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A new Hemisemidalis species from Madagascar (Neuroptera: Coniopterygidae)

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Abstract – *Hemisemidalis pennyi* sp. n. (Neuroptera: Conipterygidae: Coniopteryginae) is described from Toliara Province of Madagascar. Clasping fore legs of males are recorded for the first time in *Hemisemidalis* Meinander, 1972, while those of females have not been documented before in Coniopterygidae. The genus *Hemisemidalis* is recorded as new to the fauna of Madagascar.

Key words – taxonomy, new species, new record, morphology, male terminalia, clasping fore legs

INTRODUCTION

Hemisemidalis Meinander, 1972 is a small dusty lacewing genus within the subfamily Coniopteryginae (Neuroptera: Coniopterygidae), currently including 8 valid, described species from the Palaearctic and Afrotropical regions (Sziráki 2011). Presence of an additional (undescribed) species was also reported from Thailand (Sziráki 2002). Before 2015 only two coniopterygid species, belonging to two different genera (*Coniopteryx* Curtis, 1834 and *Semidalis* Enderlein, 1905), were known from Madagascar (Meinander 1974). The partial identification of the extraordinarily large coniopterygid material collected in the framework of the Madagascar Project of the Californian Academy of Sciences (CAS) increased the number of known species to 24, particularly because of the large diversity of the genus *Coniopteryx* (Sziráki 2015, 2020). At the same time, the number of the genera reported from this large island remained two. Nevertheless, a preliminary survey of this material showed that species of several further genera are also present in Madagascar. One of these is the genus *Hemisemidalis*, which was represented by two male and three female specimens of an undescribed species, described as new in the present paper.

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ZooBank: *http://zoobank.org/urn:lsid:zoobank.org:pub:7D38177A-CDDA-41AE-88BE-5ABB0DC9385D*

TAXONOMY

Hemisemidalis pennyi sp. n.
(Figs 1–7)

Type material – Holotype: male, labelled as "Madagascar, Toliara Province, Andohahela National Park, Ihazofotsy, Parcelle III, 24°50'05" S, 46°37'21" E, 80 m a.s.l., dry spiny forest, Malaise trap, 20.V.–3.VI.2003, leg. F. Parker & R. Harin'Hala". – Paratypes: 1 male, same data as holotype; 1 female, same data as holotype; 1 female, same data but 26.I.–3.II.2003; 1 female, same data but 29.III.–10.IV.2003. – Holotype and two female paratypes are deposited in the collection of CAS, one male and one female paratypes in the Hungarian Natural History Museum (HNHM, Budapest).

Description – Body length 1.8–2.0 mm. Head capsule light or medium brown, palpi pale ochreous. Eyes of male very large, rounded, protruding, those of female moderately large, oval. Antennae light brown, 1.5 mm, 32–33 segmented in male, 1.4 mm, 29 segmented in female. (Only one specimen of each sex has intact antennae in the material examined.) Scape short, cylindrical, slightly wider than long, and wider than other parts of antennae. Pedicel pyriform, 1.3 times as long as broad, median flagellar segments cylindrical, 1.5 times as long as broad.

Thorax and abdomen (with exception of male genitalia) pale ochreous. Thoracal sutures and apodemes, as well as shoulder spots light or medium brown. Both sexes with clasping fore legs (Figs 1–2), tibiae of these provided with strong hairs, femora armed with seven rather long spines in males and three very long ones in females. All spines situated well before middle of femur. Fore wing length 2.0–2.2 mm, hind wing length 1.7–2.0 mm. Wing membrane hyaline or very light brown without any pattern, veins light brown.

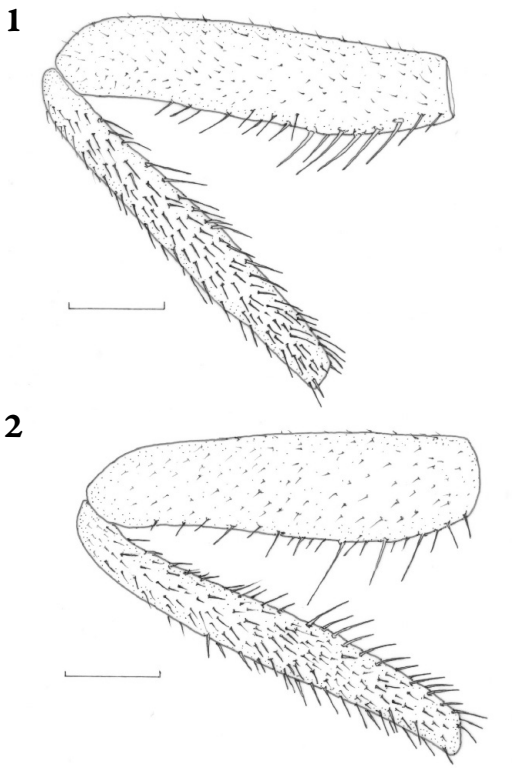
Male terminalia (Figs 3–7) well sclerotized, medium brown. Apodeme of ninth segment ventrally incomplete, laterally rather short and weakly detectable in the examined specimens. Hypandrium distinct, with two, broad, truncated, caudally directed projections. Stylus narrow, bent apical part slightly broadened. Ectoproct widely rounded, its ventral apodeme weakly developed. Paramere rather long, distal part with a subtriangular lobe caudally, with acute dorsal ending; before this caudal lobe, with two dorsal crests rounded proximally, and a membraneous sheet connected laterally to distal part of paramere. Dorsal plate long and wide but thin, its caudal ending indistinct, appears to be connected to inner surface of ectoproct. With a wide hyaline structure below paramere, appearing to represent a duplication of hypandrium. Penis sclerite absent, but distal part of slightly sclerotized ductus ejaculatorius detectable.

Female terminalia: sternite of ninth segment with long, hooked hairs, as typical in this genus, e.g., as in *Hemisemidalis pallida* (Withycombe, 1924) (Meinander 1972: fig. 190 D).

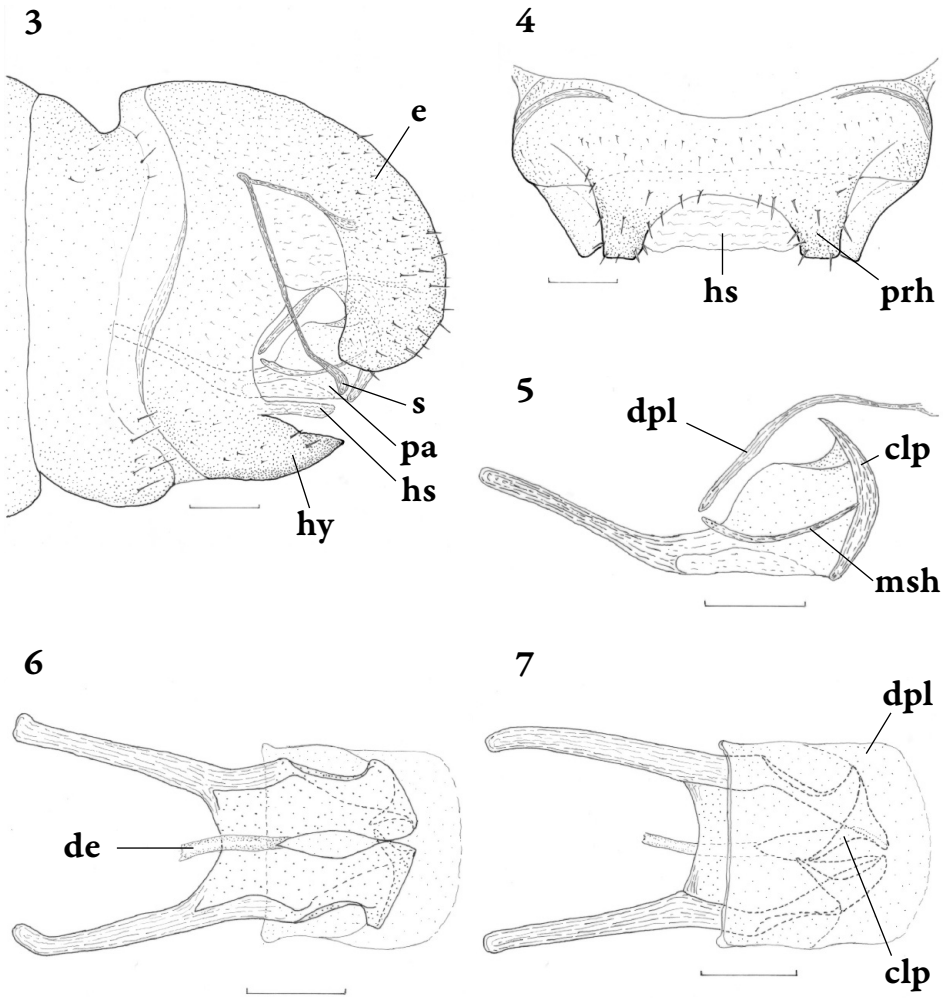
Differential diagnosis – The broad projections of the hypandrium, the similar structure of male internal genitalia, and the relatively small size indicate that *Hemisemidalis pennyi* sp. n. is closely allied to *Hemisemidalis bipunctata* Meinander, 1983 from South Africa. The main distinctive features of the new species are the unspotted wing membrane; the truncated projections of hypandrium, which are directed straight caudally (while in *H. bipunctata* these have rounded endings and are directed latero-caudally); the widened ending of the stylus; and the presence of a hyaline structure below the paramere.

Etymology – The new species is dedicated to the excellent Californian neuropterologist, the late Dr. Norman D. Penny.

Remarks – The first legs of dusty lacewings have remained poorly investigated. Some peculiarities of the male clasping fore leg were used by Tjeder (1931) as diagnostic characters in the genus *Coniopteryx,* and by Sziráki (1997) in the case of two *Semidalis* species, but this part of the body has not been studied in other genera. The presence of clasping fore legs in female coniopterygids has been entirely unknown until now.



Figs 1–2. *Hemisemidalis pennyi* sp. n., 1 = fore leg (femur and tibia) of male, 2 = fore leg (femur and tibia) of female. Scale bars = 0.08 mm.



Figs 3–7. *Hemisemidalis pennyi* sp. n., 3 = male terminalia, lateral view, 4 = hypandrium, ventral view, 5 = male internal genitalia, lateral view, 6 = male internal genitalia, ventral view, 7 = male internal genitalia, dorsal view. Abbreviations: clp = caudal lobe of paramere, de = ductus ejaculatorius, dpl = dorsal plate, e = ectoproct, hs = hyaline structure, hy = hypandrium, msh = membraneous sheet, pa = paramere, prh = caudally directed projection of hypandrium, s = stylus. Scale bars = 0.04 mm.

*

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