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**LYRIOMOLOPHILUS, A NEW SUBGENUS OF *MOLOPHILUS* CURTIS, FROM AUSTRALIA
AND ITS SPECIES (INSECTA: DIPTERA: TIPULIDAE:
LIMONIINAE: ERIOPTERINI)**

G. Theischinger, Engadine

A b s t r a c t : *Lyriomolophilus*, a new subgenus of *Molophilus* CURTIS, is established for the species close to and including *M. lyratus* ALEXANDER from Australia. Information available on the four previously described species of the group is presented, and five species are described as new.

Introduction

As mentioned in the previous article (THEISCHINGER 1988), there is still much work to be done before the identities of the Australian, particularly the south-eastern Australian, species of *Molophilus* can be considered as clear. Several species, however, close to and including *Molophilus lyratus* ALEXANDER, are extremely distinct morphologically (ALEXANDER 1927, 1931, 1934) from other *Molophilus*, and the identities of the four hitherto described species of the group can be interpreted already. As several of the characters common to all members of the *M. lyratus* group are considered apomorphic, a new subgenus is established for this group. Beyond that a survey of the now available species is presented.

Acknowledgements

I wish to thank Dr D.H. Colless and Dr I.F.B. Common (Canberra), Mr L. Müller (Sydney), Dr A. Neboiss (Melbourne) and Dr W.N. Mathis and Dr H.B. Williams (Washington D.C.) for supporting this study by collecting specimens and by the loan of material in their care.

Material and Methods

For this study material was made available from the Australian National Insect Collection (ANIC) in Canberra, from the Museum of Victoria (MV) in Melbourne, from my own collection (GT) and from the Smithsonian Institution in Washington D.C. (SIW). Descriptions of colours had to be done from variously preserved material (fresh, old, dry, in alcohol) and may therefore be inconsistent. The description of genitalic features is based on material cleared in KOH and displayed and preserved in glycerol. The hypopygium of all species of *Lyriomolophilus* is naturally rotated through 180°. In descriptions and figure captions terms as "dorsal" and "ventral" relate to the hypopygium only, and not to the entire insect.

Lyriomolophilus subgen.nov.

Molophilus gracilis group, *M. ruficollis* subgroup, sensu ALEXANDER.

Molophilus (*Molophilus*) *lyratus* group THEISCHINGER 1988.

Type species: *Molophilus buckenbowra* spec.nov.

Definition. Male genitalia: tergite 9 strongly developed, trapezoid; meso-dorsal apodemes of basistyles very long and strongly arched, leaving room for a very extensive, long and widely forked phallosomic structure; basistyles as a whole long and slender, dorsal lobe little developed, more or less a rounded corner, mesal lobe not developed, ventral lobe strongly developed with rounded or hook-shaped apex; phallosomic structure lyriform, the two arms positioned largely dorsal to basistyles; dististyles articulating rather far from the base of basistyles, originating close together, the outer dististyle with a very thin base; aedeagus long, slender, conical.

Remarks. The specific development and position of the phallosomic structure, together with the unusually long and arched mesodorsal apodemes of the basistyles, and the shape of the outer dististyles is considered apomorphic and diagnostic for *Lyriomolophilus*.

Name. The subgeneric name is a combination of *lyrion* (=Greek: small lyra) and *Molophilus*, referring to the unusual shape of the phallosomic structure in this group of species.

Molophilus (Lyriomolophilus) barina spec.nov.

(Fig. 1)

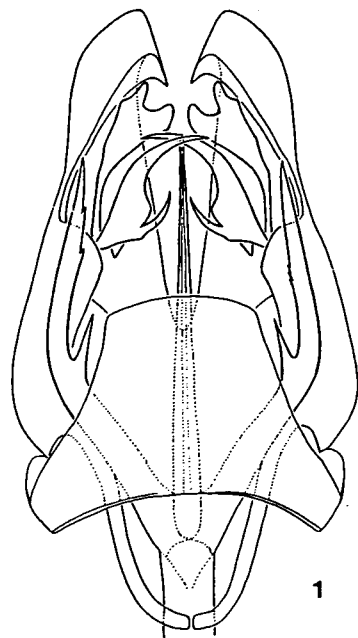
D e s c r i p t i o n (♂). Colouration: largely dark yellowish to pale reddish or greyish brown; a large patch ventral to mesonotum, wing bases and halteres whitish yellow.

Genitalia: tergite 9 rather long, apically about half as wide as basally; basistyles with apex strongly bowed mediad, hook-shaped, pointed; outer dististyles forked apically, mesal arm markedly stouter than lateral arm; inner dististyles evenly bowed mediad, at base wide and with evenly bowed spine, apically narrow, pointed; both arms of phallosomic structure with short, pointed mesal branch at about midlength and with a few appressed teeth along mesal face in distal third.

Dimensions: wing length 7,1 mm.

M a t e r i a l e x a m i n e d. Holotype ♂: New South Wales, Mt Kosciusko, 10.2.1980, G. Theischinger (ANIC).

Name. Barina is the Australian Aboriginal word for summit; it refers to the type locality and should be regarded as an undeclinable noun in apposition to the generic name.



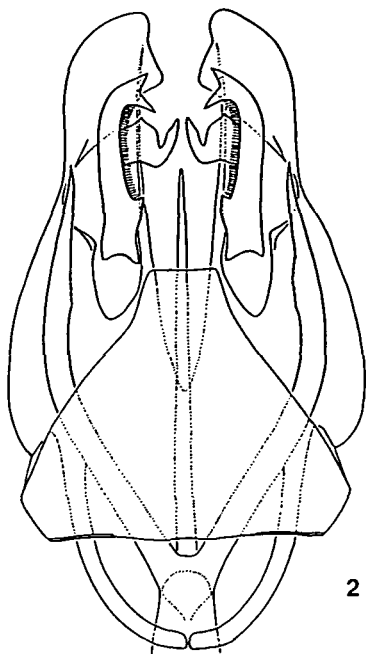
Molophilus (L.) barina
spec.nov. - male genitalia, dorsal aspect

Molophilus (Lyriomolophilus) buckenbowra spec.nov.

(Fig. 2)

D e s c r i p t i o n. Colouration: almost uniformly pale brownish to greyish yellow, only the femora somewhat darkened apically and a markedly

darker subbasal ring on protibia of male; phallosomic structure and dististyles black.



Molophilus (L.) *buckenbowra*
spec.nov. - male genitalia,
dorsal aspect

Male genitalia: tergite 9 long, basally more than four times as wide as apically; basistyles with apex strongly bowed mediad, obtuse, slightly bilobed; outer dististyles with slender finger-shaped mesal arm and broad trapezoid lateral lobe; inner dististyles largely almost straight, with base expanded mediad and ending in a small, about right-angled corner, and apex bowed mediad and bifid; between base and apex densely set with spinous pegs; both arms of phallosomic structure with a series of acute, nearly appressed teeth along mesal face at about four fifths length.

Female genitalia: cerci and sternal valves very long and thin.

Dimensions: wing length, male 5,0-6,0 mm, female 6,0 mm.

M a t e r i a l e x a m i n e d . Holotype ♂: New South Wales, Buckenbowra River, 35°47'S/151°01'E, 14 km W Batemans Bay, 26.-27.4.1986, at light, G. Theischinger (ANIC). Paratypes: 17 ♂, 1 ♀, same data as holotype (ANIC, GT).

Distribution. New South Wales.

Name. This species is named after its type locality; buckenbowra should be regarded as an undeclinable noun in apposition to the generic name.

***Molophilus* (*Lyriomolophilus*) *collessi* THEISCHINGER**

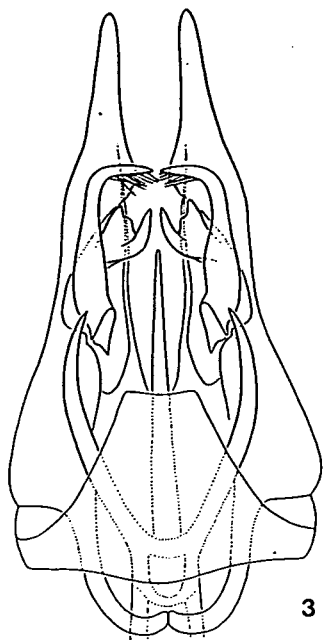
(Fig. 3)

Molophilus (*Molophilus*) *collessi* THEISCHINGER 1988: 177-178.

Primary type. Holotype ♂: Queensland, 17°02'S/145°37'E, 3 km N by E of Mt Tip Tree, 20.10.1980, at light, D.H. Colless (ANIC).

Remarks. *M. (L.) collessi* is known from the holotype only.

Distribution. Queensland.



Molophilus (L.) collessi THEISCHINGER -
male genitalia, dorsal aspect

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Molophilus (Lyriomolophilus) gingera spec.nov.

(Fig. 4)

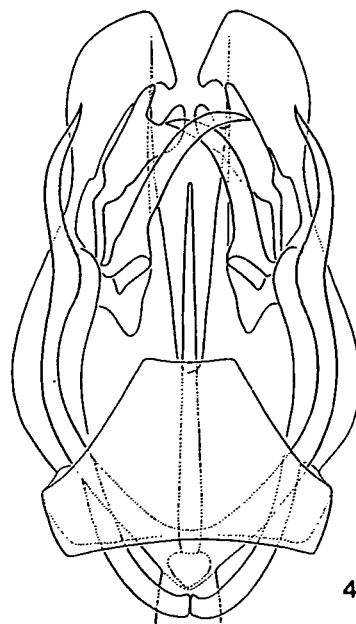
Description (♂). Colouration: almost entirely dark brownish grey, with legs even darker; a large patch ventral to mesonotum, wing bases and halteres pale to dull yellow.

Genitalia: tergite 9 apically less than half as wide as basally; basistyles with apex strongly bowed mediad, hook-shaped but not pointed; outer dististyles apically forked, the mesal arm somewhat stouter than the slightly longer lateral arm; inner dististyles horn-shaped, base somewhat enlarged, basal half straight, distal half widely and evenly arched mediad; phallosomic structure with the two arms simple, sinuous, a series of small, acute, nearly appressed teeth along mesal face at about four fifths length.

Dimensions: wing length 5,8 mm.

Material examined. Holotype ♂: Australian Capital Territory, Mt Gingera, 11.1. 1967, D.H. Colless (ANIC).

Distribution. New South Wales.



4

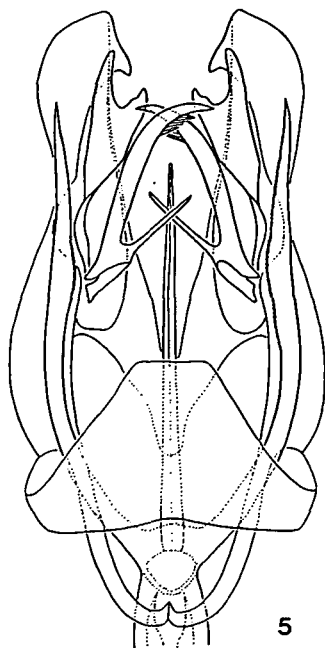
Molophilus (L.) gingera
spec.nov. - male genitalia,
dorsal aspect

Name. This species is named after its type locality; gingera should be considered as an undeclinable noun in apposition to the generic name.

Molophilus (Lyriomolophilus) keira spec.nov.

(Fig. 5)

Description. Colouration: largely brownish grey, only along lateral margin ventral to mesonotum whitish yellow; wing bases and halteres yellow; antennae and legs greyish to blackish brown.



Male genitalia: tergite 9 rather short, basally more than three times as wide as apically; basistyles with apex strongly bowed mediad, truncate and only slightly hook-shaped; outer dististyles apically forked, mesal arm distinctly shorter than lateral arm; inner dististyles slim, horn-shaped, basal two thirds straight, distal third widely and evenly arched mediad and set with long bristles, at the base a long thin spine pointing mesoposteriorly; distal half of both arms of phallosomic structure set with a long series of small appressed teeth along mesal face.

Female genitalia: cerci and sternal valves very long and thin.

Dimensions: wing length, male 4,5-5,3 mm, female 5,3 mm.

Molophilus (L.) keira
spec.nov. - male ge-
nitalia, dorsal
aspect

Material examined. Holotype ♂: New South Wales, Mt Keira, 7.3.1967, I.F.B. Common (ANIC).

Paratypes: 2 ♂, 1 ♀, New South Wales, Kanangra Brook,

12.2.1988, G. Theischinger and L. Müller (ANIC, GT).

Distribution. New South Wales.

Name. This species is named after its type locality; keira should be considered as an undeclinable noun in apposition to the generic name.

Molophilus (Lyriomolophilus) lyratus ALEXANDER

Molophilus lyratus ALEXANDER 1927: 184.

Primary type. Holotype ♂: Tasmania, Hobart, 13.1.1923, A. Tonnoir (ANIC).

Remarks. *M. lyratus* is known from the holotype only; the genitalia of the holotype are missing. The species was never illustrated. From ALEXANDER's (1927) description it appears that unarmed basistyles, a completely smooth and simply forked phallosomic structure and inner dististyles similar to those of *M. buckenbowra* spec.nov., but with subbasal spine directed toward the apex, are diagnostic for *M. lyratus*.

M a t e r i a l e x a m i n e d . Holotype.

Distribution. Tasmania.

***Molophilus (Lyriomolophilus) neboissi* spec.nov.**

(Fig. 6)

D e s c r i p t i o n (♂). Colouration: head, thorax including coxae, trochanters, wing bases and halteres, and hypopygium largely bright yellow; palps, antennae, wings, legs, abdominal segments 1-8 and dististyles yellowish to blackish brown; phallosomic structure black.

Genitalia: tergite 9 rather short, apically almost half as wide as basally; basistyles with apex strongly bowed mediad and widely rounded; outer dististyles apically trifid, with moderately slim mesal arm, pointed subtriangular lateral arm and obtuse subtriangular lobe in between; inner dististyles horn-shaped, somewhat enlarged near base, then conical, largely straight, only distal fifth evenly bowed mediad and set with long bristles; both arms of phallosomic structure with several large spines along lateral face in distal half.

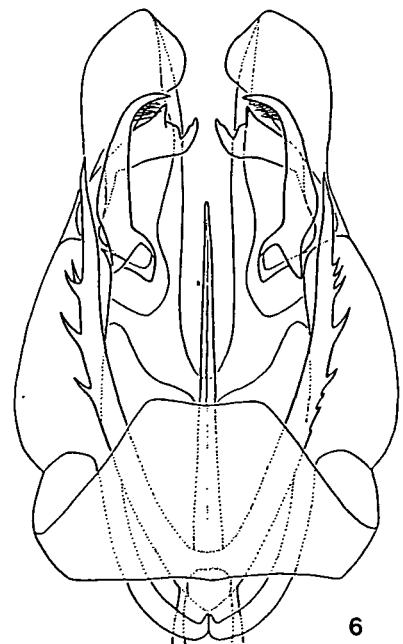
Dimensions: wing length 6,6-7.0 mm.

M a t e r i a l e x a m i n e d . Holotype

♂: Victoria, Tanjil River, 5 km N of Moe, 6.10. 1987, A. Neboiss (MV). Paratype: 1 ♂, same data as holotype (GT).

Distribution. Victoria.

Name. This species is dedicated to Dr A. Neboiss, in recognition of the contribution made by his extensive collecting of Australian Tipulidae and of the encouragement he has given me.



Molophilus (L.) neboissi
spec.nov. - male genitalia,
dorsal aspect

***Molophilus (Lyriomolophilus) neolyratus* ALEXANDER**

(Fig. 7)

Molophilus neolyratus ALEXANDER 1934: 185.

Primary type. Holotype ♂: New South Wales, Wentworth Falls, Blue Mts, 2840 ft, 20.-30.10.1930, F.E. Wilson (MV; parts in SIW).



Remarks. *M. neolyratus* is known from the holotype only. From the holotype and from Alexander's (1934) description and illustration it appears that the diagnostic characters of *M. neolyratus* are weakly hooked basistyles, a completely smooth and simply forked phallosomic structure, outer dististyles with shorter mesal and longer stouter lateral arm, and evenly curved inner dististyles with significantly expanded base.

Material examined. Holotype. Distribution. New South Wales.

M. (L.) neolyratus ALEXANDER
male genitalia, dorsal
aspect (simplified from
ALEXANDER 1934)

***Molophilus (Lyriomolophilus) sublyratus* ALEXANDER**

Molophilus sublyratus ALEXANDER 1931: 339.

Primary type. Holotype ♂: Victoria, Ben Cairn, near Millgrove, in beech gully, 2900-3200 ft, 9.2.1929, F.E. Wilson (MV).

Remarks. *M. sublyratus* is known from the type locality and from Healesville and Beenak, both in Victoria. Illustrations of the species do not exist. From ALEXANDER's (1931) description it appears that basistyles terminating in a small fleshy lobe, inner dististyles with inner margin expanded into a flange, and a phallosomic structure with the arms nearly straight and the mesal margin of each arm at near midlength with a series of acute, nearly appressed teeth, are diagnostic for *M. sublyratus*.

Material examined. None.

Distribution. Victoria.

Zusammenfassung

Lyriomolophilus, eine neue Untergattung von *Molophilus* CURTIS, wird aufgestellt für *M. lyratus* ALEXANDER und die ihm nahestehenden Arten von Australien. Information über die vier bisher bekannten Arten der Gruppe wird geboten, und fünf Arten werden als neu beschrieben.

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