



<http://dx.doi.org/10.11646/zootaxa.3857.3.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:465C4B5C-9754-4BA5-8EE0-890D4F8FD92E>

Review of the Oriental genus *Neoclarkinella* Rema and Narendran, 1996 (Hymenoptera: Braconidae, Microgastrinae) with the description of two new species from India

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Abstract

The rarely collected Oriental genus *Neoclarkinella* Rema and Narendran, 1996 is reviewed. Four species, all from India, are recognized of which two are described as new, namely *Neoclarkinella janakikkadensis* sp. nov., and *N.narendrani* sp. nov. from Kerala, India. A key to the oriental species of the genus is provided along with a character state matrix.

Key words: Character states, Kerala, sp. nov., review, distribution map

Introduction

The subfamily Microgastrinae Foerster, comprises the second largest number of species within the Braconidae with over 2,200 described species and an estimated world fauna of 5,000–10,000 species Yu *et al.* (2012). As diagnosed by Nixon (1965), Mason (1981) and Achterberg (1984), the most distinctive character of the subfamily is an antenna with 16 flagellomeres, the proximal two-thirds of which have two rows of placodes. Most of them are lepidopteran parasitoids.

The rarely collected genus *Neoclarkinella* was established with the type species *Apanteles nilamburensis* Sumodan and Narendran, 1990 (Rema & Narendran 1996). Until now, this Oriental genus was represented by only two species from India. *Neoclarkinella* closely resembles *Clarkinella* Mason (Mason 1981) in having the propodeum with a complete medial and a transverse basal carina, T1 parallel-sided on the basal half with narrowing apex, and ovipositor sheath long and pilose throughout. It can be easily distinguished from *Clarkinella* in having large, triangular lunules on scutellum (lunules small and arcuate in *Clarkinella*) forewing without areolet (small areolet present in *Clarkinella*), and hypopygium striate along medial line (hypopygium not striate along medial line in *Clarkinella*). *Neoclarkinella* also resembles *Beyarslania* Kocak & Kemal in having fore wing without areolet, propodeum with a mid longitudinal and a basal transverse carina, T2 subtriangular, and coarsely punctate mesonotum (Kocak & Kemal 2009). *Neoclarkinella* differs from *Beyarslania* in having large triangular lunules on scutellum (lunules absent in *Beyarslania*), hypopygium large and striated along medial line in *Clarkinella* (hypopygium short and not striated in *Beyarslania*) and T1 without a medial groove (T1 with a medial groove in *Beyarslania*).

The present study provides a description of two new species of *Neoclarkinella* together with a review of Oriental species and an illustrated key. Rediagnosis of the two known species is provided. Differences and similarities among the species are discussed, with character states for each species is included.

Head oval in anterior view; clypeus, vertex and temple indistinctly punctate; malar space about as long as basal width of mandible; face about as long as wide, indistinctly punctate, pilose with a median longitudinal carina; frons concave smooth and shiny; OOL 0.75x as long as POL; occiput smooth; mesoscutum depressed posteriorly at imaginary course of notauli, strongly punctate with hairs and sparsely punctate apically; mesopleuron medio-posteriorly smooth, rest of the area coarsely punctate; propodeum covered with white pilosity, dull with a strong longitudinal carina and transverse carina at basal one third; pterostigma 3.3x as long as wide; R1 1.3x as long as pterostigma; r 1.2x as long as m-cu, 1.1x as long as pterostigma; hind wing with vannal lobe slightly convex and sparsely pilose, 2r-m present; hind coxa large virtually smooth, indistinctly punctate; hind tibia 1.1x as long as hind femur; T1 3.8x as long as wide, tapering apically, basal half with broad U-shaped area and punctate apically, pilose; T2 subtriangular, smooth and posterior margin convex; hypopygium about half as long as metasoma, folded and striate medially; ovipositor sheath 0.61x as long as hind tibia, pilose.

Male. Similar to female except length 2.4 mm.

Host. Unknown.

Distribution. India, Uttar Pradesh.

Remarks. We couldn't examine the type and the above diagnosis is based on the original description of Ahmed *et al.* (2005). Holotype and paratypes are deposited in ZDAMU.

Discussion. The species closely resembles *Neoclarkinella narendrani* in having punctate nature of T1, length of hind tibia 1.1x length of hind femur; but differs in the following characters: T1 subtriangular without lateral elevation (T1 triangular with lateral elevation in *N. narendrani*), T1 3.8x as long as its width apically (length of T1 below 3x its width in *N. narendrani*); clypeus, face, vertex indistinctly punctate (distinct punctuation in *N. narendrani*).

Acknowledgements

We are thankful to the Department of Zoology, Malabar Christian College, Calicut for providing research facilities. A.P.R. is grateful to the Ministry of Environmental and Forests, New Delhi for financial support under MoEF Major Research Project. We thank Dr M. Nasser, Associate Professor, University of Calicut for access to the Automontage imaging facilities. We are extremely thankful and obliged to Dr John T Jennings, The University of Adelaide, Australia for prompt response and invaluable suggestions. The authors wish to express their extreme indebtedness to Dr José L Fernández-Triana, Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada for commenting on the draft manuscript, and offering many useful suggestions.

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