



## Revision of the *Rhinocylapus*-group (Hemiptera: Heteroptera: Miridae: Cylapinae)

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## Abstract

*Mycetocylapus* Poppius, *Proamblia* Bergroth, *Rhinocylapidius* Poppius, and *Rhinocylapus* Poppius are revised. Three new species of *Rhinocylapus*: *Rh. kmentii*, *Rh. pallescens*, and *Rh. redeii* spp. nov. are described from the Malaysia, Philippines, and Indonesian Borneo, respectively. *Rhinocylapidius velocipedoides* Poppius is restored to its original genus. The lectotype for *Proamblia cunealis* (Poppius) is designated. Dorsal habitus color photographs of all species, scanning electron micrographs of the species of each genus, and pictures of male genitalia are provided. Keys to all the taxa are presented.

**Key words:** Hemiptera, *Rhinocylapidius*, *Proamblia*, *Mycetocylapus*, taxonomy, keys, Oriental Region, Australian Region

## Introduction

The newly established tribe Rhinimirini was divided by Gorczyca (2000) into two groups of genera: the *Rhinimiris*- and *Rhinocylapus*-group (the latter containing *Proamblia* Bergroth, *Rhinocylapidius* Poppius, and *Rhinocylapus* Poppius). Unlike the *Rhinimiris*-group, which has recently been revised (Gorczyca & Chérot 1998), the taxa belonging to the *Rhinocylapus*-group have so far been known mostly from the original descriptions. Detailed studies of the external morphology and the male genitalia of the above genera fully confirm that they are closely related and form together with the genera *Mycetocylapus* Poppius a distinct, well-defined group within the subfamily Cylapinae.

The Oriental genus *Rhinocylapus* was described by Poppius (1909) to accommodate three new species: *Rh. acutangulus*, *Rh. simplicicollis*, and *Rh. sumatranus*. Two species, *Rh. scutatus* and *Rh. vittatus*, were later added by Hsiao (1944). Carvalho (1981) provided further data on the external morphology and the male genitalia of *Rh. vittatus*.

The genus *Rhinocylapidius* was erected by Poppius (1915) for a single species, *R. velocipedoides*. Carvalho (1955) later transferred *Rhinocylapus scutatus* and *Rh. vittatus* to this genus. Gorczyca (2006) restored the two species to *Rhinocylapus* and also synonymized *Rhinocylapidius* with *Rhinocylapus*. *Rhinocylapidius velocipedoides* is here restored to the original genus.

Poppius (1909) proposed the genus *Modigliania* with the type species *Modigliania cunealis* Poppius, 1909. However, the generic name was already preoccupied by a genus of Pisces by Perugia (1893). Bergroth (1910) subsequently replaced the name *Modigliania* by *Proamblia*.

The genus *Mycetocylapus* was proposed by Poppius (1914) to accommodate *M. major* and *M. minor*. Carvalho (1956) later described a new species, *M. pacificus*, from the Caroline Islands. Additional information on the external morphology of *Mycetocylapus* was provided by Carvalho & Lorenzato (1978). This genus was regarded as *incertae sedis* by Gorczyca (2000). The same author (Gorczyca 2006) included this genus in the tribe Fulviini.

Of the eleven currently recognized species belonging to the genera (Schuh 1995, 2008; Gorczyca 2006), ten are restricted to the Oriental Region. Only one species (*Mycetocylapus pacificus* Carvalho) occurs in Sulawesi as well as in the Caroline Is. and Papua New Guinea.

The aim of this paper is to revise *Rhinocylapus*, *Rhinocylapidius*, *Proamblia*, and *Mycetocylapus*, including redescriptions and descriptions of new taxa; and to summarize the present knowledge of their distribution.

## Material and methods

Dissections of male genitalia were performed using the technique described by Kerzhner and Konstantinov (1999). Dorsal habitus color photographs were taken using an ALTRA 20 digital camera, and are not to scale. Scanning electron micrographs were taken using a Hitachi Scanning Electron Microscope S3000N. External structures and male genitalia were examined using an Olympus SZX12 stereomicroscope.