

ZOOTAXA

1477

**A review of the species of *Belostoma* Latreille, 1807
(Hemiptera: Heteroptera: Belostomatidae)
from the four southeastern Brazilian states**

JOSÉ RICARDO INACIO RIBEIRO



Magnolia Press
Auckland, New Zealand

José Ricardo Inacio Ribeiro

A review of the species of *Belostoma* Latreille, 1807 (Hemiptera: Heteroptera: Belostomatidae) from the four southeastern Brazilian states

(*Zootaxa* 1477)

70 pp.; 30 cm.

17 May 2007

ISBN 978-1-86977-115-7 (paperback)

ISBN 978-1-86977-116-4 (Online edition)

FIRST PUBLISHED IN 2007 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

© 2007 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)



A review of the species of *Belostoma* Latreille, 1807 (Hemiptera: Heteroptera: Belostomatidae) from the four southeastern Brazilian states

JOSÉ RICARDO INACIO RIBEIRO

Departamento de Zoologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro, Caixa Postal 68044, 21944-970, Rio de Janeiro, RJ, Brasil. E-mail: belostom@acd.ufrj.br

Table of contents

Abstract	4
Introduction	4
Material and methods	8
Results	11
Genus <i>Belostoma</i> Latreille, 1807	11
Key to species of adult <i>Belostoma</i> from the four southeastern Brazilian states	11
<i>Belostoma</i> fauna from southeastern Brazil	13
<i>Belostoma aurivillianum</i> (Montandon, 1899)	13
<i>Belostoma bergi</i> group <i>sensu</i> Lauck, 1962	15
<i>Belostoma bergi</i> (Montandon, 1899)	15
<i>Belostoma bosqi</i> De Carlo, 1932	17
<i>Belostoma costalimai</i> De Carlo, 1938	18
<i>Belostoma dentatum</i> group <i>sensu</i> Nieser, 1975	21
<i>Belostoma anurum</i> (Herrich-Schäffer, 1848)	21
<i>Belostoma cummingsi</i> De Carlo, 1935	22
<i>Belostoma dallasi</i> De Carlo, 1930	25
<i>Belostoma dentatum</i> (Mayr, 1863)	25
<i>Belostoma elongatum</i> Montandon, 1908	28
<i>Belostoma foveolatum</i> (Mayr, 1863)	29
<i>Belostoma orbiculatum</i> Estévez & Polhemus, 2001	31
<i>Belostoma dilatatum</i> group <i>sensu</i> Lauck, 1962	32
<i>Belostoma dilatatum</i> (Dufour, 1863)	32
<i>Belostoma discretum</i> Montandon, 1903	34
<i>Belostoma noualhieri</i> Montandon, 1903	38
<i>Belostoma oxyurum</i> group <i>sensu</i> Lauck, 1962	38
<i>Belostoma candidulum</i> Montandon, 1903	39
<i>Belostoma horvathi</i> Montandon, 1903	41
<i>Belostoma sanctulum</i> Montandon, 1903	42
<i>Belostoma plebejum</i> group <i>sensu</i> Nieser, 1975	43
<i>Belostoma micantulum</i> (Stål, 1860)	43
<i>Belostoma plebejum</i> (Stål, 1860)	46
<i>Belostoma stollii</i> (Amyot & Serville, 1843)	48
<i>Belostoma testaceopallidum</i> group <i>sensu</i> Lauck, 1962	50
<i>Belostoma ribeiroi</i> De Carlo, 1933	50
<i>Belostoma testaceopallidum</i> Latreille, 1807	52
Acknowledgements	55
Glossary	56
References	67

Abstract

The species of the Neotropical genus *Belostoma* Latreille, 1807 from southeastern Brazil are poorly known. Therefore here I review and key for the first time the *Belostoma* species from these southeastern states: Espírito Santo, Minas Gerais, Rio de Janeiro, and São Paulo. The following 22 species are recorded and redescribed: *Belostoma anurum* (Herich-Schäffer), *B. aurivillianum* (Montandon), *B. bergi* (Montandon), *B. bosqi* De Carlo, *B. candidulum* Montandon, *B. costalimai* De Carlo, *B. cummingsi* De Carlo, *B. dallasi* De Carlo, *B. dentatum* (Mayr), *B. dilatatum* (Dufour), *B. discretum* Montandon, *B. elongatum* Montandon, *B. foveolatum* (Mayr), *B. horvathi* Montandon, *B. micantulum* (Stål), *B. noualhieri* Montandon, *B. orbiculatum* Estévez & Polhemus, *B. plebejum* (Stål), *B. ribeiroi* De Carlo, *B. sanctulum* Montandon, *B. stollii* (Amyot & Serville), and *B. testaceopallidum* Latreille. Three new records from this region are reported: *B. bergi*, *B. bosqi*, and *B. elongatum*. *Belostoma minor* (Palisot de Beauvois) and *B. oxyurum* (Dufour) probably do not occur in southeastern Brazil. The single record of the first species and the several records of the second one in the region are cases of misidentification. Nine new synonymies are established (junior synonymies within parentheses): *B. candidulum* (*B. amici*), *B. costalimai* (*B. truxali*), *B. cummingsi* (*B. cachoeirinhensis*), *B. dilatatum* (*B. ripicolum*), *B. ribeiroi* (*B. lundbladi*), *B. stollii* (*B. brasiliensis*; *B. planum*; and *B. stollii*), and *B. testaceopallidum* (*B. grandicollum*). Lectotypes are designated for *B. aurivillianum*, *B. bergi*, and *B. discretum*. Four characters have proven useful for species delimitation: the ratio between the greatest pronotal width and its length in the midline, the aspect of the prosternal keel, the pilosity pattern of the connexivum, and the ratio between the width of the ventral diverticulum and its length in ventral view. Lists with the morphological terms and characters suggested for these species are included, together with synonyms proposed by other taxonomists and morphologists.

Key words: *Belostoma*, key to species, male genitalia, Nepomorpha, taxonomy, water bug, Neotropics

Introduction

Belostomatidae Leach, 1815 is almost world-wide in distribution, although it is absent in most of Europe and its greatest diversity is in the tropics (Merritt & Cummins 1996; Schuh & Slater 1995). This family includes the largest of all Heteroptera. Dufour (1863: 373) reported specimens of *Lethocerus maximus* De Carlo, 1938 having a length of up to 110 mm: “Dans le groupe des BÉlostomides se voient les plus gigantesques Hydrocorises du globe, puisqu’il y en a dont la taille mesure douze centimètres.”

Lauck and Menke (1961) treated the higher classification of the family and recognized three subfamilies comprising seven genera. Polhemus (1995) having recently resurrected *Appasus* Amyot & Serville, 1843, there are now eight genera. The subfamily Belostomatinae *sensu* Lauck and Menke, 1961 can be distinguished from the other subfamilies of Belostomatidae mainly by the sternites not being subdivided by a suture (autapomorphic state, see Mahner 1993); and the peculiar egg-laying habit of females (Lauck & Menke 1961; see Nieser 1975), which attracted early attention because the males of this subfamily carry the eggs on their backs, a characteristic unique within the aquatic Heteroptera as far as is known (Merritt & Cummins 1996; Schuh & Slater 1995).

Belostoma can be distinguished from other genera of Belostomatinae by the large membrane of heme-lytra, the phallobase bifurcate dorsally, and dorsal arms of phallosome extending nearly to apex of ventral diverticulum (De Carlo 1968, Nieser 1975).

According to Nieser (1975) and Lanzer-de-Souza (1980), *Belostoma* Latreille, 1807 has about seventy described species, and is most richly represented in tropical South America. Forty-six species are currently reported from Brazil (Lanzer-de-Souza 1980, 1992, 1996).

The classification and species concept in *Belostoma* have been based on the unfinished monograph of the genus by Lauck (1962, 1963, 1964). Lauck (1962) was the first to use male genital structures for distinguishing species within *Belostoma*. In his study he proposed sixteen groups of species based on features of the male genitalia.

According to Merritt and Cummins (1996) and Ribeiro (1999), identification is often difficult because many species are very similar in appearance, and the rarity of some taxa also contributes to confusion. Other