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Taxonomic notes on *Ochlerus*: revisiting Herrich-Schäffer's species (Hemiptera: Pentatomidae: Discocephalinae: Ochlerini)

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Abstract

The status of the three species of *Ochlerus* Spinola, 1837, described by Herrich-Schäffer in 1844 is reviewed. *Ochlerus coriaceus* and *O. lutosus* are removed from the synonymy of *O. cinctus* Spinola, 1837, while *O. sordidus* is transferred to *Paralincus sordidus*. Lectotypes are designated, and photos for each type and new records for *O. coriaceus* are provided.

Key words: Heteroptera, stink bug, *Phytomonas*

More than a century after Breddin (1910) described 13 species of *Ochlerus* Spinola, 1837 (bringing the total to 15 valid species) the type genus of Ochlerini is revisited. While species of the genus are known (Dollet et al. 1993, Campos & Grazia 2006, Gitau et al. 2009) as possible vectors of *Phytomonas* spp. (trypanosomatids that cause necrosis on palm and coconut trees) the genus hasn't received any taxonomic attention since Breddin (the exception being a synonymy proposed by Rolston 1992), thus making the identification of specimens an issue yet to be resolved. Also, the monophyly of the genus still needs testing, since the phylogeny proposed by Campos & Grazia (2006) divided it into three groups, resulting in a polyphyletic *Ochlerus*.

Recently, we located the syntypes of *Ochlerus coriaceus*, *O. lutosus* and *O. sordidus*, all described by Herrich-Schäffer (1844) based on females, deposited in the Germar collection at the Benedict Dybowski Zoological Museum (Lviv, Ukraine), and which are placed in the collection as *Menipha* and *Oxyrhinus*. Although *O. sordidus* was considered a valid species, *O. coriaceus* (Fig. 1A and 1B) and *O. lutosus* (Figs. 2A and 2B) were synonymized with *Ochlerus marginatus* (Fabricius 1803) by Stål (1872) and then with *Ochlerus cinctus* Spinola, 1837 by Kirkaldy (1909). However, by comparing the lectotype of *O. cinctus* (images available in Grazia & Campos 2010) and few other specimens (Fig. 2F and 2G) to the types of Herrich-Schäffer's species, as well as additional specimens from the D. A. Rider Collection at North Dakota University (NDSU), Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" collection (MACN), and the entomological collection of the Universidade Federal do Rio Grande do Sul (UFRG), we can ascertain that *Ochlerus coriaceus* and *Ochlerus lutosus* are in fact valid species. As for *O. sordidus*, it actually belongs to *Paralincus*, although *Paralincus sordidus* remains a *nomen dubium* since the specimen lacks its abdomen. Also, Herrich-Schäffer (1844) transferred *Cimex flavocinctus* Herrich-Schäffer, 1839 and *Cimex incisus* Herrich-Schäffer, 1839 to *Ochlerus*, but the specimens were not found, although they may be misidentified in the collection.

Diagnosis of *O. coriaceus* and *O. lutosus* was done mainly through the genitalia (Figs. 1C, 1D, 2C and 2D). Even though genital characteristics were absent in all but Breddin's *Ochlerus* descriptions, they are the only known morphological means of safely identifying species of *Ochlerus*, especially the shape and size of the gonocoxites 8 (gc8). Although the gc8 of *O. lutosus* are similar to that of *O. cinctus*, the posterior margin in *O. lutosus* is sinuate and the sutural margins are not completely juxtaposed, being basally separated, whereas in *O. cinctus* the posterior margin is angular and the sutural margins juxtaposed in all extension. In contrast, the shape of the gc8 of *O. coriaceus* is unique in the genus, with a strongly concave posterior margin, which leaves the gonapophyses 9 exposed while also extending posteriorly, thus covering part of the laterotergites 8 (la8). Furthermore, the spiracles on the la8 are completely visible in *O. lutosus*, whereas in *O. cinctus* and *O. coriaceus* they are partially hidden beneath the 7th urosternite.

1867) and badly conserved, lacking the abdomen. However, some characters allow us to place the species within *Paralincus*, such as the shape of the head, the distance between the eyes and pronotum, the shape of the pronotum, and the anteriorly produced antero-lateral angles. The scutellum is similar to all other species of *Paralincus* in both shape and color, with a yellow middle spot at the base. Closer examination of the specimen is necessary for further considerations about its relation to the other species in the genus.

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