



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

PAULO SERGIO FIUZA FERREIRA¹ & THOMAS J. HENRY²

¹Museu de Entomologia, Departamento de Biologia Animal, Universidade Federal de Viçosa, 36570-000, Viçosa, Brazil.

E-mail: pfiuza@ufv.br

²Systematic Entomology Laboratory, Agricultural Research Service, United States Department of Agriculture, c/o National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA. E-mail: thomas.henry@ars.usda.gov

Table of contents

Abstract	3
Introduction	3
Material and methods	4
Minas Gerais geography	4
Taxonomic synopsis	5
Subfamily Bryocorinae Baerensprung	5
Key to Minas Gerais Tribes of Bryocorinae	5
Tribe Bryocorini Baerensprung	6
Genus <i>Monalocoris</i> Dahlbom	6
Key to species of <i>Monalocoris</i> of Minas Gerais	6
<i>Monalocoris carioca</i> Carvalho and Gomes	6
<i>Monalocoris pallidiceps</i> (Reuter)	6
Tribe Dicyphini Reuter	7
Key to the genera of Dicyphini of Minas Gerais	7
Genus <i>Campyloneuropsis</i> Poppius	7
Key to Minas Gerais species of <i>Campyloneuropsis</i>	7
<i>Campyloneuropsis infumatus</i> (Carvalho)	7
<i>Campyloneuropsis nigroculatus</i> (Carvalho)	8
Genus <i>Engytatus</i> Reuter	8
Key to the Minas Gerais species of <i>Engytatus</i>	8
<i>Engytatus modestus</i> (Distant)	8
<i>Engytatus varians</i> (Distant)	9
Genus <i>Macrolophus</i> Fieber	9
Key to Minas Gerais species of <i>Macrolophus</i>	9
<i>Macrolophus aragarsanus</i> Carvalho	10
<i>Macrolophus basicornis</i> (Stål)	10
<i>Macrolophus cuibanus</i> Carvalho	10
<i>Macrolophus praeclarus</i> (Distant)	11
Genus <i>Tupiocoris</i> China and Carvalho	11
Key to the Minas Gerais species of <i>Tupiocoris</i>	11
<i>Tupiocoris cucurbitaceus</i> (Spinola)	11
<i>Tupiocoris notatus</i> (Distant)	12
Tribe Ecritotarsini Berg	12
Key to the Minas Gerais genera of Ecritotarsini	12
Genus <i>Aspidobothrys</i> Reuter	13
Key to Minas Gerais species of <i>Aspidobothrys</i>	13
<i>Aspidobothrys designatus</i> (Distant)	13
<i>Aspidobothrys dimidiatus</i> (Stål)	14
<i>Aspidobothrys flavicostus</i> Carvalho	14
Genus <i>Bothrophorella</i> Reuter	14
<i>Bothrophorella nigra</i> Stål	14

Genus <i>Cyrtocapsus</i> Reuter	15
<i>Cyrtocapsus femoralis</i> Reuter	15
Genus <i>Ecclitotarsus</i> Stål	15
Key to Minas Gerais species of <i>Ecclitotarsus</i>	15
<i>Ecclitotarsus brasiliensis</i> Carvalho and Gomes	16
<i>Ecclitotarsus compactus</i> Carvalho	16
<i>Ecclitotarsus corcovadensis</i> Carvalho and Schaffner	16
<i>Ecclitotarsus cruxnigrus</i> Stål	16
<i>Ecclitotarsus hyalinus</i> Stål	17
<i>Ecclitotarsus nigrocruciatus</i> Stål	17
Genus <i>Eurychilella</i> Reuter	17
Key to Minas Gerais species of <i>Eurychilella</i>	18
<i>Eurychilella discoidalis</i> (Reuter)	18
<i>Eurychilella paracatua</i> Carvalho	18
Genus <i>Eurychiloides</i> Carvalho and Gomes	18
<i>Eurychiloides bilobosus</i> Carvalho and Gomes	18
Genus <i>Neella</i> Reuter	19
Key to Minas Gerais species of <i>Neella</i>	19
<i>Neella caipora</i> Carvalho	19
<i>Neella carmelitana</i> Carvalho	19
<i>Neella cinnamomea</i> Carvalho and Gomes	20
Genus <i>Neofurius</i> Distant	20
<i>Neofurius minensis</i> Carvalho	20
Genus <i>Neoneella</i> Costa Lima	20
<i>Neoneella minuscula</i> Carvalho	20
Genus <i>Pachymerocerista</i> Carvalho and Gomes	21
<i>Pachymerocerista pilosus</i> (Carvalho)	21
Genus <i>Parafurius</i> Carvalho and China	21
<i>Parafurius discifer</i> (Stål)	21
Genus <i>Pycnoderes</i> Guérin-Méneville	22
Key to Minas Gerais species of <i>Pycnoderes</i>	22
<i>Pycnoderes brasiliensis</i> Carvalho and Gomes	22
<i>Pycnoderes cataguasensis</i> Carvalho	23
<i>Pycnoderes emboliatus</i> Carvalho	23
<i>Pycnoderes explanatus</i> Carvalho and Rosas	23
<i>Pycnoderes incurvus</i> (Distant)	23
<i>Pycnoderes palustris</i> Carvalho	24
<i>Pycnoderes quadrimaculatus</i> Guérin-Méneville	24
<i>Pycnoderes sixeonotoides</i> Carvalho and Hussey	24
Genus <i>Sinervus</i> Stål, 1860	25
Key to Minas Gerais species of <i>Sinervus</i>	25
<i>Sinervus baerensprungi</i> Stål	25
<i>Sinervus costalimai</i> Carvalho	25
<i>Sinervus hyalipedes</i> Carvalho	26
Genus <i>Sixeonotus</i> Reuter	26
Key to Minas Gerais species of <i>Sixeonotus</i>	26
<i>Sixeonotus brasiliensis</i> Carvalho and Gomes	26
<i>Sixeonotus carmelitanus</i> Carvalho	26
<i>Sixeonotus minensis</i> Carvalho	27
Genus <i>Spartacus</i> Distant	27
Key to the Minas Gerais species of <i>Spartacus</i>	27
<i>Spartacus albatu</i> s Distant	27
<i>Spartacus discovittatus</i> Carvalho	27
<i>Spartacus minensis</i> Carvalho	28
Genus <i>Stictolophus</i> Bergroth	28
Key to Minas Gerais species of <i>Stictolophus</i>	28
<i>Stictolophus bicolor</i> (Carvalho)	28
<i>Stictolophus vicosensis</i> (Carvalho)	29
Genus <i>Syginas</i> Distant	29
Key to Minas Gerais species of <i>Syginas</i>	29
<i>Syginas centralis</i> Distant	29
<i>Syginas pallidipes</i> (Stål)	29
Genus <i>Tenthecoris</i> Scott	30
<i>Tenthecoris hsiaoi</i> Carvalho	30

<i>Tenthecoris orchidearum</i> (Reuter)	30
Tribe Monaloniini Reuter	31
Genus <i>Monalonia</i> Herrich-Schaeffer	31
<i>Monalonia schaefferi</i> Stål, 1860	31
Acknowledgments	37
References	37

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 [Deraeocorinae], *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.