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The Limoniinae (Diptera: Tipulidae) of Australia.

IX. New taxa of *Gynoplistia* MACQUART, *Gonomyia* MEIGEN and *Molophilus* CURTIS

G. THEISCHINGER

Abstract: Eleven species of the genera *Gynoplistia* MACQUART, *Gonomyia* MEIGEN and *Molophilus* CURTIS are described as new. *Bistromolophilus*, a new subgenus of *Molophilus*, is established.

Key words: Limoniinae, new taxa, Australia.

Introduction and methods

The Australian species of *Gynoplistia* MACQUART, *Gonomyia* MEIGEN and *Molophilus* CURTIS were revised by THEISCHINGER (1992b, 1993, 1994b). These revisions were updated by THEISCHINGER (1994a, 1996). Another attempt is made here to update the above work.

Largely the methods used in the revisions and outlined by THEISCHINGER (1992a) are also followed in this paper.

Descriptions

***Gynoplistia* (*Gynoplistia*) *moundi* spec. nov. (Fig. 1)**

Description (♂): Head largely black; rostrum brown; palps dark greyish brown. Antennae with scape, pedicel and base of the two basal flagellomeres brownish yellow, rest dark greyish brown; 18 segmented, formula 2+2+11+3. Thoracic terga dark greyish brown, pleura almost blackish brown. Coxae and trochanters greyish brown; femora largely yellow, with tips (apical 1/6 to 1/5) black; tibiae, tarsi and claws black. Wings subhyaline; large patches distal to arculus, at origin of Rs, across cord (with small pale area in discoidal cell) and across apex (approximately apical 1/7) and a spot in cell A2 brown to black; costal and subcostal cells yellowish brown. Halteres with stem whitish grey, knob greyish brown. Abdomen blackish brown to brownish black with only part of dorsal face of gonocoxites greyish white. Wing length 12.7 mm.

Genitalia: Hypopygium, Fig. 1.

Female unknown.

Remarks: An isolated species; genitalia most similar to the species of the *Gynoplistia* (*G.*) *viridis* group.

Diagnostic characters: Large size; stout blade-like gonostylus of male.

Material examined: Holotype ♂: Lord Howe Island, Erskine Creek, Erskine Valley, 21-22.11.1996 (light), A. Wells and L. A. Mound (ANIC).

Distribution: Lord Howe Island.

Name: Dedication to Dr L.A. Mound.

***Gonomyia* (*Leiponeura*) *austrotropica* spec. nov. (Fig. 2)**

Description: Head largely greyish- to yellowish white, greyish brown along dorsal midline; rostrum and palps brownish grey; antennae largely brownish grey. Thoracic terga largely dark brownish grey, scutum with part of lateral margins yellow, scutellum more or less yellow posteriorly; pleura largely dark brownish grey with broad yellow longitudinal stripe above coxae. Legs yellowish- to brownish grey. Wings largely suffused with brownish grey, somewhat paler along costal margin; halteres pale grey. Abdomen brownish grey, with terminal segments largely greyish yellow. Wing length, male 2.3-2.6 mm, female 3.6-3.8 mm.

Male genitalia: Hypopygium, Fig. 2.

Remarks: A member of the *Gonomyia* (*Leiponeura*) *perssoni* group; closest to *G.* (*L.*) *onya* THEISCHINGER of the Australian species; possibly closer to the extra-limital *G.* (*L.*) *secreta* ALEXANDER.

Diagnostic characters: Male with apex of outer gonostylus distinctly expanded and armed with a spine.

Material examined: Holotype ♂: Queensland, Port Douglas, 3-4.4.1997, G. Theischinger and L. Muller (ANIC). Paratypes: Queensland: 2♂♂, 1♀, same data as holotype (ANIC); 1♂, 1♀, near Bloomfield, 31.3.1997, G. Theischinger and L. Müller (ANIC).

Distribution: Queensland.

Name: Latinized for "from the Australian tropics".

***Gonomyia* (*Leiponeura*) *piscator* spec. nov. (Fig. 3)**

Description (♂): Head largely greyish brown and whitish yellow; rostrum pale; palps grey; antennae with scape pale greyish yellow and pedicel and flagellum greyish brown. Thoracic terga largely greyish brown, whitish yellow along part of lateral and posterior margins of scutum; mediotergite brownish black; pleura largely pale greyish brown, a pale yellow area below wing base. Coxae and trochanters largely greyish brown, other leg segments missing. Wings suffused with pale greyish brown; halteres dull whitish- to pale grey. Abdomen pale greyish brown with hypopygium largely greyish yellow. Wing length 3.4 mm.

Genitalia: Hypopygium, Fig. 3.

Female unknown.

Remarks: Not similar to any known species. Closest to the *G.* (*L.*) *skusei* group.

Diagnostic characters: Male with only one (detectable) pair of gonostyli.

Material examined: Holotype ♂: Queensland, Kearney Falls, Goldborough Valley, 26-27.3.1997, G. Theischinger and L. Müller (ANIC).

Distribution: Queensland.

Name: Piscator = Latin for "fisherman", referring to the fish-hook-like outer gonostylus.

***Molophilus (Austromolophilus) declinatus* spec. nov. (Fig. 4)**

Description (♂): Head pale yellowish brown; palps greyish brown; antennae pale yellowish brown. Thoracic terga and pleura pale yellowish brown. Legs largely pale yellowish brown with tips of tibiae and a subbasal ring of protibia slightly darker, and tarsi and claws greyish- to blackish brown. Wings suffused with pale yellowish brown; halteres with stem yellowish brown and knob whitish yellow. Abdomen pale yellowish- to pale greyish brown. Wing length 4.7 mm.

Genitalia: Hypopygium, Fig. 4.

Female unknown.

Remarks: Similar to *M. (M.) acutistylus* ALEXANDER.

Diagnostic characters (male): Outer branch of inner gonostylus strongly bent at about 2/3 length, its basal section moderately stout and straight, its apical section very thin and slightly spinose.

Material examined: Holotype ♂: Victoria, Native Dog Flat, 6.2.1997, G. Theischinger and L. Müller (ANIC).

Distribution: Victoria.

Name: Declinatus = Latin for "bent".

***Bistromolophilus* subgen. nov. (Fig. 5)**

Type species: *Molophilus dooraganensis* sp. n.

Definition: Male hypopygium with posterior margin of tergum 9 not strongly sclerotized or armed. Dorsal lobe of gonocoxite small and without a dorsal appendage, mesal lobe not developed and ventral lobe rather long, moderately stout, with apex pointing mesad, not hook-shaped; mesodorsal apodeme of gonocoxite not reaching base of tergum 9. Outer gonostylus of normal size and not originating far from base of inner gonostylus which consists of a single branch. Parameres fused.

Remarks: The single-branched inner gonostylus of the male, together with characters closely matching those of *Austromolophilus* THEISCHINGER, are considered diagnostic for *Bistromolophilus*.

Distribution: Australia (eastern).

Species: *Molophilus (Bistromolophilus) dooraganensis* sp. n.

Name: Composition of Bistro (no meaning, similar sound to Austro) and *Molophilus*, referring to the close affinity with *Austromolophilus*.

***Molophilus (Bistromolophilus) dooraganensis* spec. nov. (Fig. 5)**

Description (♂): Head largely yellow, dorsal cone dark grey; palps brownish

grey; antennae with scape yellow, pedicel yellow and brownish grey, and flagellum brownish grey. Thoracic terga largely brownish grey, pale yellow along some of the sutures; pleura dark brownish grey with broad longitudinal stripe. Coxae and trochanters greyish yellow to pale greyish brown; other leg segments missing. Wings largely suffused with yellow and pale yellowish grey, subbasal third and broad area along cord greyish brown; halteres yellowish white. Abdomen brownish grey, only apical 1/2 of gonocoxites greyish yellow. Wing length 3.4 mm.

G e n i t a l i a : Hypopygium, Fig. 5.

F e m a l e unknown.

R e m a r k s : Not similar to any known species.

D i a g n o s t i c c h a r a c t e r s : Male with inner gonostylus consisting of a single branch only; other characters as listed above, under *Bistromolophilus* subgen. nov.

M a t e r i a l e x a m i n e d : Holotype ♂: New South Wales, Dooragan National Park, North Brother Mountain, 450 m, subtropical rainforest, 14-28.1.1999 (malaise trap), G. Williams (ANIC).

D i s t r i b u t i o n : New South Wales.

N a m e : Dooraganensis = Latinized for "from Dooragan (National Park)".

Molophilus (Molophilus) abhorrens spec. nov. (Fig. 6)

D e s c r i p t i o n (♂): Head brownish grey; palps greyish yellow to greyish brown; antennae brownish yellow. Thoracic terga largely brownish grey, scutellum yellowish white; pleura dark yellowish- to greyish brown. Coxae and trochanters greyish- to brownish yellow; other leg segments yellowish- to greyish brown with tips slightly darkened. Wings suffused with pale greyish brown; halteres with stem greyish yellow and knob whitish yellow. Abdomen largely greyish brown, terminal segment greyish yellow. Wing length 5.1 mm.

G e n i t a l i a : Hypopygium, Fig. 6.

F e m a l e unknown.

R e m a r k s : Similar to *M. (M.) horridus* ALEXANDER and *M. (M.) subhorridus* ALEXANDER.

D i a g n o s t i c c h a r a c t e r s (male): Inner gonostylus drawn out into two highly divergent spines; outer gonostylus with prominent subapical tooth and much of inner margin finely crenulated.

M a t e r i a l e x a m i n e d : Holotype ♂: Tasmania (south-east), Hot Springs Creek, 18.2.1999, G. Theischinger (ANIC).

D i s t r i b u t i o n : Tasmania.

N a m e : Abhorrens = Latin for "inappropriate", referring to its similarity with, and differences from, *M. (M.) horridus* AL. and *M. (M.) subhorridus* AL.

Molophilus (Molophilus) errinundra spec. nov. (Fig. 7)

D e s c r i p t i o n : Head including palps and antennae greyish yellow to pale greyish brown. Thoracic terga and pleura pale greyish brown. Legs greyish yellow to greyish brown with tips of femora and tibiae very slightly darkened. Wings suffused with pale

greyish yellow; halteres yellowish grey. Abdomen whitish yellow with terga and sterna greyish yellow. Wing length, male 3.5-4.1 mm, female 3.4 mm.

Male genitalia: Hypopygium, Fig. 7.

Remarks: Similar to *M. (M.) distinctissimus* ALEXANDER.

Diagnostic characters (male): Inner gonostylus very short; outer gonostylus appears twisted, with apical branch long and strongly curved.

Material examined: Holotype ♂: Victoria, Errinundra National Park, Saddle walk, 900 m, cool temperate rainforest, 6.12.1994 (pans), D. Bickel (ANIC). Paratypes: Victoria: 3♂♂, 1♀, same data as holotype (ANIC); 5♂♂, Errinundra Plateau, Result Creek Falls, 900 m, cool rainforest, 6.12.1994 (pans), B. Sinclair (ANIC).

Distribution: Victoria.

Name: After type locality.

***Molophilus (Molophilus) hylandensis* spec. nov. (Fig. 8)**

Description (♂): Head dark brownish grey; palps dark grey; antennae yellowish grey. Thoracic terga largely greyish- to brownish yellow; mediotergite dark brownish grey; pleura dark brownish grey. Coxae and trochanters yellowish- to pale brownish grey; other leg segments missing. Wings suffused with greyish yellow. Abdomen largely dark brownish grey, terminal segment greyish- to brownish yellow. Wing length 3.7 mm.

Genitalia: Hypopygium, Fig. 8.

Female unknown.

Remarks: Similar to *M. (M.) norrisi* THEISCHINGER.

Diagnostic characters (male): Colouration very dark; inner gonostylus very short with apical portion thin and curved medially.

Material examined: Holotype ♂: New South Wales, Mount Hyland Nature Reserve, 1300 m, 18.12.1998, G. and B. Williams and D. Bickel (ANIC).

Distribution: New South Wales.

Name: Hylandensis = Latinized for "from (Mount) Hyland".

***Molophilus (Molophilus) ministylus* spec. nov. (Fig. 9)**

Description (♂): Head including palps and antennae whitish- to pale greyish yellow. Thoracic terga and pleura whitish- to pale greyish yellow. Coxae and trochanters whitish yellow; other leg segments missing. Wings suffused with whitish yellow; halteres whitish yellow. Abdomen pale greyish- to very pale brownish yellow, terminal segment almost white with gonostyli greyish brown to black. Wing length 4.4 mm.

Genitalia: Hypopygium, Fig. 9.

Female unknown.

Remarks: Similar to *M. (M.) duckhousei* THEISCHINGER and *M. (M.) plumbeiceps* ALEXANDER.

Diagnostic characters: Inner gonostylus very short and hook-shaped; parameres wide and profoundly bilobed.

Material examined: Holotype ♂: New South Wales, Watagan State Forest, 5.10.1955, G. Theischinger and L. Müller (ANIC).

Distribution: New South Wales.

Name: *Ministylus* refers to the very small inner gonostylus.

***Molophilus (Molophilus) wataganensis* spec. nov. (Fig. 10)**

Description: Head greyish yellow; palps and antennae yellowish grey to yellowish brown. Thoracic terga and pleura greyish yellow. Legs greyish yellow. Wings suffused with greyish yellow; halteres whitish- to greyish yellow. Abdomen greyish yellow; gonostyli brown to black. Wing length, male 4.6-5.0 mm, female 4.9 mm.

Male genitalia: Hypopygium, Fig. 10.

Remarks: Similar to *M. (M.) mirila* THEISCHINGER.

Diagnostic characters: Inner gonostylus of male long, very thin, spiny and acutely pointed.

Material examined: Holotype ♂: New South Wales, Watagan State Forest, 5.10.1995, G. Theischinger and L. Müller (ANIC). Paratypes: 6♂♂, 1♀, same data as holotype (ANIC).

Distribution: New South Wales.

Name: *Wataganensis* = Latinized for "from Watagan (State Forest)".

***Molophilus (Molophilus) wellsae* spec. nov. (Fig. 11)**

Description: Head including palps largely brownish grey; antennae with scape and pedicel greyish yellow and flagellum pale greyish brown. Thoracic terga yellowish- to greyish brown, a little less than dorsal half of pleura dark greyish brown, rest pale greyish- to brownish yellow. Legs greyish yellow to pale greyish brown with tips of femora and tibiae and a subbasal ring of protibia dark greyish brown; tarsi and claws greyish- to brownish black. Wings slightly suffused with pale greyish brown; halteres whitish- to pale greyish yellow. Abdomen yellowish white with terga dark and sterna pale greyish brown. Wing length, male 5.3-5.4 mm, female 5.2 mm.

Male genitalia: Hypopygium, Fig. 11.

Remarks: Not very similar to any described species; possibly closest to *M. (M.) aphantia* ALEXANDER.

Diagnostic characters: Mesal lobe of male gonocoxite strongly developed, dorsal lobe narrow; ventral lobe unarmed; outer gonostylus very small and simple.

Material examined: Holotype ♂: Lord Howe Island, Soldiers Creek (upper), 24.11.1996 (sweep net), A. Wells and L.A. Mounds (ANIC). Paratypes: Lord Howe Island: 1♀, same data as holotype (ANIC); 1♂, Soldiers Creek (lower), 20-24.11.1996 (yellow pan), A. Wells and L.A. Mounds (ANIC).

Distribution: Lord Howe Island.

Name: Dedication to Dr A. Wells.

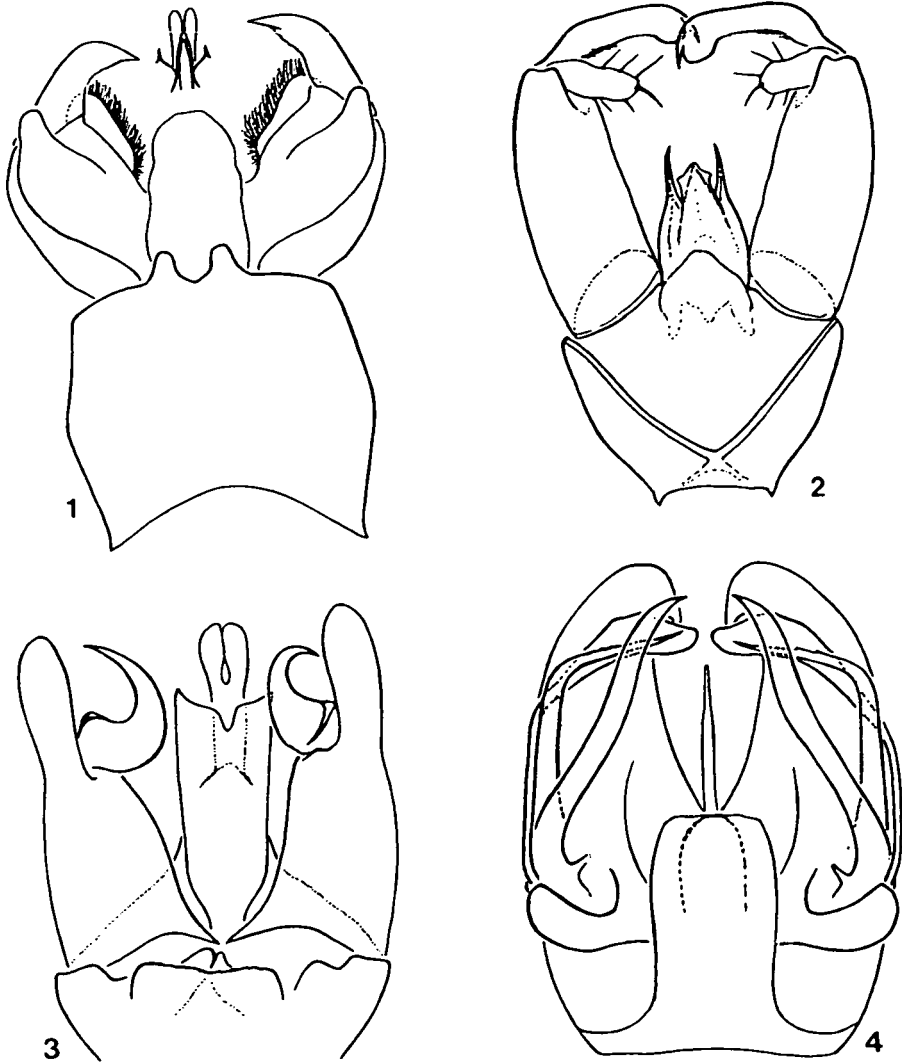
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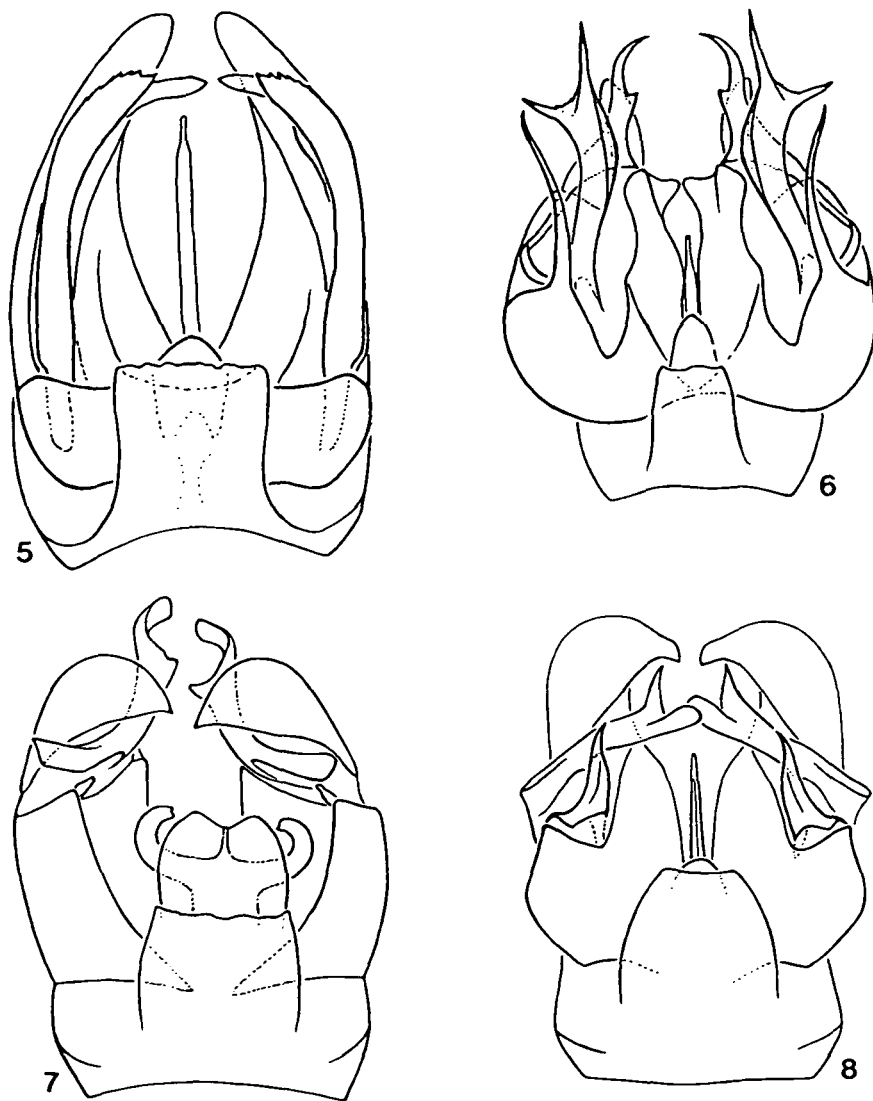
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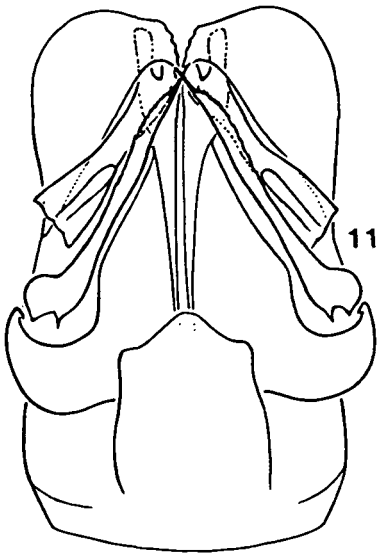
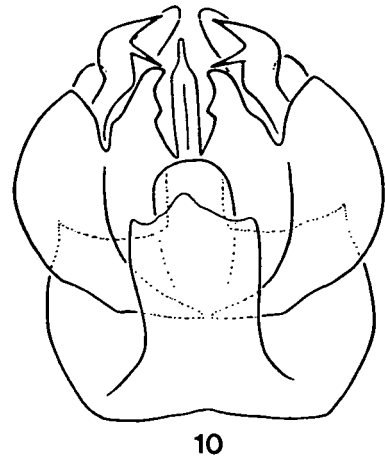
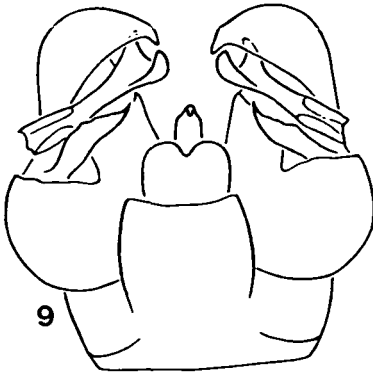
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Figs 1-4: Male hypopygium, dorsal aspect, of: 1 – *Gynoplistia (Gynoplistia) moundi* sp. n.; 2 – *Gonomyia (Leiponeura) austrotropica* sp. n.; 3 – *G. (L.) piscator* sp. n.; 4 – *Molophilus (Austromolophilus) declinatus* sp. n.



Figs 5-8: Male hypopygium, dorsal aspect, of: 5 – *Molophilus* (*Bistromolophilus*) *dooraganensis* sp. n.; 6 – *Molophilus* (*Molophilus*) *abhorrens* sp. n.; 7 – *M. (M.) errinundra* sp. n.; 8 – *M. (M.) hylandensis* sp. n.



Figs 9–11: Male hypopygium, dorsal aspect, of: 9 – *Molophilus (Molophilus) ministylus* sp. n.; 10 – *M. (M.) wataganensis* sp. n.; 11 – *M. (M.) wellsae* sp. n.

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