

Abstract

Dipsocoromorpha, the minute litter bugs, are poorly studied, minuscule true bugs (Hemiptera: Heteroptera) with uncertain phylogenetic position, often bizarre morphology, and substantial undescribed biodiversity. Schizopteridae, the largest family within Dipsocoromorpha, comprise 56 described genera and more than 250 species with primarily tropical distribution. Taxonomic research on the Neotropical fauna all but ceased during the last 30 years of the 20th century, but recent sorting of >950 residue samples from 30 countries across the New World indicates that the true species-level diversity is tremendous. We here taxonomically revise the genus *Chinannus* Wygodzinsky, 1948 (Dipsocoromorpha: Schizopteridae: Ogeriinae), previously known from two strongly sexually dimorphic species from Costa Rica and Trinidad, describe 26 species as new, and expand the known natural range of species in the genus to span most countries between Nicaragua and Bolivia. We present a revised diagnosis of the genus and thorough documentation of male and female habitus as well as genital and wing morphology. Male genitalic and pregenitalic modifications of *Chinannus* spp. are species-diagnostic; and we used a combination of confocal microscopy, scanning electron microscopy, and macrophotography to document these features and resolve homology issues. Males possess a unique modification of the forewing M vein, the so-called “wing organ” of unknown function, that provides additional species-level diagnostic features. Sexual dimorphism is extreme in *Chinannus*; we here use geographic information and molecular data (CO1) to match macropterous males with the strongly coleopteroid females. To evaluate the monophyly and phylogenetic position of *Chinannus*, we generated and analyzed a molecular dataset (partial 28S and 18S rDNA, CO1). The genus is recovered as monophyletic with high branch support and nested among mostly undescribed Old and New World taxa currently classified as “Ogeriinae”, which we here show to be paraphyletic. We claim that applying a similar combination of morphological and molecular approaches to large numbers of specimens will greatly advance knowledge of the biodiversity of Neotropical Schizopteridae.

Key words: Dipsocoromorpha, Schizopteridae, *Chinannus* spp., taxonomy, phylogeny.