

## First occurrence record of *Micronecta desertana desertana* Distant, 1920 (Hemiptera: Heteroptera: Micronectidae) from Kerala, India

S Ranjini

Research and Postgraduate Department of Zoology, St. Thomas' College (Autonomous), Affiliated to University of Calicut, Thrissur 680001, Kerala, India

### Abstract

The present study claims the first record of *Micronecta desertana desertana* Distant, 1920 from Kerala, India. The species was randomly collected from the different types of aquatic habitats such as rivers, ponds, and forest streams by using 500 µm mesh sized D- Frame dip net. Although, this species was rarely distributed from this region and found more in forest streams. The present report increased the number of species of genus *Micronecta* from Kerala.

**Keywords:** Water bugs, Heteroptera, water boatmen, aquatic habitats

### Introduction

Members of the family Micronectidae are commonly called as 'pygmy water boatmen'. They are usually found in lentic or lotic freshwater ecosystems such as rivers, ponds, and lakes. The family Micronectidae belong to the Infraorder Nepomorpha. Global diversity of family Corixidae and Micronectidae are 613 species (Polhemus and Polhemus, 2007) [5]. They are originally classified as a subfamily level, but recently raised this taxon as a family level (Nieser, 2002) [4]. Worldwide, there are 150 described species of family Micronectidae, of which, about 100 genera are coming under the genus *Micronecta* (Nieser and Chen, 2006) [6]. India is represented by 27 species and 2 genera (Basu and Subramanian, 2017). In Kerala, 7 species belong to two genera are recorded. This study reported *Micronecta desertana desertana* Distant, 1920 for the first time from Kerala, India.

### Materials and methods

The samples were collected from the different types of aquatic habitats such as rivers, ponds, and forest streams from Kerala State, India. They were collected by using hand picking method and/or aquatic insect net (500 µm mesh sized D- Frame dip net) was done. The collection method was followed by Subramanian and Sivaramakrishnan, 2007 [6]. After the collection of these bugs, the collected specimens were sorted, and transferred to air tight vials containing 70% ethanol. The vials were properly labelled. The preserved specimens were brought back to the laboratory where they were observed under stereo-zoom microscope LEICA S8AP0. These were identified with the help of standard taxonomic keys and monographs (Thirumalai, 2006; Kumar and Gupta, 2018; Basu *et al.*, 2018) [9, 2].

### Results

#### Systematic account

Order Hemiptera Linnaeus, 1758

Suborder Heteroptera Latreille, 1810

Infraorder Nepomorpha Popov, 1968

Superfamily Corixoidea Leach, 1815

Family Micronectidae Jaczewski, 1924

Subfamily Micronectinae Jaczewski, 1924

Genus *Micronecta* Kirkaldy, 1897

#### *Micronecta desertana desertana* Distant, 1920 (Fig. 1)

1920. *Micronecta desertana* Distant, Records of the Indian Museum, 18: 206.

1940. *M. (Dichaetonecta) desertana dravida* Hutchinson, Transactions of the Connecticut Academy of Arts and Sciences, 33: 392.

1940. *M. (D.) desertana doncanensis* Hutchinson, Transactions of the Connecticut Academy of Arts and Sciences, 33: 390.

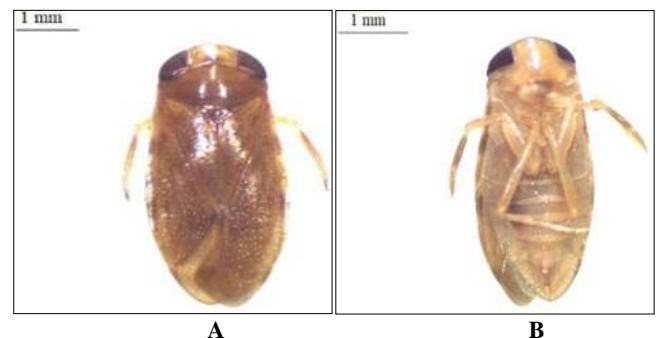


Fig. 1: *Micronecta desertana desertana* Distant, 1920: A. Dorsal view, B. Ventral view

**Material examined:** 8 ♂; 5 ♀; Kerala: Kottayam (9°37'42.23" N, 76°25'35.75" E), Ernakulam (9°58'19.62" N, 76°30'23.08" E), and Palakkad (10°45'22.3" N, 76°40'33.27" E); Coll: S. Ranjini.

#### Diagnostic characters

Body light brown and length from 2.5 mm to 2.8 mm and width of 1.3 mm. Light yellow coloured head with an unclear elongate orange spot on the centre of the frontal part of vertex. Head length 0.95 mm and width 0.4 mm. A pair of orange spots as cloud nears the eyes. Interocular width 0.40 mm and width 0.12 mm. Greyish-brown coloured pronotum with yellowish margins below. Length of pronotum 0.33 mm and width 0.91 mm. Base of wings greyish. Light brown corium with three ambiguous fragmented dark brown longitudinal lines up to the right membrane of wings. Scutellum 0.28 mm wider. Pale, yellow-coloured legs and slightly darkened on the apex of the tarsus. Fore femur with a long basal hair on its inner

edge, a row of four spines found in the inner margin. Mid femora longer and mid tibia short. Venter dull yellow.

**Habitats:** Forest streams, river, and pond.

**Distribution in India:** Karnataka, Tamil Nadu, Assam, Punjab, and Maharashtra (Thirumalai, 2007)<sup>[8]</sup>. New to Kerala.

**Remarks:** This species was very rarely found and observed in four localities of Kerala. This was observed mostly in forest streams.

### Discussion

The two genera of *Micronecta* and *Synaptonecta* was so far reported from Kerala. Among these, 6 species viz., *Micronecta scutellaris scutellaris*, *M. alhifrons*, *Micronecta punctata*, *M. quadristrigata*, *M. fieberi*, *M. ludibunda langkana*, under *Micronecta* and only one species under *Synaptonecta* such as *S. issa* (Thirumalai, 2007; Thirumalai and Radhakrishnan, 1999)<sup>[8, 7]</sup>. Apart from these, *M. desertana desertana* Distant, 1920 is hereby reported for the first time from Kerala, India. This was previously recorded and widely distributed in Karnataka, Tamil Nadu, Assam, Punjab, and Maharashtra (Thirumalai, 2007)<sup>[8]</sup>, but this was not widespread in this region. This species was observed in different aquatic habitats such as pond, river, and forest streams, however, they were mostly seen in forest streams. Anthropogenic disturbances were common in the aquatic habitats such as pond, and river. This may be a reason to decrease the diversity of aquatic insects inhabiting in such ecosystems. The conservation strategies to be raised to protect the fauna of aquatic insects.

### Acknowledgement

The author is grateful to Dr Francy K. Kakkassery (Late), Research Supervisor, Associate Professor & Head (Retd.), Research and Postgraduate Department of Zoology, St. Thomas' College (Autonomous), Thrissur, Kerala, for the guidance and motivation. Also, thanks to Principal, St. Thomas' College (Autonomous), Thrissur, Kerala, for the facilities provided.

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