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A review of the genus *Spanagonicus* Berg (Hemiptera: Miridae: Phylinae: Nasocorini) with the description of novel antennal characters, the description of a new species from Central America, and a key to currently known taxa

KATRINA L. MENARD

Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, 2401 Chautauqua Ave. Norman, Oklahoma 73072, USA.
E-mail: kmenard@ou.edu

Abstract

The New World genus *Spanagonicus* Berg, 1883 is reviewed. A new species, *Spanagonicus schusterus* sp. nov. is described from Central America. A key to all known species, as well as redescrptions for all species but *S. tiquiensis* Carvalho & Carpintero (which was unavailable for inspection), are provided. Characterization of the sexual dimorphism, morphology, and possible function of the newly discovered spatulate setae on the ventral surface of male antennae is also discussed. Color digital habitus images and genitalic illustrations are provided for both male and female specimens of *Spanagonicus*. Scanning electron and transmission electron micrographs of the second antennal segment of male and female specimens of *S. albofasciatus* are also included.

Key words: Miridae, *Spanagonicus*, new species, Central America, key to species, antennal morphology

Introduction

The genus *Spanagonicus* Berg, 1883 (Phylinae: Nasocorini) is a relatively small genus of mirids primarily distributed in the Neotropics. Previously described taxa include *S. argentinus* (Berg, 1883), *S. aricanus* Carvalho (1984), *S. tiquiensis* Carvalho & Carpintero (1990), and *S. albofasciatus* (Reuter, 1907). All species but *S. albofasciatus* are described from South America (Argentina, Brazil, Bolivia, Uruguay, etc.). *Spanagonicus albofasciatus*, also known as the white-marked fleahopper, is the only species to also have a wide distribution in the Nearctic, Central America, the Caribbean and West Indies, and has also been introduced into Hawaii and Guam. A new species of *Spanagonicus*, *Spanagonicus schusterus* sp. nov., is herein described from Central America.

Possible host plants are unknown for all species of *Spanagonicus* but *S. albofasciatus*, which has been recorded on at least 57 plants (Table 1; Tri-Trophic Thematic Collection Network, 2014 (and updates)), and was found to also feed on the spider mite *Tetranychus telarius* (L.) (Butler 1965), and eggs of *Heliothis zea* (Boddie) and *Pseudoplusia includens* (Walker) (Neal *et al.* 1972).

Males of *Spanagonicus* exhibit sexual dimorphism in the first and second antennal segments, which are enlarged and inflated relative to females. Upon closer examination of the second antennal segment in *S. albofasciatus*, the ventral surface was found to differ from the anterior surface in coloration and texture. Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) images of the male and female second antennal segment were taken to investigate their structure and possible function.

Material and methods

Approximately 500 specimens were examined. Distribution maps based on label data of specimens examined with unique specimen identifiers (USIs; see Material Examined) are available through the “Discover Life” website (<http://www.discoverlife.org/>). Georeference data for each locality were obtained from GeoLocate (<http://www.museum.tulane.edu/geolocate/>), gazetteers, atlases, and other sources.