

## The Males of *Rhynchomicropteron* (Diptera: Phoridae)

by

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The genus *Rhynchomicropteron* Annandal (1912) has distinctive, myrmecophilous, flightless females. The females of the 17 Oriental species are keyed by Disney & Kistner (1998), supplemented by Disney (1999, 2010). Until Brown (1992) reared *R. nudiventer* Papp in Thailand, the males had been assigned to the genus *Gymmoselia* Schmitz (1927). This ‘genus’ contained the type species, *R. curvescens* (Schmitz 1927) and *R. nudicosta* (Brues 1907). Neither of these have been linked to their females. Recently Lengyel (2011) has described both sexes of a species from Israel, and reported the presence of this genus in Africa and Australia. The males remain poorly known. The purpose of this paper is to provide a key to the known males, even though most remain unknown and some are given code numbers only until they can be linked to their females.

An initial impediment has been the recognition of Schmitz’s species, *R. curvescens*. Subsequent to his initial description, Schmitz (1929) provided a more detailed description in which he included the statement that its palps are dark brown (‘dunkelbraun’). However, all the males I have examined, and *R. nudicosta*, have dusky yellow or yellow palps. In view of this I have borrowed its holotype of *R. curvescens*, kindly loaned by Dr Thomas Pape (Natural History Museum of Denmark, Copenhagen). I have remounted it on a slide. Its palps are clearly not dark brown, but are a slightly dusky yellow.

The females of the *R. nudiventer* are largely recognised from negative characters. Furthermore it is the most widely distributed species and is somewhat variable. It may prove to be a sibling species complex. The procurement of mating pairs, reared series or molecular barcodes will eventually provide an answer. However, I have compared its holotype female with a female from Brown’s reared series (Disney 2010). Furthermore, Chris von Beeren recently sent me a reared series of *R. nudiventer* from Malaysia that has allowed a detailed scrutiny of the details of its male.

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## NOTES ON THE KNOWN MALES

*Rhynchomicropteron curvescens* (Schmitz)

The holotype is from Java.

*Rhynchomicropteron nudicosta* (Brues)

The holotype from India has been lost, but the original description indicates that its legs are reddish brown rather than the yellow of all other known males.

*Rhynchomicropteron kuslitzkyi* Lengyel

The type series is from Israel.

*Rhynchomicropteron nudiventer* Papp

The holotype female was from N. E. India. The male was described by Brown (1992) from Thailand. Females attributed to this species are also known from Borneo and Malaysia.

*Rhynchomicropteron* Species 1

A male from Malaysia collected with females of *R. nudiventer* at a colony of *Aenictus* sp. was attributed to this species (Disney 1992), but it was later found to differ from Brown's (1992) description of the male of this species (Disney 2010).

*Rhynchomicropteron* Species 2

A male from Malaysia collected with females of *R. necaphidiforme* Disney and *R. nudiventer* at a colony of *Leptogenys distinguenda* (Emery) (Disney 1992) is probably *R. necaphidiforme*.

*Rhynchomicropteron* Species 3

A male from Malaysia was collected in a pitfall trap along with males of *R. nudiventer* and a female of *R. beaveri* (Disney).

*Rhynchomicropteron* Species 4

A male from a trap in Indonesia, Sulawesi.

KEY TO KNOWN MALES OF *RHYNCHOMICROPTERON*

Caution. The following key covers less than half the species known as females.

1. Legs yellow .....2
- Legs brown .....*nudicosta* (Brues)
2. Costa with minute costal cilia along most of length (e.g. Figs 9 & 13, see appendix) .....3

- Costa seemingly lacking costal cilia (as any are less than 0.02 mm long and are therefore not apparent at x100 or less) (Figs 1, 5 and 17), but a few may be evident near base (Fig. 6)..... 6
- 3. Mesopleuron with fewer than 20 hairs. Frons with fewer than 40 hairs ...  
.....4
- Mesopleuron with more than 20 hairs. Frons with more than 60 hairs. (Hypopygium as Figs. 8a & 8b in Lengyel 2011) ..... *kuslitzkyi* Lengyel
- 4. Frons with less than 20 hairs (Fig. 16). (Hypopygium as Figs 14 & 15) ...  
.....Species 2
- Frons with more than 20 hairs .....5
- 5 Frons with a median furrow (Fig. 12). Mesopleuron with more than 8 hairs. Hypopygium as Figs. 10 and 11 .....Species 1
- Frons without a median furrow. Mesopleuron with less than 8 hairs. Hypopygium as Figs 21 and 22.....Species 4
- 6 Anterolateral bristles present and almost as close to eye margins as mediolaterals (e.g. Figs. 8 & 20) .....7
- Anterolaterals absent (Fig. 4). (Hypopygium as Figs. 2 & 3).....  
.....*curvescens* (Schmitz)
- 7. Frons with more than 40 hairs (Fig. 8). Hypopygium as Fig. 7 .....  
..... *nudiventer* Papp
- Frons with less than 40 hairs (Fig. 20). Hypopygium as Figs 18 and 19 ...  
.....Species 3

## ACKNOWLEDGMENTS

I am grateful to Dr Thomas Pape (Natural History Museum of Denmark, Copenhagen) for the loan of the holotype material of *R. curvescens*. My studies of Phoridae are currently supported by grants from the Balfour-Browne Trust Fund (University of Cambridge) and the Systematics Research Fund of the Linnean Society and the Systematics Association (UK).

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## APPENDIX

### Figures 1-22



Fig. 1. *Rhynchomicropteron curvescens* male, costal section 1.



Fig. 2. *Rhynchomicropterum curvescens* male, left face of hypopygium.



Fig. 3. *Rhynchomicropterum curvescens* male, right face of hypopygium.



Fig. 4. *Rhynchomicropterum curvescens* male, frons.



Fig. 5. *Rhynchomicropterum nudiventer* male, costal section 1.

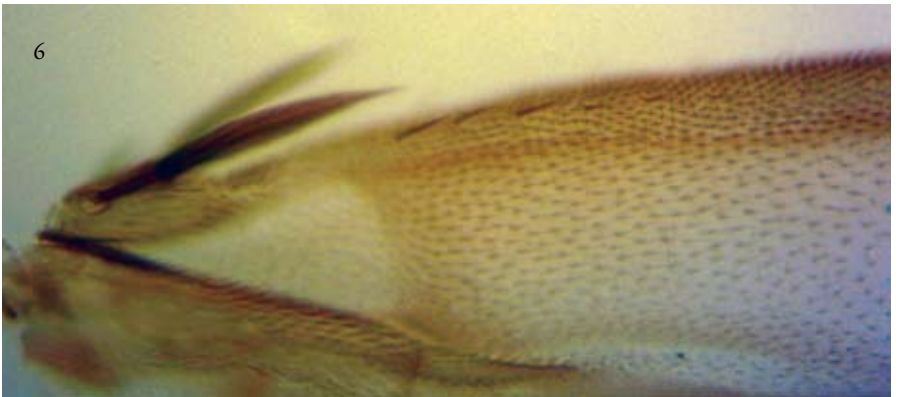


Fig. 6. *Rhynchomicropterum nudiventer* male, costal section 1, with a few costal cilia at base.



Fig. 7. *Rhynchomicropteron nudiventer* male, left face of hypopygium.

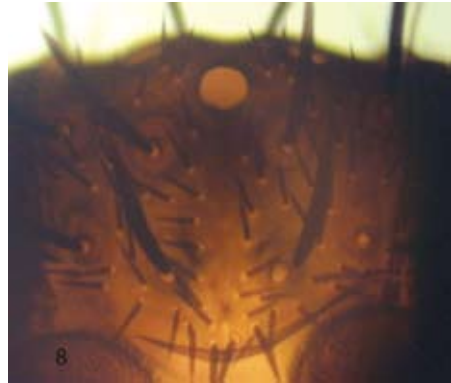


Fig. 8. *Rhynchomicropteron nudiventer* male, frons.



Fig. 9. *Rhynchomicropteron* species 1 male, costal section 1.



Fig. 11. *Rhynchomicropteron* species 1 male, right face of hypopygium. (Scale bar=0.1mm).

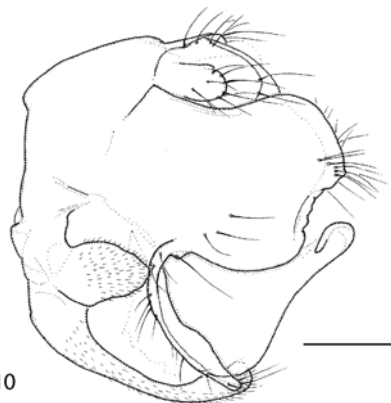


Fig. 10. *Rhynchomicropteron* species 1 male, left face of hypopygium. (Scale bar=0.1mm).

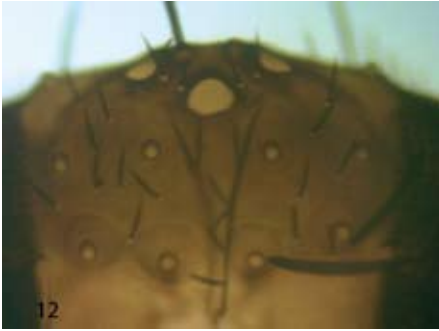
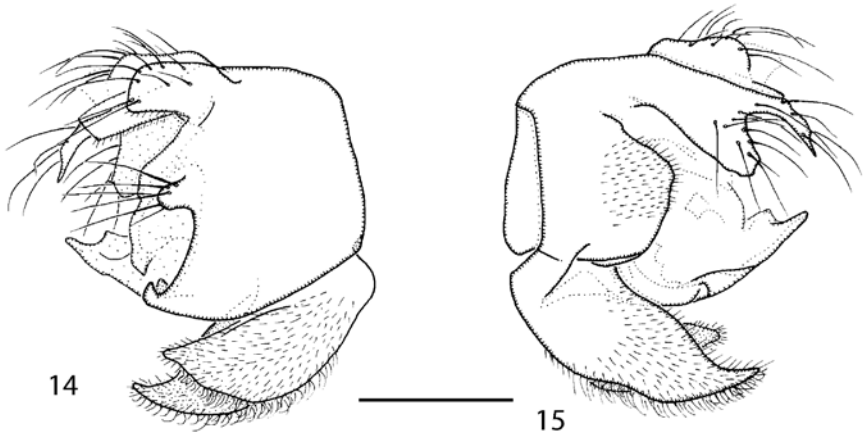


Fig. 12. *Rhynchomicropteron* species 1 male, frons



Fig. 13. *Rhynchomicropteron* species 2 male, costal section 1.



Figs 14-15. *Rhynchomicropteron* species 2 male, hypopygium. Fig. 14. Right face; Fig. 15. Left face. (Scale bar=0.1mm).

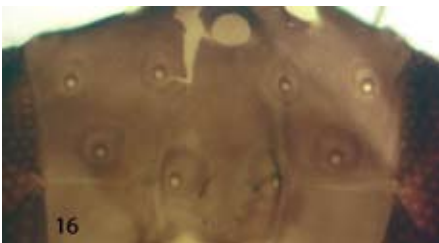


Fig. 16. *Rhynchomicropteron* species 2 male, frons.



Fig. 17. *Rhynchomicropteron* species 3 male, costal section 1.

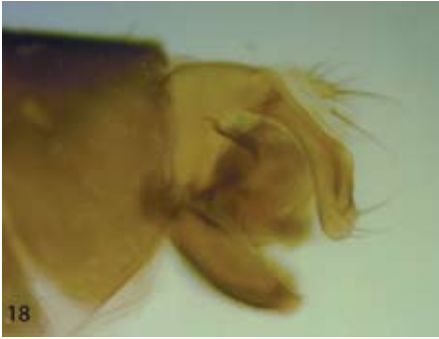


Fig. 18. *Rhynchomicropteron* species 3 male, left face of hypopygium.



Fig. 19. *Rhynchomicropteron* species 3 male, right face of hypopygium.

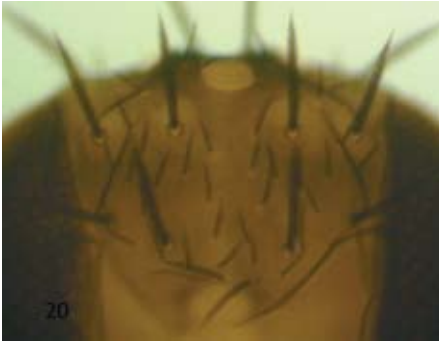


Fig. 20. *Rhynchomicropteron* species 3 male, frons.



Fig. 21. *Rhynchomicropteron* species 4 male, left face of hypopygium.

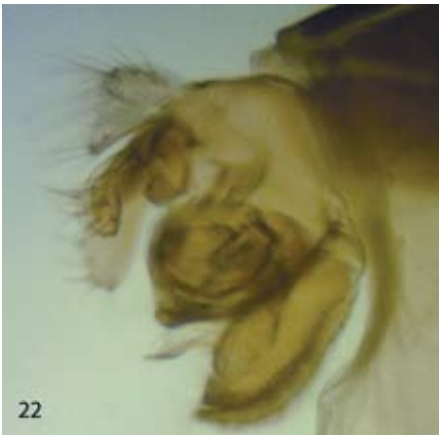


Fig. 22. *Rhynchomicropteron* species 4 male, right face of hypopygium.