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A new South American species of *Banasa* Stål (Hemiptera: Heteroptera: Pentatomidae: Pentatominae): from egg to adult

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Abstract

Banasa maculata **sp. nov.** is described from a Brazilian Atlantic Forest, including immature stages and aspects of its life history. Adults and nymphs were reared in laboratory and fed on fruits of *Miconia sellowiana* (Melastomataceae). Eggs and first instars of *B. maculata* are similar to those of other species of *Banasa*; however, the color pattern of the abdomen distinguishes *B. maculata*, particularly first, fourth, and fifth instars. Light and dark morphs were observed for third, fourth, and fifth instars. Head-width measurements overlap only between fourth and fifth instars. Eggs of *B. maculata*, in S.E.M., show a reticulate pattern with deep cells and irregular rims. The most frequent size of an egg clutch was 12. Average duration of the immature stages (egg to adult) was 37.6 ± 13.24 days. The highest mortality occurred in the fifth instar (45.9%). *Banasa maculata* belongs to the "*cuspidata* group" of *Banasa* because of the presence of an apical projection of each posterolateral angle of the pygophore. Adults of *B. maculata* resemble *B. varians* Stål; the new species is recognized by the transversal, irregular, broad macula on pronotum; gonocoxites 8 deeply excavated medially; and the male proctiger subtriangular, narrowing toward the apex.

Key words: Pentatominae, morphology of genitalia, immature stages, chorion sculpture

Introduction

The genus *Banasa* Stål is one of the most diverse genera among Pentatomidae, with 79 nominal species occurring from southern Canada to Argentina (Thomas & Yonke 1988; 1990). The genus was divided by Thomas and Yonke (1985) into 11 infrageneric groups based mainly on the male external genitalia. Revisions and keys are available for the Nearctic (Thomas & Yonke 1981), Mexican, Central American, Caribbean (Thomas & Yonke 1988), and South American species (Thomas & Yonke 1990).

Despite the large number of species and wide geographic distribution, immature stages are known for only four species of *Banasa*, the Nearctic *B. dimiata* (Say) and *B. calva* (Say) (DeCoursey 1963) and the Neotropical *B. centralis* Sailer and *B. zeteki* Sailer (Brailovsky *et al.* 1992). Although long recognized to be helpful in finding solutions to problems in entomology (Decoursey & Esselbaugh 1962; Richter 1972; Brailovsky *et al*. 1992), the importance of early identification of insects and the growing need for morphological and life history studies of immature stages of pentatomids have only been recently addressed (Martins & Campos 2006; Matesco *et al*. 2009b).

Here we describe *Banasa maculata* **sp. nov.** based on male and female genitalia, the external morphology of the immature stages, and aspects of the life history.

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