Basal margin of subepandrial sclerite truncate, deeply split forming rounded concavity at middle; hypoproct divided in two small, narrow sclerites. **Female.** Similar to male, except mid and hind tarsomeres not expanded and flattened. Abdominal tergites 2–6 with dark medial extension. **Female terminalia:** not dissected.

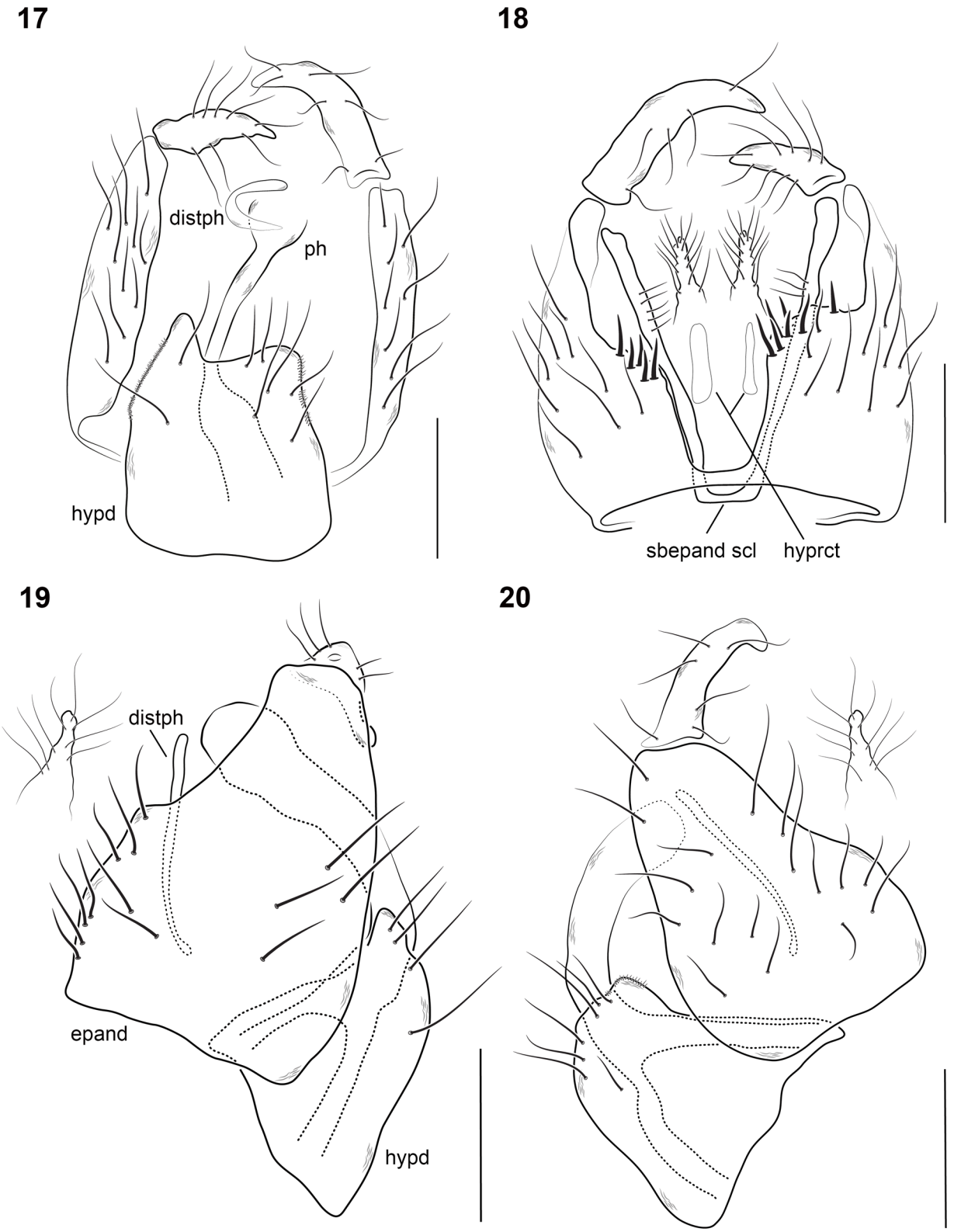
Type material. Holotype ♂, labelled: "Australian Museum/ K 608799"; AUSTRALIA: Tasm. [Tasmania]:/ Mt. Barrow Rd. 890m [41°22'3"S 147°25'50"E]/ 15–17.ii.1980/ Nothofagus, etc./ A. Newton, R. Thayer"; "HOLOTYPE/ *Leptodromia/ immaculata/* Barros, Freitas-Silva & Sinclair [red label]" (AMS). Holotype in good condition. **Paratypes: Australia. Tasmania:** same data as holotype (1 ♂ K 608309, AMS); Arve R., 43°09'S 146°48'E, 3.ii.1983, ypans, I.D. Naumann, J.C. Cardale (1 ♀ K 608801, AMS); Cradle Mtn cpgd, 880 m [41°34'38"S 145°56'6"E], alpine forest, ypans, 20–22. ii.1994, B.J. Sinclair (1 ♂, CNC); Franklin River crossing, Lyell Hwy [-42.215, 146.019], 16.i.1960, D.K. McAlpine (1 ♂ K 608299, AMS); Frodshams Pass [42°49'6"S, 146°23'20"E], nr. Mt. Wedge, 4–5.ii.1989, rainforest, ypans, D.J. Bickel (2 ♂ K 608297, K 608298, AMS); Hartz Mtns [43°14'S, 146°45'E], 800 ft, 20.i.1960, D.K. McAlpine (2 ♂ K 608294, AMS); Hellyer Gorge, 41°16'S 145°37'E, 17.i.1983, ypans, I.D. Naumann, J.C. Cardale (1 ♀ K 608306, AMS); 10 kmS Hellyer River [41°19'S, 145°35'E], 10.i.1984, L. Masner (2 ♂, 1 ♀, CNC; 1 ♂, INPA); Lake St. Clair NP [-42.122, 146.216], 750 m, 12.i.1984, L. Masner (2 ♂, 4 ♀, CNC); Mt. Barrow, 1500 ft, 24.i.1960, D.K. McAlpine (1 ♂ K 608295, AMS); same data except, 3000 ft, 25.i.1960 (1 ♂ K 608296, AMS); Mt. Barrow, 11 km E by N Nunamara, 41°23'S 147°25'E, 30.i.1983, I.D. Naumann, J.C. Cardale (2 ♀ K 608305, K 608304, AMS); Mt. Field NP, 3–16.i.1984, 200 m, L. Masner (7 ♂, 6 ♀, CNC); Mt. Field NP [42°40'S, 146°42'E], riparian veg., 180 m, 18.ii.1994, B.J. Sinclair (1 ♀, CNC); Mt. Field NP, Mariette Falls [-42.71, 146.65], 13.i.1984, L. Masner (2 ♂, 2 ♀, CNC); 5 km SEbyE Redpa, 40°57'S 144°49'E, 18.i.1983, I.D. Naumann, J.C. Cardale (1 ♀ K 608300, AMS); Shoobridge Bend, Mt. Wellington, 42°54'S 147°15'E, 5.ii.1983, I.D. Naumann, J.C. Cardale (1 ♂ K 608302, 1 ♀ K 608301, AMS).

Distribution. This species is known only from Tasmania, where it is widely distributed (Fig. 42).

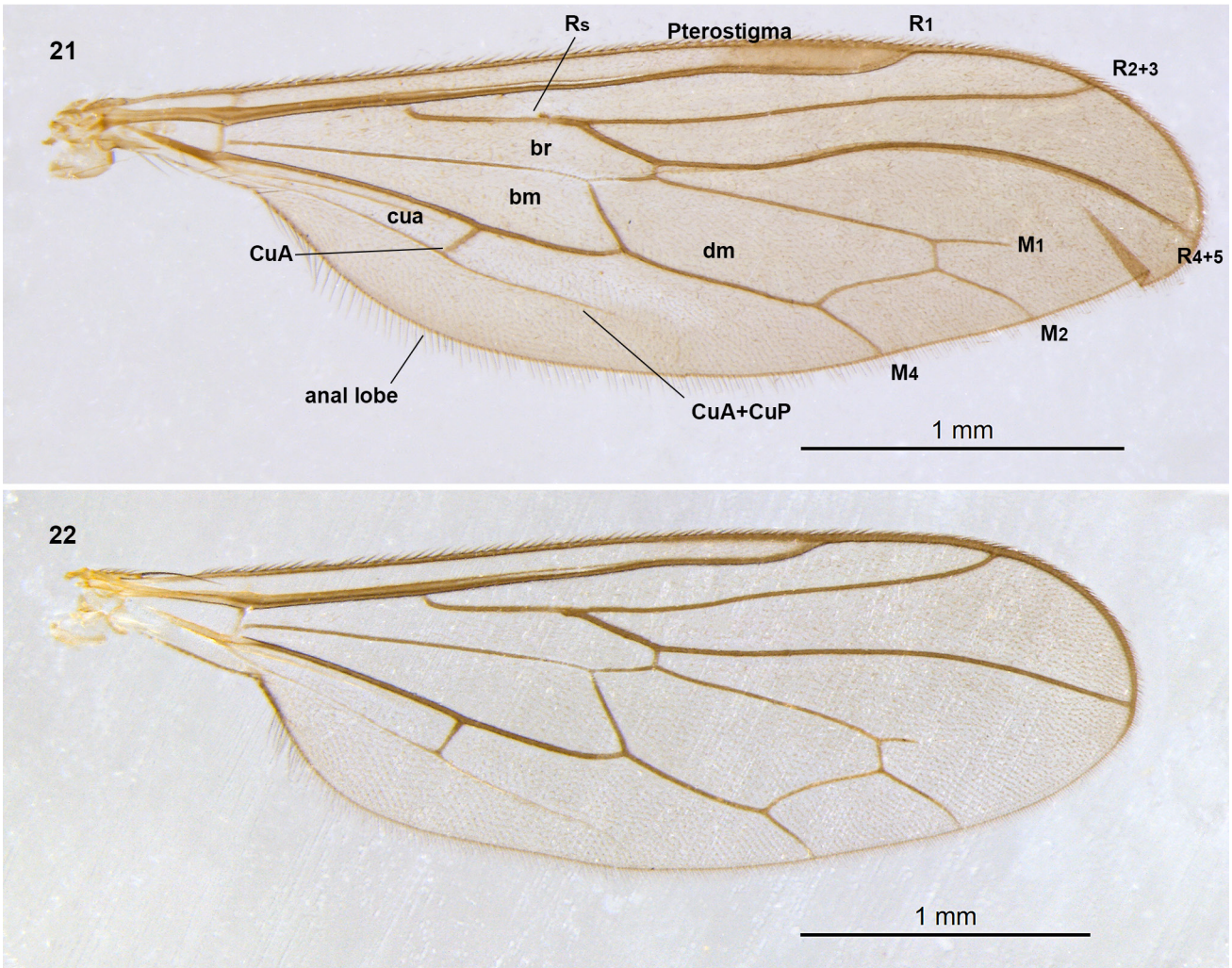
Etymology. From Latin *im* (without) and *macula* (spot), in reference to the absence of a spot on the scutum.



Figures 11–16. *Leptodromia immaculata* sp. nov. (*11*) Male holotype, lateral habitus; (*12*) Male holotype, antenna; (*13*) Male occiput, dorsal view; (*14*) Male scutum, dorsal view; (*15*) Male hind femur, lateral view; (16) Male abdomen, dorsal view.



Figures 17–20. *Leptodromia immaculata* sp. nov., male terminalia (Holotype). (*17*) Ventral view; (*18*) Dorsal view; (*19*) Left lateral view; (*20*) Right lateral view. Abbreviations: *distph* = distiphalus; *epand* = epandrium; *hypd* = hypandrium; *ph* = phallus; *hyprct* = hypoproct; sbepand scl = subepandrial sclerite. Scale bars= 0.1 mm.



Figures 21–22. Wings of *Leptodromia* Sinclair & Cumming, 2000. (*21*) *Leptodromia immaculata* sp. nov.; (*22*) *Leptodromia t-maculatum* sp. nov. Abbreviations: Rs = radial sector; R_1 = anterior branch of radius; R_{2+3} = second branch of radius; R_{4+5} = third branch of radius; M_1 = first branch of media; M_4 = fourth branch of media; CuA+CuP = anterior branch of cubital vein + posterior branch of cubital vein; CuA = anterior branch of cubital vein; br = basal radial cell; bm = basal medial cell; dm = discal medial cell; cua = anterior cubital cell.

Leptodromia lineata

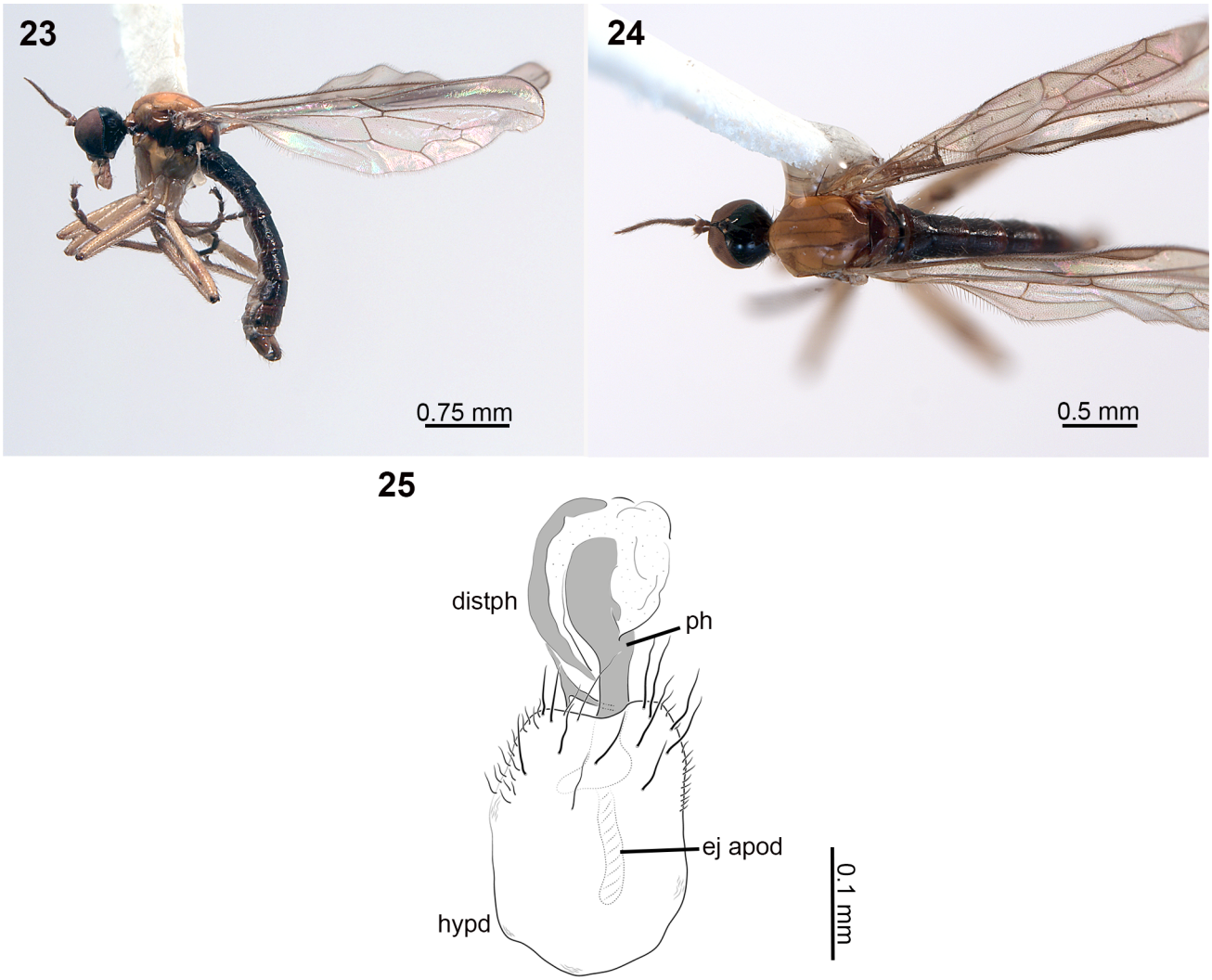
Barros & Sinclair sp. nov.

urn:lsid:zoobank.org:act:B25807CD-FBE4-4188-AA55-71365E4D44C0

Figs 23–25, 42

Diagnosis. Antenna with postpedicel strap-like, longer than height of head, with shorter stylus. Scutum yellow, with or without pair of black spots on prescutellar disc; pleura yellow with dark transverse stripe extending from lateral margin of antepronotum to laterotergite. Legs yellow, except apex of mid and hind femora black, with brown subapical band on hind femur, tarsi slightly darker, light brown. Abdomen dark, without patterned bands.

Description. Holotype male (Fig. 23). Body length: 3.7 mm. Wing length: 4.0 mm. **Head.** Ocellar triangle shiny, not protuberant, with pair of short, slender proclinate ocellar setae and pair of shorter posterior setae. Frons shiny, dark brown with pruinosity on lower half. Face with dense grey microtrichia. Antenna brown, except inner margin of scape and pedicel paler and shiny; postpedicel elongate, strap-like, longer than height of head, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, about one-quarter length of postpedicel. Proboscis yellow; palpus oval, yellow, covered with dense yellow pruinosity and 1 long, slender yellow seta near middle. Occiput shiny brown, with stripe of grey pruinescence extending from ocellar triangle to near antepronotum; two rows of short, slender yellow setae, 1 row postoculars and 1 row occipital, lower setae longer. **Thorax.** Prosternum narrow (prosternum not fused to proepisternum and not forming precoxal bridge). Antepronotum brown (paratypes: yellow, lateral margin brown), with 1 row of short, slender yellow setae. Scutum yellow, except for two small black spots on prescutellar disc (paratypes: variable from small spot to narrow stripe) (Fig. 24). Scutellum brown with pale posterior margin (paratypes: variable from brown to mostly yellow); mediotergite yellow, with brown markings on lateral margin (paratypes: completely brown to mostly yellow). Pleura yellow with brown horizontal stripe extending from lateral margin of antepronotum to laterotergite. **Wing.** Broad, membrane hyaline; pterostigma whitish, elongated



FIGURES 23–25. *Leptodromia lineata* sp. nov., male holotype. (*23*) Lateral habitus; (*24*) Dorsal habitus; (*25*) Hypandrium and phallus, ventral view. Abbreviations: *distph* = distiphalus; *ej apod*= ejaculatory apodeme; *hypd* = hypandrium; *ph* = phallus.

and narrow, situated at apex of cell c. Cell dm more than 3 times longer than wide; M_1 long, extending more than halfway to wing margin; M_2 and M_4 reaching wing margin; CuA+CuP long, curved, not reaching wing margin. Halter whitish yellow. **Legs.** Yellow, except apex of mid and hind femora black, tarsi slightly darker, light brown. Mid and hind tarsomeres 3–5 slightly broader than fore tarsomeres, ventrally flattened. Hind femur with brown subapical band (Fig. 23). Fore femur with anteroventral row of slender setae. Mid and hind femora with anteroventral and posteroventral row of pale setae. Mid and hind tibiae with 1 anterodorsal seta near mid-length. Mid tibia with apex with several long, strong yellow ventral setae; hind tibia with 2 short, strong anteroventral setae at apex. **Abdomen** (Fig. 23). Brown, except posterior margin of tergites 3–6 paler, tergite 7 and 8 light brown. **Male terminalia** (Fig. 25): Hypandrium short, small, slightly narrowing toward apex, with shallow concavity in middle on apical margin forming bilobed apex and several short, slender setae. Phallus short, about same length as epandrial lamella; phallic shaft strongly curved near base, cylindrical, without protuberances; apex expanded, cup-like. Articulated distiphallus as long as phallic shaft, comprising long slender sclerite and long, slender dorsal sclerite with bifid apex; ejaculatory apodeme one-third length of hypandrium. Epandrium, surstylus and cercus as in *L. bimaculata*. **Female.** Similar to male. **Female terminalia:** not dissected.

Type material. Holotype ♂, labelled: "Australian Museum/ K 603837"; [AUSTRALIA] TAS [Tasmania]: Frodshams Pass [42°49'6"S, 146°23'20"E]/ nr.Mt. Wedge; 4–5-ii/ -1989; rainforest/ D. Bickel; yellowpan"; "HOLOTYPE/ *Leptodromia/ lineata/* Barros & Sinclair [red label]" (AMS). Holotype in good condition. **Paratypes:** Australia. Tasmania: same data as holotype (4 ♂ K 603838, K 603839, K 603841, K 608802, AMS); 10 kmS Hellyer River [41°19'S, 145°35'E], 10.i.1984, L. Masner (1 ♀, INPA); Lake St. Clair NP [-42.122, 146.216], 750 m, 12.i.1984, L. Masner (1 ♀, CNC); Lake St. Clair, 750 m, 42°06'S 146°10'E, 25–27.i.1980, Lawrence & Weir (1 ♂ K 608800, AMS). Waratah, 8 km SW, 41°29'04"S, 145°27'41"E, rainforest, pans, 20–21.xii.2003, S.A. Marshall (1 ♂, DEBU).

Etymology. From Latin *linea* (line), in reference to the dark stripe on the pleura.

Distribution. This species is known only from Tasmania (Fig. 42).

Leptodromia nebulosa

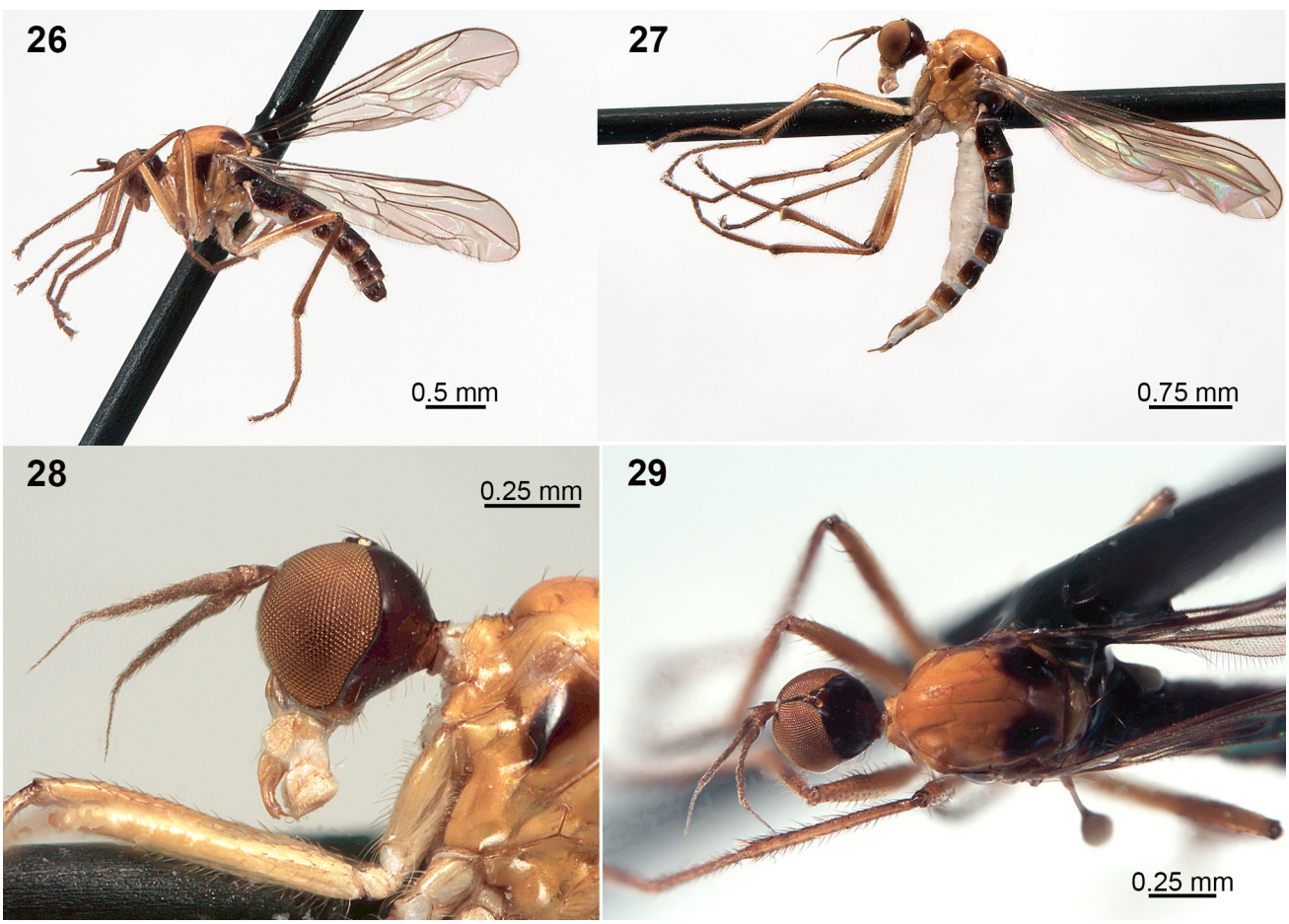
Barros & Sinclair sp. nov.

urn:lsid:zoobank.org:act:0471FBA3-FE9B-4FFE-BD53-652CA8759F2D

Figs 26–29, 42

Diagnosis. Antenna with postpedicel elongate, stylus less than half-length of postpedicel. Scutum yellow, with pair of large rectangular black spots on prescutellar disc; pleura yellow with dark spot of posterior margin of anepisternum extending to dorsal margin. Legs yellow, hind femur with brown subapical band, hind tibia brown. Abdomen dark, with yellow posterior band on tergites, broader laterally, without dark medial stripe.

Description. Holotype male (Fig. 26). Body length: 3.1 mm. Wing length: 3.1 mm. **Head.** Ocellar triangle shiny, not protuberant, with pair of short, slender proclinate ocellar setae and pair of shorter posterior setae [lost on holotype]. Frons shiny, dark brown with pruinosity on lower half. Face with dense grey microtrichia. Antenna (Fig. 28) brown, except inner margin of scape and pedicel paler and shiny; postpedicel elongate, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, about less than half length of postpedicel. Proboscis yellowish; palpus oval, yellow, covered with dense yellow pruinosity and long, slender yellow setae. Occiput shiny brown (Fig. 29); two rows of short, slender yellow setae, 1 row postoculars and 1 row occipital, lower setae longer. **Thorax.** Antepronotum yellow, with row of short, slender yellow setae. Scutum yellow, except for two large rectangular black spots on prescutellar disc (Fig. 29). Scutellum yellow; mediotergite and laterotergite dark, with yellowish medially. Pleura yellow with dark vertical spot on posterior margin of anepisternum, extending to dorsal margin. **Wing.** Broad, membrane hyaline; pterostigma brownish, elongated and narrow, situated at apex of cell c. Cell dm more than 3 times longer than wide; M_1 short, extending less than half way to wing margin; M_2 and M_4 reaching wing margin; CuA+CuP long, curved, not reaching wing margin. Halter whitish yellow. **Legs.** Yellowish, except femora with anterior brown band on apical fourth; apex of mid and hind femora black, tibiae, especially hind tibia and tarsi brownish, increasingly darker apically. Mid and hind tarsomeres 3–5 slightly broader than fore tarsomeres, ventrally flattened. Hind femur with brown subapical band (Figs 26, 27). Fore femur with anteroventral row of long slender setae. Mid and hind femora with anteroventral and posteroventral row of pale setae; apex with preapical anterodorsal seta. Mid and hind tibiae with 1 basal anterodorsal seta; near mid-length with 1 anterodorsal and 1 posterodorsal seta. Mid tibia with long apical posteroventral seta, length nearly twice width of



Figures 26–29. *Leptodromia nebulosa* sp. nov. (*26*) Male holotype, lateral habitus; (*27*) Female paratypes, lateral habitus; (*28*) Female paratype, head, lateral view; (*29*) Male holotype, head and scutum, dorsal view.

tibia. **Abdomen** (Figs 26, 27). Brown, posterior margins of tergites with pale band, broader laterally. **Male terminalia:** not dissected. **Female** (Fig. 27). Similar to male. **Female terminalia:** not dissected.

Type material. Holotype ♂, labelled: "AUSTRALIA: Queensland/ Tully River Falls Road [-17.72, 145.54]/ Misty Mountain Trail/ 12.IX.2004, s.s., Q-11/ L. Masner, rainforest"; "Australian Museum/ K 627872"; "HOLOTYPE/ *Leptodromia/ nebulosa/* Barros & Sinclair [red label]" (AMS). Holotype in good condition. **Paratypes: Australia. Queensland:** same data as holotype, except K 627873 (1 ♀, AMS); 14.7 km up Mt. Lewis Rd, 880 m, 16.iv.1994, cascading creek, 16°30'S 145°17'E, B.J. Sinclair (1 ♀, CNC); Wooroonoonan NP, 17°34'06"S 146°42'21"E, 500 m, 25–26. ix.2004, YPT, rainforest, L. Masner (1 ♀, CNC).

Etymology. From Latin "*nebula*" (mist), in reference to type locality.

Distribution. This species is known only from the Wet Tropics rainforest in northeastern Queensland (Fig. 42).

Leptodromia t-maculatum

Barros, Freitas-Silva & Sinclair sp. nov.

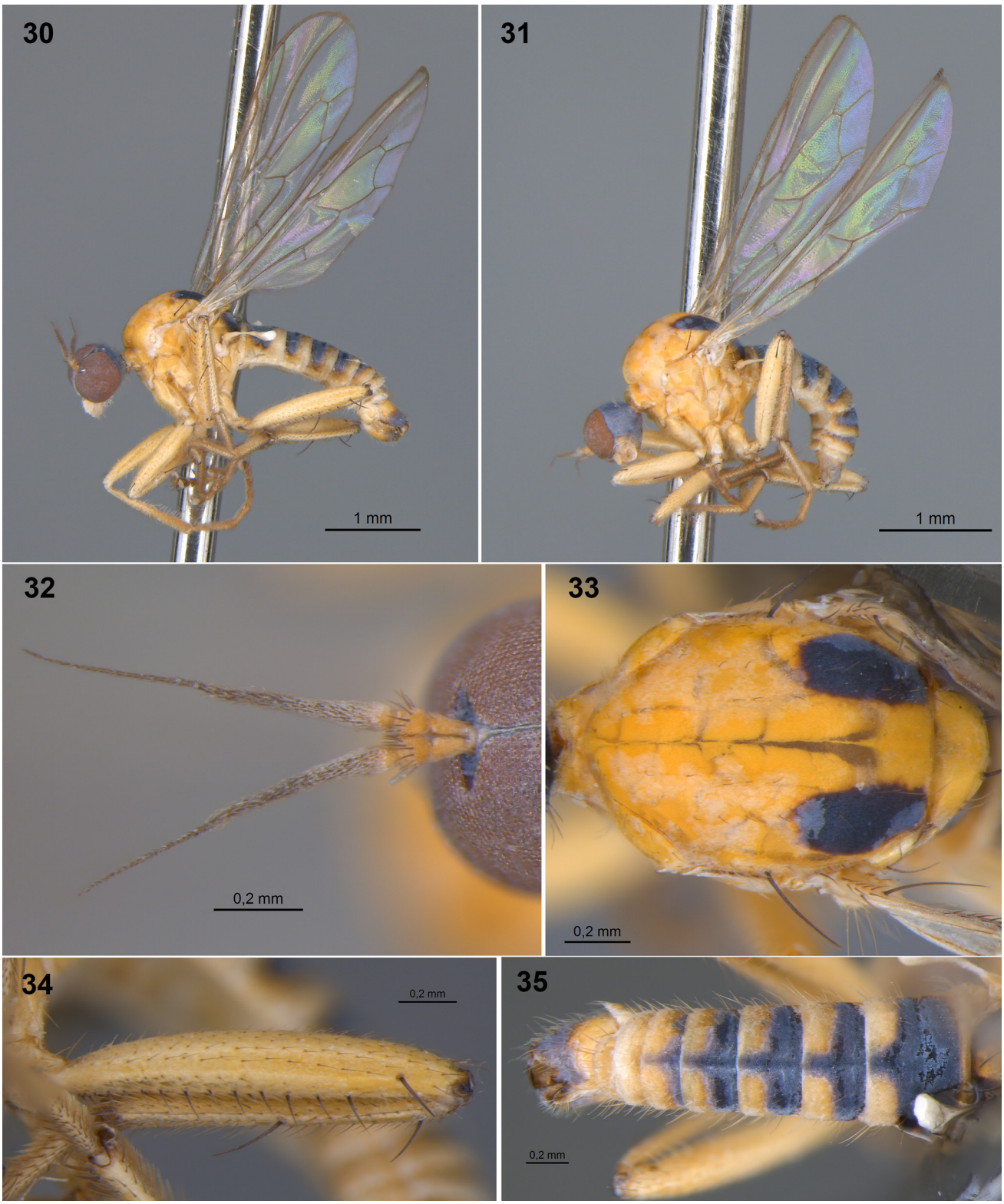
urn:lsid:zoobank.org:act:050E98C3-A78A-4BA2-9043-2D85E59D15AB

Figs 22, 30–42

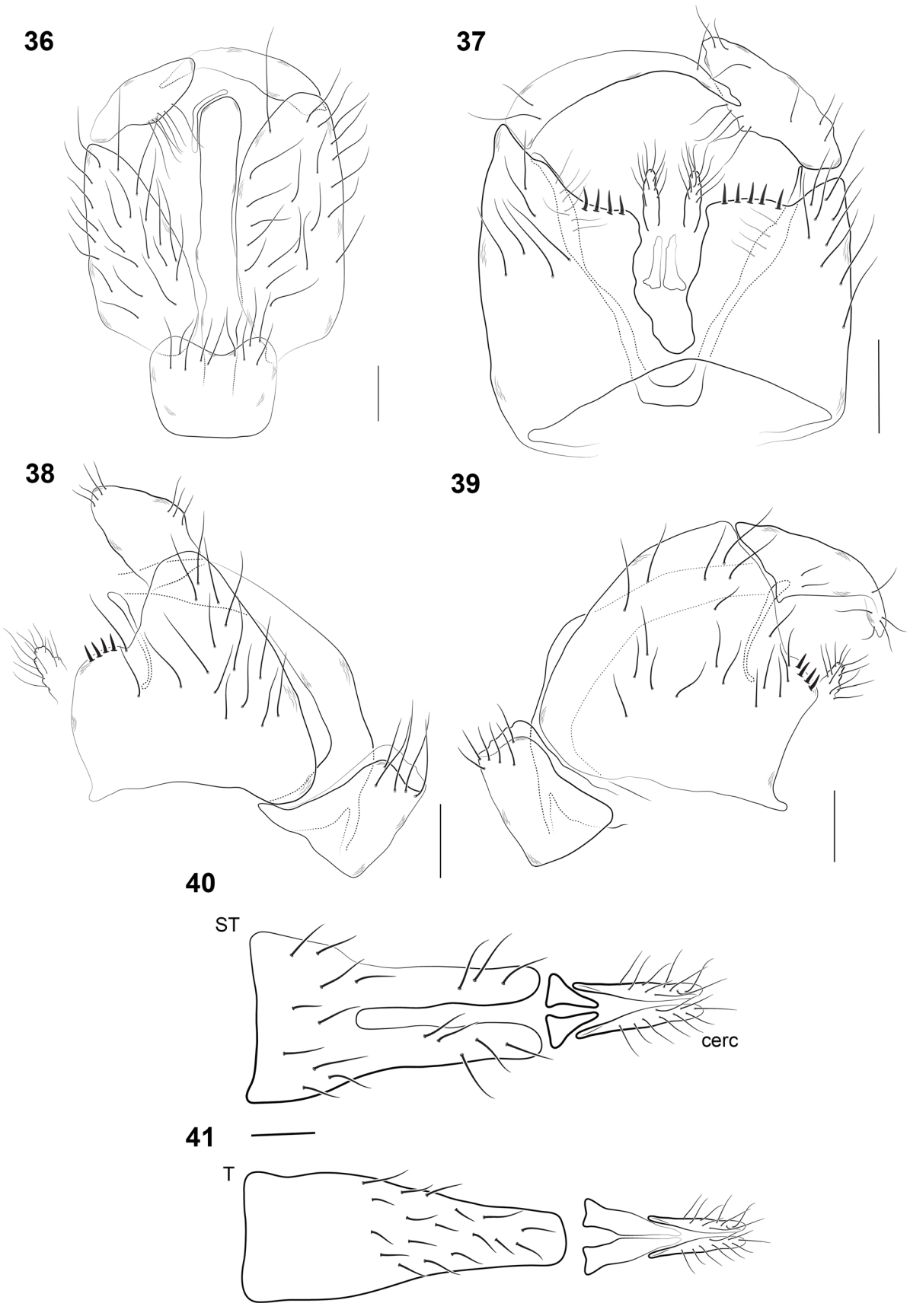
Diagnosis. Antenna brown, except scape, pedicel and base of postpedicel yellow. Scutum orange yellow, except for two black oval spots on prescutellar disc, that reach the scutellum; pleura completely orange yellow, without dark spots or stripes; mediotergite yellow, except by two black, rounded spots on lateral margin. Hind femur yellow, without dark sub apical spot. Abdomen yellow, with black T-shaped pattern on anterior margin of tergites.

Description. Holotype male (Fig. 30). Body length: 3.5 mm. Wing length: 3.5 mm (Fig. 22). **Head.** Ocellar triangle shiny, with 1 pair of ocellar setae proclinate, short and slender. Frons shiny black. Face with dense grey pruinescence. Antenna (Fig. 32) [based mostly on paratypes] brown, except scape, pedicel and base of postpedicel yellow; postpedicel elongate, lanceolate, about 2.5 times length of scape and pedicel combined, covered with dense brown microtrichia; arista-like stylus brown, with microtrichia, about same length as postpedicel. Proboscis yellow; palpus oval, yellow, covered with dense yellow pruinosity and 1 long, slender yellow seta near middle. Occiput shiny black; two rows of long and slender yellow setae, 1 row postoculars and 1 row occipital, lower setae longer. **Thorax.** Prosternum broad (prosternum is fused to the proepisternum forming a precoxal bridge). Antepronotum yellow with 1 row of short, slender yellow setae. Scutum orange yellow, except for two black oval spots on prescutellar disc, reaching scutellum (Fig. 33). Scutellum and mediotergite orange yellow, except two black, rounded spots on lateral margins of mediotergite, fused posteriorly. Pleura orange yellow, without dark spots or stripes. **Wing** (Fig. 22). Broad, membrane hyaline; 1 long, strong, black basal costal seta; pterostigma light brown, elongated and narrow, situated at apex of cell c. Cell dm approximately 2.5 times longer than wide, M_1 very short, longer than crossvein r-m, M_2 and M_4 fading out before wing margin; CuA+CuP evanescent, long, not reaching wing margin. Halter whitish yellow. **Legs.** Yellow, except extreme apex of mid and hind femora black, tarsi slight darker, light brown. Fore and hind femora swollen (Fig. 34). fore femur with 1 long, strong, black posterodorsal preapical seta. Mid femur with row of anterodorsal black setae on apical half, with stronger preapical seta. Hind femur with 1 long, strong, black anterodorsal preapical seta. Mid and hind femora with row of dark anteroventral setae. Fore tibia with long, strong black posteroventral seta proximal to mid-length. Mid tibia with 1 short, strong black anterodorsal seta near base; 1 anterodorsal and 1 posterodorsal long, strong black seta near mid-length; apex with several long, strong yellow ventral setae. Hind tibia with 1 shorter anterodorsal seta near base and 1 longer anterodorsal seta near mid-length; apex with 2 strong, yellow anteroventral setae. **Abdomen** (Fig. 35). Yellow, with black T-shaped marking on anterior margins of syntergite 1+2 and tergites 3–6, covered with short, slender yellow setae, longer on lateral margins. **Male terminalia** (Figs 36–39): Hypandrium short, small and subquadrangular, with slight concavity in middle on apical margin and several long, slender setae. Phallus long, longer than epandrial lamellae; phallic shaft strongly curved near base, cylindrical, without protuberances. Distiphallus articulated to shaft, shorter, with dorsal sclerite ¼ length of phallic shaft, with bifid apex, ventral sclerite straight at the base, curving and encircling apex of phallic shaft; ejaculatory apodeme one-third length of hypandrium. Epandrial lamella broad, subtriangular, with several short, slender setae, longer on apical margin; right epandrial lamella as longer as wide, slightly concave, with small, rounded projection bearing 4 short, strong spine-like setae laterodorsally; left epandrial lamella as long as wide, with deeper concavity and small rounded projection bearing 5 short, strong spine-like setae laterodorsally; dorsal connection between lamellae narrow and short. Right surstylus longer than left, apex tapered, slightly curved toward dorsal margin; left surstylus shorter than left, apex rounded, suboval-shaped, with several short, slender setae on both surstyli. Cerci symmetrical short, suboval, weakly sclerotized, covered with long, slender setae. Bacilliform sclerite asymmetrical, with short, slender setae. Basal margin of subepandrial sclerite deeply split forming rounded concavity near distal margin. Hypoproct fused to subepandrial sclerite, deeply split at middle forming two narrow sclerites. **Female** (Fig. 31). Similar to male. **Female terminalia** (Figs 40, 41): Tergite 8 narrow with deep median concavity on the posterior margin, forming two ramifications narrow; tergite 10 subtriangular and short. Sternite 8 with posterior margin truncated, narrower and unbranched; sternite 10 subtriangular, about half length of tergite 10. Cerci elongate, cylindrical, with long, fine setae.

Type material. Holotype ♂, labelled: "Mt. Toolbrunup [34°23'S 118°02'E], Stirling Ranges/ W.A. [Western Australia] 7 Dec. 1970/ G.A. Holloway/ & H. Hughes"; "Australian Museum/ K 607766" "HOLOTYPE/ *Leptodromia/ t-maculatum/* Barros, Freitas-Silva & Sinclair [red label]" (AMS). Holotype in good condition, except by terminalia dissected and left wing mounted between cover slips. **Paratypes:** Australia. Western Australia: 19 km E Nannup, Karri Gully [-34.007, 115.939], 6.xii.1998, B.J.



Figures 30–35. *Leptodromia t-maculatum* sp. nov. (*30*) Male holotype, lateral habitus; (*31*) Female paratypes, lateral habitus; (*32*) Male holotype, antennae, dorsal view; (*33*) Male holotype, scutum, dorsal view; (*34*) Male holotype. hind femur, lateral view; (*35*) Male holotype, abdomen, dorsal view.



Figures 36–41. *Leptodromia t-maculatum* sp. nov., terminalia. (*36*) Male holotype, ventral view; (*37*) Male holotype, dorsal view; (*38*) Male holotype, left lateral view; (*39*) Male terminalia, right lateral view; (*40*) Female terminalia, ventral view; (*41*) Female terminalia, dorsal view. Abbreviations: *cerc* = cercus; *ST* = sternite; *T* = tergite. Scale bars= 0.1 mm.

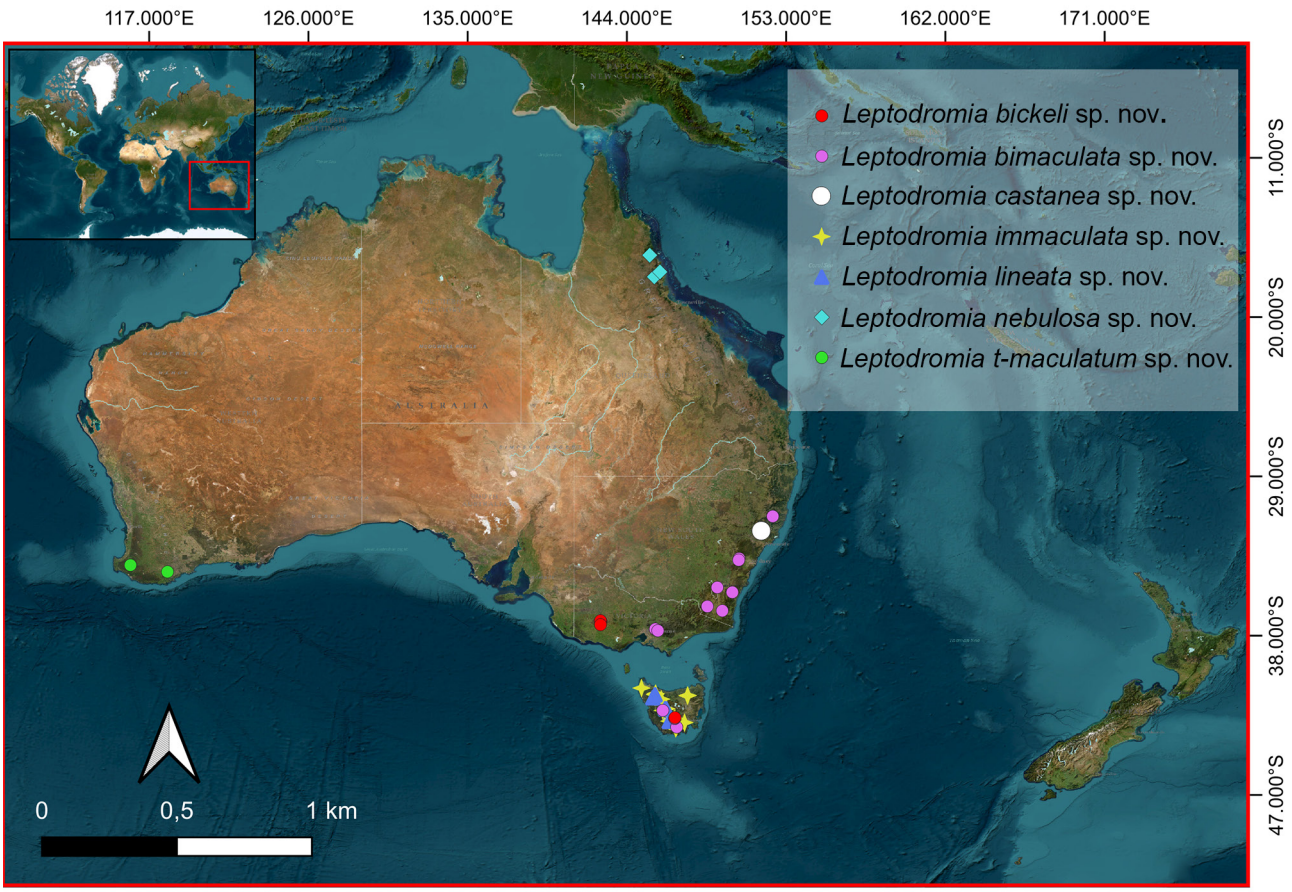


Figure 42. Geographical records of *Leptodromia* Sinclair & Cumming, 2000.

Sinclair (1 ♂, CNC; 1 ♀, INPA).

Etymology. From Latin *macula* (spot), in reference the T-shaped spot on each abdominal tergite.

Distribution. This species is known only from southwestern Western Australia (Fig. 42).

Discussion

Leptodromia is restricted to Australia, being widely distributed in the country (Fig. 42). In the present work, six new species are described in the genus, in addition to the redescription of the type-species, *L. bimaculata*. According to label data, species of *Leptodromia* inhabit humid forests, including temperate and tropical rainforests and wet sclerophyll forests. The overall distribution of the genus is an example of the Bassian faunal region (southeastern Australia, Tasmania and southwestern Australia) with a disjunct species on the tablelands in Northern Queensland (Mackerras, 1960; Nix, 1991). A similar pattern is also displayed by the possibly related Ocydromiine genus *Apterodromia* (Sinclair & Cumming, 2000).

Leptodromia together with *Neotrichina* Sinclair & Cumming, *Apterodromia* and the Andean species *Oropezella abdominalis* Collin, 1933 are the only genera of Ocydromiinae that have three veins arising from the discal cell. However, only in *Neotrichina* and *Apterodromia* do all three veins reach the wing margin, while in *Leptodromia* and *O. abdominalis* vein M_1 is reduced and does not reach the wing margin (Figs 21, 22). In Ocydromiinae, the presence of two medial veins arose independently between genera, and despite the homoplastic loss, it is an important character for generic identification in the subfamily (L. Barros, pers. obs.). The presence of three veins arising from the discal cell is a plesiomorphic character in Hybotidae, being present in groups that are considered more basal in each subfamily, such as *Neotrichina* (Ocydromiinae) and *Stenoproctus* (Hybotinae) (Sinclair & Cumming, 2006).

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