



<http://dx.doi.org/10.11646/zootaxa.3640.3.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:1204E98B-FEBC-4D41-9725-A92391823ED5>

Systematics of the lace bug genus *Cottothucha* Drake and Poor (Insecta: Hemiptera: Heteroptera: Tingidae) with description of the first Australian species and its exaggerated nymph

AIDAN RUNAGALL-MCNAULL & GERASIMOS CASSIS¹

Evolution & Ecology Research Centre School of Biological, Earth and Environmental Sciences University of New South Wales Sydney, 2052 Australia

¹Corresponding author. E-mail: gcassis@unsw.edu.au

Abstract

The lace bug genus *Cottothucha* is redescribed. *Cottothucha kalathis* from Australia is described as new to science. The fifth instar for *C. kalathis* is described and illustrated. *Cottothucha minor* and *Cottothucha oceanae* are redescribed. The male genitalia of these species are illustrated. The pronotal cyst is compared between the species and its evolution is discussed. The genus is maintained within the lace bug tribe Litadeini based on an enlarged tarsal segment.

Key words: Tingidae, Tinginae, Litadeini, new species, distribution, classification, Australia

Introduction

The genus *Cottothucha* Drake and Poor was first described by Drake and Poor (1941), to include a single species (*C. oceanae* Drake and Poor) from the Molucca Islands, Indonesia. Froeschner (2001) redescribed it, as well as extending its distributional range to the Philippines. Guilbert (2006) described a new species from New Guinea (*C. minor* Guilbert), resulting in two known species of *Cottothucha*.

Drake and Ruhoff (1965a) erected the tribe Litadeini for the genus *Litadea* Drake and Ruhoff on the basis of an “enormously swollen 2nd tarsal segment, nearly ovate in outline, upper surface convex, beneath deeply concave, the concavity filled with short, bristlelike hairs” (Drake and Ruhoff 1965a). Membership of this tribe was increased to three genera by Drake & Ruhoff (1965b) to include *Holophygdon* Kirkaldy and *Aeopelys* Drake and Ruhoff. Froeschner (1969) revised the group to include thirteen species in nine genera (adding *Aristobrysa* Drake and Poor, *Larotingis* Drake, *Oecharis* Drake and Ruhoff, *Ogygotingis* Drake, *Psilobrysa* Drake and Hambleton, and *Stragulotingis* Froeschner), and extended its range to include a Pan-Tropical distribution. Further, the tribe was rediagnosed as having a 2nd tarsal segment that is “very strongly dilated at the base so that it is abruptly much wider than the first” (Froeschner 1969), with associated dense tarsal hairs. Linnavuori (1977) included *Tadelia* Linnavuori in the Litadeini, and more recently, Froeschner (2001) added an additional three genera (*Cephalidiosus* Guilbert, *Cottothucha* Drake and Poor and *Palauella* Drake). Guilbert (2001) considered the Litadeini, based on “short, enlarged hind tarsi covered with setae” to be polyphyletic. Most recently, Lis (2001, 2009) supported the notion of the Litadeini, describing new taxa (*Malagasotingis* Lis) and providing a novel key to genera, inclusive of eighteen genera.

This work was prompted by the discovery of a new species of *Cottothucha* in the collection of the Queensland Museum, including a most remarkable immature specimen of this species. In describing this new species, we address the classification of the genus as a whole, as well as the previously described species. In particular, we sought to reassess the exaggerated pronotal structure, which is balloonlike, and rivals other exaggerated pronotal structures found in species of the Tingidae. We also comment on the systematic position of the genus within the family, recognising that it has been placed in the tribe Litadeini of the nominotypical subfamily (Drake & Poor 1941; Froeschner 2001), whose monophyly is contested (Guilbert 2001). We also described the male genitalia of the included species.