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A new genus and new bromeliculous species of Cicadellini (Insecta: Hemiptera: Cicadellidae) from Southeastern Brazil

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Abstract

A new genus, *Cavichiana*, is described for a new species of Cicadellini, *C. bromelicola*, from Southeastern Brazil (states of Rio de Janeiro and São Paulo). The new genus can be distinguished from other genera of the Cicadellini by the following combination of features: (1) head deltoid, strongly produced anteriorly; (2) ocelli located distinctly anterad of anterior eye angles; (3) aedeagus tubular, elongate, its apex with a conspicuous crown of spines; (4) paraphyses with both stalk and rami elongate, rami slender and each with basidorsal dentiform projection. The new species has a distinctive color pattern. The dorsum is dark brown to black with contrasting blue to white spots. The anterior half of the fore wings has a large, circular transcommissural yellow macula bordered by a blue to white border, the anterior portion of this macula covering the scutellum. Specimens of the new species were found on leaves of bromeliads in areas of *restinga* (sand dune vegetation) of the Atlantic Forest of Southeastern Brazil. Other cases of association between hemipterans and bromeliads are listed and briefly discussed.

Key words: Atlantic Forest, Brazil, Cicadellinae, leafhopper, sharpshooter, taxonomy

Introduction

The xylem-specialist leafhopper subfamily Cicadellinae (sharpshooters) includes two tribes, the cosmopolitan Cicadellini and the New World Proconiini (Young 1968, 1977, 1986). Cicadellini currently comprises over 170 genera and 1,200 species in the New World, with distinctly greater diversity in the Neotropical region. This tribe is similar to the Proconiini, and differs from other leafhoppers, in having (1) the face strongly swollen, (2) the ocelli on the crown distad from the anterolateral margins, and (3) the inner apical cell of the fore wing parallel to the long axis of the wing; it differs from Proconiini in having (1) the antennal ledges usually not protuberant in dorsal view, (2) the hind legs at rest with femoro-tibial joints almost always extended to the lateral pronotal lobes, and (3) the male pygofer and/or subgenital plates nearly always with macrosetae and/or microsetae not evenly dispersed (Young 1968, Takiya & Cavichioli 2005). After the publication of Young's (1977) comprehensive monograph of the New World Cicadellini, 16 new genera of this tribe have been proposed by various authors. A complete account of the papers dealing with these new genera was recently provided by Mejdalani & Cavichioli (2013).

Here we propose an additional new genus of Cicadellini from Southeastern Brazil. This new genus is so far known from a single new species from the states of Rio de Janeiro and São Paulo. Specimens of the new species are peculiar in comparison to other Cicadellinae from Southeastern Brazil because they consist in the first record of leafhoppers inhabiting the rosettes of bromeliads in their natural environment. Other cases of association between hemipterans and bromeliads are listed and briefly discussed.

2001, *Balacha* Melichar, 1926, and *Ochrotaeta* Stål, 1869, occurring in South and Southeastern Brazil (Takiya *et al.* 2001, Takiya & Mejdalani 2004, Cavichioli & Takiya 2010). These records contrast with most sharpshooter species, which are thought to be polyphagous, some species being able to feed on a wide range of plant families. The body of *C. bromelicola* specimens is moderately flattened dorsoventrally (Fig. 21) and this condition is also observed in the *Eryngium* specialists. These four sharpshooter genera do not seem to be closely related. Their depressed bodies possibly arose convergently in association with similar conditions of their microhabitats inside the rosettes of Bromeliaceae or Apiaceae. Interestingly, the cercopid *Kanaima fluvialis* (Lallemand, 1924), another *Eryngium* dweller (Cavichioli 1987), also has the body dorsoventrally flattened (Carvalho & Webb 2005: 253, figs 496, 497).

Despite the few studies conducted on the biology of bromeliad herbivores, the scarce and scattered information on the subject at least does not suggest a high susceptibility of this plant family to herbivory in natural habitats. Bromeliads are known to have a lower nutritional quality as compared to most available surrounding resources and possess potential chemical and mechanical deterrents, which may limit herbivory (Benzing 2000). Additionally, few herbivores, including the hemipterans here listed (Table 1), may more likely be the result of the recent diversification of the crown group of the bromeliad subfamilies Bromelioideae and Tillandsioideae (less than 10 Ma based on Givnish *et al.* 2011).

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