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# Synopsis and keys to the tribes, genera, and species of Miridae (Hemiptera: Heteroptera) of Minas Gerais, Brazil Part I: Bryocorinae

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## Abstract

This paper begins a series of synoptic taxonomic treatments on the Miridae known from Minas Gerais, Brazil, by subfamily, beginning with the Bryocorinae. We provide diagnoses, host-plant information, distribution data, and illustrated keys to four tribes, 24 genera, and 56 species. For most species, illustrations of the adults, selected morphological characters, and male genitalia are provided to facilitate identification.

**Key words:** Hemiptera, Heteroptera, Miridae, Bryocorinae, Brazil, Minas Gerais, diagnoses, distribution, host plants, keys

## Introduction

The Miridae, commonly referred to as plant bugs, represent the largest and most diverse family of Heteroptera, with more than 10,000 described species (Schuh, 1995) or about 25% of all Heteroptera (Henry, 2009). The family is currently separated into the eight subfamilies Bryocorinae, Cylapinae, Deraeocorinae, Isometopinae, Mirinae, Orthotylinae, Phylinae, and Psallopinae (Schuh, 1995). Many species, such as the cotton fleahopper, *Pseudatomoscelis seriatus* (Reuter) [Phylinae], *Lygus* spp. [Mirinae], a cocoa capsid *Distantiella theobroma* (Distant) [Bryocorinae], and *Pycnoderes quadrimaculatus* (Guérin-Méneville) [Bryocorinae], are major agricultural pests (Wheeler, 2000a, 2001). On the other hand, a great many other taxa, such as species of *Deraeocoris* Kirschbaum [Deraocorinae], *Hyaliodes* Reuter [Deraeocorinae], *Hyalochloria* Reuter [Orthotylinae], *Stethoconus* Flor (Deraeocorinae), and *Tytthus* Reuter (Phylinae) are effective predators useful in biocontrol programs (Henry, 2000; Wheeler, 2000b, 2001).

In Brazil, plant bugs also have been shown to be important crop pests (Ferreira *et al.*, 2001; Wheeler, 2000a), as well as potential biological control agents (Henry, 2000; Wheeler, 2000b, 2001), and have been the subject of numerous biodiversity surveys (e.g., Paula and Ferreira, 1998, 2000). Ferreira *et al.* (2001) reported 296 species of Miridae from Minas Gerais and recorded 141 hosts, noting that 98.5% of the plants have some agricultural, pharmacological, or ornamental importance. More recently, Ferreira *et al.* (2006) documented plant bug distributions in Minas Gerais, taking into account the vegetative zones, climatic features, and species richness.

This work begins a series of synoptic taxonomic papers on the Miridae known from Minas Gerais, Brazil, by subfamily, beginning with the Bryocorinae. We provide diagnoses, host-plant information, distributional data, and illustrated keys to four tribes, 24 genera, and 56 species. For each species, illustrations of the adults, selected morphological characters, and male genitalia when possible are provided to facilitate identification.

A great amount of credit for our current knowledge of the Neotropical (and the world) Miridae must go to the late Dr. José C. M. Carvalho (Henry and Wheeler, 1994), our Brazilian colleague who described nearly 400 genera and more than 2,000 species worldwide (Carvalho and Froeschner, 1987, 1990, 1994). The descriptions of these many new taxa, combined with his monumental world catalog (Carvalho, 1957–1960) and keys to the mirid subfamilies, tribes, and genera of the world (Carvalho, 1952, 1955a), have helped to form the foundation for all systematic work on Miridae today and have inspired all of us who have followed him. As a consequence, we are pleased to dedicate this series of papers to José Carvalho in recognition of his enormous contributions to Miridology, Heteropterology, and Science in general.