

Subbrachypterous Ricaniidae (Hemiptera: Auchenorrhyncha: Fulgoroidea) from Madagascar

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The family Ricaniidae Amyot & Serville, 1843 contains around 400 described species in 51 genera, however, real number of species estimated to be around 1000 (Stroiński, unpublished data). The family is mainly distributed in the tropical and subtropical regions of the Old World (Afrotropical, Australasian and Oriental Regions). Some species have been recorded from the Palearctic and Neotropical Regions.

Around 68 species belonging to 12 genera have been recorded from Madagascar so far (Metcalf, 1955; Synave, 1956, 1966; Stroiński, unpublished data). The overwhelming majority of Madagascan species are endemic except some known also from Eastern Africa. During our study of planthoppers from several American and European Museums, four new genera and nine new species of subbrachypterous Ricaniidae were discovered. Subbrachyptery is recorded for the Ricaniidae for the first time. These genera are externally similar to the members of the family Issidae Spinola, 1839.

During the study of this material from Madagascar we faced necessity to revise the apomorphies of the family Ricaniidae. The mentioned new subbrachypterous species are missing some “wing features of ricaniids”, they have nearly oval tegmina, hind wing devoid of projection on anterior margin and with rudimentary anal part, but according to the structure of male and female genitalia they are typical ricaniids.

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Some cases of trophobiotic relationships between planthopper and leafhopper species (Hemiptera: Auchenorrhyncha) and ants (Hymenoptera: Formicidae)

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Different cases of trophobiotic relationships were observed in 1999–2009. Besides the typical instance of such relationships of the myrmecophilous species of the family Tettigometridae (Fulgoroidea), cases of trophobiosis have also been established in some species of Cicadellidae (*Balcanocerus* and *Selenocephalus*) and Dictyopharidae (*Parorgerius*). The data has been gathered in Bulgaria, France, and Italy. Different species of ants belonging to the genera *Formica*, *Lasius*, *Camponotus* and *Crematogaster* have been recorded to participate in these associations. The relationships have been observed on various plants (*Crataegus*, *Eryngium*, *Ammophila* etc.) and inside of ant nests. Some of the associations were photographed.