



A new species of *Scoposcartula* (Hemiptera: Cicadellidae: Cicadellini) with phylogenetic and biogeographic comments on the genus

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Abstract

A new species of *Scoposcartula* Young, 1977 is described and illustrated based on material from the Atlantic Forest of Rio de Janeiro State, Southeastern Brazil. *Scoposcartula tentaculata* **sp. nov.** can be easily distinguished from the other 15 known species of the genus by the colour of the forewings (black to dark brown with a very large red area on the basal half) and by the conspicuous parapsysis, which is very long and tentacle-like. The new species was added to a recently published morphological data matrix of *Scoposcartula* species. Cladistic analysis of these data suggested that *S. tentaculata* **sp. nov.** is the sister group of *S. lancifera* Young, 1977. These sister species belong to a group that also includes *S. tobiasi* Cavichioli & Mejdalani, 1996 + *S. limitata* (Signoret, 1953). Hypotheses of vicariance for explaining the present distributions of these four species are suggested. The use of Cicadellinae taxa as models for studies of vicariance in the Neotropics is briefly addressed.

Key words: Atlantic Forest, Auchenorrhyncha, biogeography, Brazil, phylogeny, sharpshooter, taxonomy

Introduction

The Neotropical sharpshooter genus *Scoposcartula* Young, 1977 comprises 14 described species and one that remains undescribed because it is known only from female specimens (Leal *et al.* 2009). The genus is distributed from Costa Rica to Argentina, with records in Panama, Colombia, Venezuela, Guyana, Brazil, Bolivia, and Paraguay (Young 1977). All known species are recorded from Brazil. The type-species, *S. oculata* (Signoret, 1853), is the most widespread, occurring in almost the whole Neotropical region (Leal *et al.* 2009). A taxonomic revision of *Scoposcartula* was recently published based on a morphological cladistic analysis that included all species known at that time (Leal *et al.* 2009). The results of this analysis indicated that *Scoposcartula* is a monophyletic taxon supported by three unambiguous synapomorphies: (1) dark brown to black stripes on face along lateral margins of frons and meeting each other on clypeus; (2) uniseriate macrosetae on subgenital plates; and (3) presence of parapsysis or parapsyses. Although these characters support the monophyly of the genus, they are problematic for a taxonomic diagnosis. The first one suffers reversals in the genus phylogeny, and the second and third ones are a result of the outgroup choice (Leal *et al.* 2009). Three additional synapomorphies appeared when Leal *et al.* (2009) used the ACCTRAN optimisation: (1) colour pattern of frons with a longitudinal line; (2) absence of striae on pronotum; and (3) sclerotised line on female pygofer. The first two characters are also problematic for a taxonomic diagnosis because they do not occur in many species of *Scoposcartula*. The third one, however, is very useful for the recognition of the genus, because it is present in all species, except for being vestigial in *S. bilimitata* (Signoret, 1855) (Leal *et al.* 2009). Two other synapomorphies were obtained by those authors using the DELTRAN criterion: (1) general colour of forewings brown and (2) male pygofer without ventral process. These two characters are