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Belostomatidae Leach, 1815 (Insecta: Hemiptera: Heteroptera: Nepomorpha) of northeastern Brazil

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Abstract. Belostomatidae Leach, 1815 (Insecta: Hemiptera: Heteroptera: Nepomorpha), also known as giant water bugs, is a family with 11 genera and about 160 described species, most of which are recorded from the Neotropical region. Knowledge about these bugs in northeastern Brazil is relatively poor, with 16 previously recorded species. Here, we present new records for five additional species based on material from the states of Ceará, Maranhão, and Piauí deposited in the Coleção Zoológica do Maranhão, Caxias, Brazil. This increases to 21 the number of species recorded from the region. In addition, we provide photographs, distribution maps, and a key to the fauna of Belostomatidae from northeastern Brazil.

Keywords. Aquatic insects, faunistics, giant water bugs, taxonomy.

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Introduction

Belostomatidae Leach, 1815 (Insecta: Hemiptera: Heteroptera: Nepomorpha) is a family of aquatic insects commonly known as giant water bugs, electric light bugs, or toe biters (Menke 1979). They are

distributed almost worldwide, although absent from most of Europe, and their greatest diversity is in the tropics (Merritt & Cummins 1996; Schuh & Weirauch 2020). There are 11 genera and more than 160 species in the family, most of which are recorded from the Neotropical region (Perez-Goodwyn 2006; Polhemus & Polhemus 2008; Estévez & Ribeiro 2011; Moreira *et al.* 2011; Ribeiro *et al.* 2017, 2018). In Brazil, 55 species are currently recorded; these are distributed among the following four genera: *Belostoma* Latreille, 1807 (46 species), *Horvathinia* Montandon, 1911 (one species), *Lethocerus* Mayr, 1853 (seven species), and *Weberiella* De Carlo, 1966 (one species) (Moreira *et al.* 2011; Almeida *et al.* 2019; Rodrigues *et al.* 2020; Ribeiro *et al.* 2021; Stefanello & Rodrigues 2021).

Studies on Brazilian aquatic and semiaquatic bugs (Nepomorpha and Gerromorpha, respectively) are concentrated mainly in the northern and southeastern regions of the country, a fact that impairs the understanding of the geographic distribution patterns of these insects (Rodrigues *et al.* 2012). This has been changing in recent years due to surveys performed by local researchers focusing on semiaquatic bugs in the northeastern region (e.g., Franco *et al.* 2020, 2021; Rodrigues *et al.* 2021; Rodrigues & Moreira 2023). However, the aquatic bug fauna from northeastern Brazil is still poorly known, especially that from the Caatinga and Cerrado biomes, with some states including very few species reported so far (Moreira *et al.* 2011; Takiya *et al.* 2016).

The Brazilian Northeast occupies about 18% of the national territory, comprising the states of Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, and Sergipe (IBGE 2021); this area occupies parts of the Amazon, Atlantic Forest, Caatinga, and Cerrado biomes. Among the species of Belostomatidae recorded from Brazil, only the following 16 have been reported from the northeastern portion of the country: *Belostoma amazonum* Estévez & Polhemus, 2001; *B. anurum* (Herrich-Schäffer, 1848); *B. bosqi* De Carlo, 1932; *B. dallasi* De Carlo, 1930; *B. dentatum* (Mayr, 1863); *B. dilatatum* (Dufour, 1863); *B. discretum* Montandon, 1903; *B. elongatum* Montandon, 1908; *B. foveolatum* (Mayr, 1863); *B. horvathi* Montandon, 1903; *B. micantulum* (Stål, 1860); *B. plebejum* (Stål, 1860); *B. stollii* (Amyot & Serville, 1843); *Lethocerus annulipes* (Herrich-Schäffer, 1845); *L. delpontei* De Carlo, 1930; and *L. maximus* De Carlo, 1938 (Moreira *et al.* 2011; Takiya *et al.* 2016; Almeida *et al.* 2019; Ribeiro *et al.* 2021).

In order to overcome the knowledge gap on the distribution of Belostomatidae in northeastern Brazil, we studied material deposited in one of the most important biological collections in this region. The original information presented here includes new records, photographs, distribution maps, and a key to the species.

Material and methods

The material examined is deposited in the Coleção Zoológica do Maranhão, Universidade Estadual do Maranhão, Caxias, Brazil (CZMA), which is the largest repository and a reference biological collection for research carried out in the northeastern portion of the country (Souza 2018; SiBBR 2020). The giant water bugs from the CZMA were collected mostly in the state of Maranhão, but there are also specimens from the states of Piauí and Ceará. Specimens were identified by CLF using information provided by Lauck (1962, 1963, 1964), Estévez & Polhemus (2007), Perez-Goodwyn (2006), Ribeiro (2007), Ribeiro & Alecrim (2008), Ribeiro *et al.* (2017), and Stefanello (2021), then revised by FS. Photographs were taken with a Canon EOS Rebel T6i DSLR camera, except for small specimens, in which case a Leica M205 C stereo microscope coupled with a digital camera and the Leica LAS imaging system were used. The material examined is organized alphabetically by country. In the same section, information given in brackets is not included in specimens' labels, but was obtained from publications or as personal information from the Curator of the CZMA, Prof. Dr Francisco Limeira de Oliveira, and numerical order was added to organize the specimens. In the distribution section of each species, all references that we are aware of are provided for records from Brazil. For other countries and

territories, only the first known record is provided. Maps were produced using QGIS ver. 3.10.7 (QGIS Development Team 2020). Records based on uncertain data (e.g., only state is known) are displayed on the maps as question marks.

Results

A total of 150 specimens were examined, comprising 13 species of *Belostoma* and three species of *Lethocerus*. We report five new records from the Northeast Region of the country: *Belostoma aurivillianum* (Montandon, 1899); *B. costalimai* De Carlo, 1938; *B. gestroi* Montandon, 1900; *B. harrisi* Lauck, 1962; and *B. nessimiani* Ribeiro & Alecrim, 2008. Thus, the number of species recorded from the area is increased from 16 to 21. The state with the highest number of new records is Maranhão, with 10 species, followed by Piauí with two, and Ceará with one. Five species of *Belostoma* previously recorded from the Northeast Region (Ribeiro *et al.* 2021) were not represented in the material examined: *B. amazonum*, *B. dallasi*, *B. foveolatum*, *B. horvathi*, and *B. plebejum*. We present below a brief taxonomic treatment for each studied species recorded in the Northeast Region of Brazil, organized by subfamily, genus and species group according to Stefanello (2021) for *Belostoma*, followed by a key to all the species occurring in the Brazilian Northeast. An updated key to the species groups of *Belostoma* has been recently provided by Stefanello (2021).

Class Insecta Linnaeus, 1758
Order Hemiptera Linnaeus, 1758
Suborder Heteroptera Latreille, 1810
Family Belostomatidae Leach, 1815
Subfamily Belostomatinae Leach, 1815
Tribe Belostomatini Leach, 1815
Genus *Belostoma* Latreille, 1807

Belostoma bergi species group sensu Lauck (1964)

This group consists of four species, two of which are recorded from northeastern Brazil. Total lengths range between 19.2–27.5 mm (Ribeiro 2007). They are characterized by the body broadly flattened, elliptical, and the eyes triangular, frontally elongated, with the lateral margin straight (Lauck 1964).

Belostoma bosqi De Carlo, 1932 Figs 1, 38

Diagnosis

Yellowish or whitish longitudinal median stripe on pronotum and scutellum; ventral abdominal pubescence not extending along genital operculum, covering about one-third of connexivum (Ribeiro 2007).

Material examined

BRAZIL – Maranhão • 2 ♂♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00057, 00058]; C.L. Franco det. 2021; CZMA • 2 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00059, 00060]; CZMA • 1 ♂; Caxias municipality, Reserva Ecologica do Inhamum; [04°53'56" S, 43°26'10" W]; 27–29 Apr. 2006; R.O. Souza *et al.* leg. [00044]; C.L. Franco det. 2021; CZMA • 1 ♂; Reserva Ecologica do Inhamum; [4°53'56" S, 43°26'10" W]; 8–9 Aug. 2008; L.L. Reis leg. [00063]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (De Carlo 1930); BOLIVIA (Lauck 1964); BRAZIL: **Amazonas** (Nieser 1975; Ribeiro 2007; Almeida *et al.* 2019), **Maranhão** (Almeida *et al.* 2019; this work), **Mato Grosso** (Lauck 1964; Heckman 1998; Ribeiro 2007; Almeida *et al.* 2019; Dias-Silva *et al.* 2020), **Mato Grosso do Sul** (De Carlo 1930, Ribeiro 2007), **Minas Gerais** (Ribeiro 2007), **Rondônia** (Ribeiro 2007), **São Paulo** (Ribeiro 2007), **Tocantins** (Menke & Lauck 1962); PARAGUAY (De Carlo 1930); PERU (Lauck 1964); SURINAME (Lauck 1964); VENEZUELA (Lauck 1964).

Distribution in northeastern Brazil

Maranhão.

Belostoma costalimai De Carlo, 1938

Figs 2, 38

Diagnosis

Ventral abdominal pubescence extending along genital operculum, covering entire margin of connexivum and part of sternites (Ribeiro 2007).

Material examined

BRAZIL – **Maranhão** • 1 ♀; Caxias municipality, Fazenda Bode; 24 Jul. 1999; F. Limeira-de-Oliveira *et al.* leg. [00064]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 12–20 Oct. 2012; F. Limeira-de-Oliveira, A.A. Santos and C.F. Barros leg. [00042]; C.L. Franco det. 2021; CZMA.

Distribution

BRAZIL: **Espírito Santo** (Ribeiro 2007), **Goiás** (Menke & Lauck 1962), **Maranhão** (this work); **Mato Grosso** (Lauck 1964; Dias-Silva *et al.* 2010; Giehl *et al.* 2018), **Minas Gerais** (De Carlo 1938; Nieser & Melo 1997; Pelli & Barbosa 1998; Melo & Nieser 2004), **Pará** (Ribeiro 2000, 2007; Almeida *et al.* 2019), **Rio de Janeiro** (De Carlo 1938; Ribeiro 2005, 2007), **Roraima** (Ribeiro 2000, 2007), **São Paulo** (De Carlo 1938; Lauck 1964; Ribeiro 2007), **Tocantins** (Menke & Lauck 1962; Lauck 1964); COLOMBIA (Roback & Nieser 1974); SURINAME (De Carlo 1960).

Distribution in northeastern Brazil

Maranhão.

Note

First records from the state of Maranhão and northeastern Brazil.

Belostoma dentatum species group sensu Ribeiro *et al.* (2017)

This group consists of 18 species, six of which are recorded from northeastern Brazil. Total lengths range between 25.0 and 49.0 mm. They are characterized by the article II of the labium usually longer than article III, and the prosternal keel rounded or pointed and strongly developed (Ribeiro *et al.* 2017).

Belostoma anurum (Herrich-Schäffer, 1848)

Figs 3, 17, 23, 28–29, 39

Diagnosis

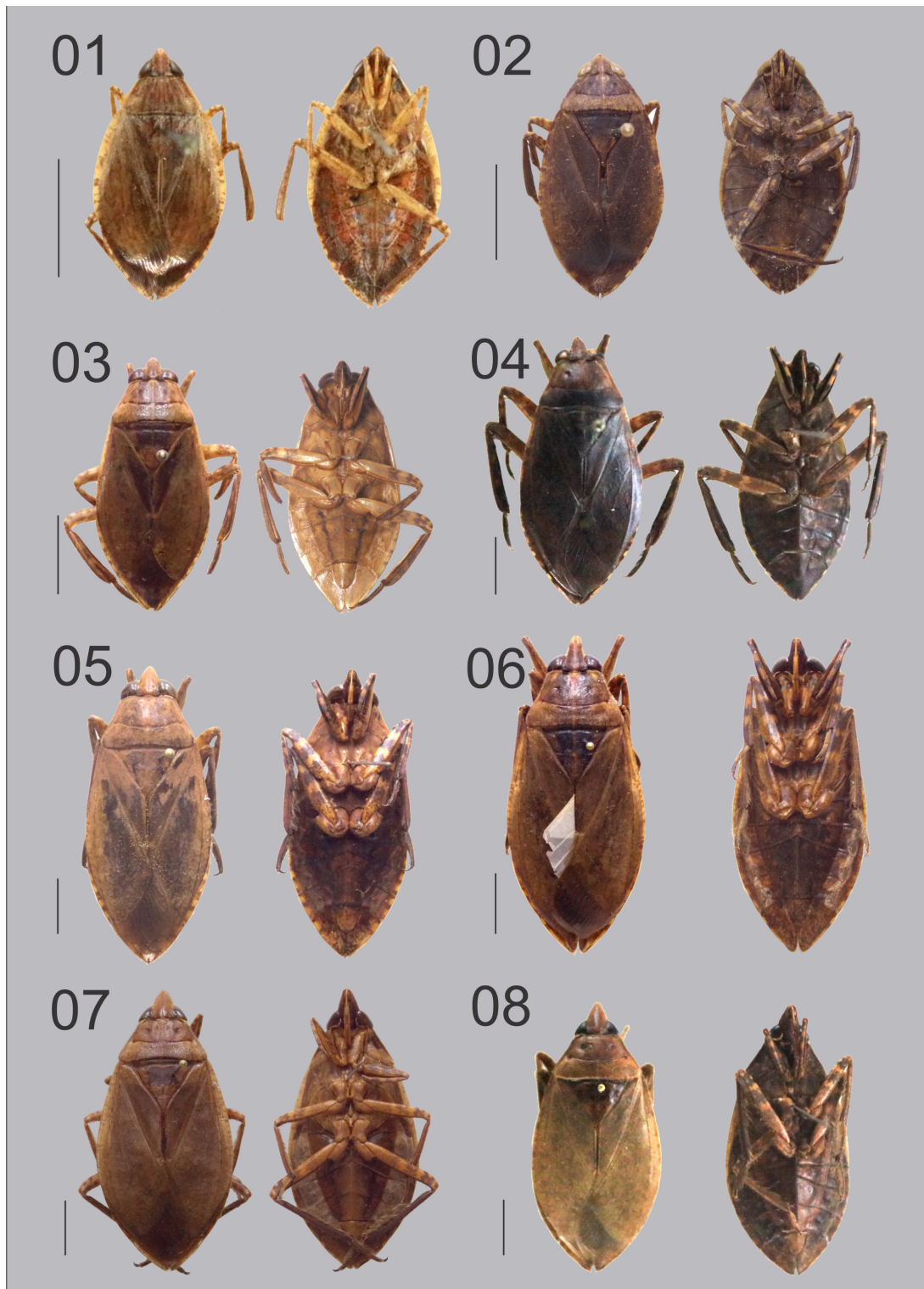
Body elliptical; eyes as wide as long (Fig. 17), prosternal keel poorly anteriorly curved and prominent (Fig. 23) (Ribeiro *et al.* 2017); ventral diverticulum of phallosoma twice as wide as long; phallosoma with ventroapical protuberance of diverticulum poorly developed (Figs 28–29) (Ribeiro 2007).

Material examined

BRAZIL – **Ceará** • 1 ♂; Ubajara municipality, Parque Nacional de Ubajara, Cachoeira do Cafundó; 3°50'13" S, 40°54'35" W; 21–24 Apr. 2012; J.A. Rafael and F. Limeira-de-Oliveira leg. [00084]; C.L. Franco det. 2021; CZMA. – **Maranhão** • 1 ♀; Mirador municipality, Zona Rural, Sítio Melancia; [6°22'19.7" S, 44°21'44.1" W]; 7–8 Mar. 2008; J.C. Silva and M.J. Almeida-Holanda leg. [00045]; C.L. Franco det. 2021; CZMA • 1 ♂; Parque Estadual do Mirador, Base do Mosquito; [6°24'38.6" S, 44°28'50.1" W]; 4–8 Feb. 2011; F. Limeira-de-Oliveira leg. [00083]; C.L. Franco det. 2021; CZMA • 3 ♀♀; Parque Estadual do Mirador, Base dos Cágados; 6°46'37" S, 45°06'34" W; 27 Nov.–3 Dec. 2011; A.A. Santos, T.M.A. Lima and F. Limeira-de-Oliveira leg. [00085,00086, 00088]; C.L. Franco det. 2021; CZMA • 1 ♂; Parque Estadual do Mirador, Posto Avançado do Mel; 6°43'50" S 44°58'59" W; 2–8 Apr. 2011; F. Limeira-de-Oliveira, G.A. Reis and M.S. Oliveira leg. [00081]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, G.A. Reis and M.S. Oliveira leg. [00065]; CZMA • 1 ♂; [Formosa da Serra Negra municipality]; Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 7–15 May 2010; C.S. Nunes and E. Rodrigues-da-Silva leg. [00091]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; C.S. Nunes and E. Rodrigues-da-Silva leg. [00043]; CZMA • 1 ♀; Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 12–20 Oct. 2012; F. Limeira-de-Oliveira, A.A. Santos and C.F. Barros leg. [00039]; C.L. Franco det. 2021; CZMA • 2 ♂♂; Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 9–16 May 2013; F. Limeira-de-Oliveira, A.A. Santos and C.F. Barros leg. [00038, 00040, 00091]; C.L. Franco det. 2021; CZMA • 3 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, A.A. Santos and C.F. Barros leg. [00036, 00037, 00041]; CZMA • 1 ♀; Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 1–3 Jul. 2013; F. Limeira-de-Oliveira, A.A. Santos and C.F. Barros leg. [00035]; C.L. Franco det. 2021; CZMA. – **Piauí** • 2 ♀♀; Caracol municipality, Parque Nacional Serra das Confusões, Casa do Visitante; 9°13'33" S, 43°27'48" W; 765 m a.s.l.; 23–24 Dec. 2013; J.A. Rafael, F. Limeira-de-Oliveira and T.T.A. Silva leg. [00082,00089]; C.L. Franco det. 2021; CZMA • 1 ♂; Guaribas municipality, Parque Nacional Serra das Confusões, Andorinhas; 9°08'27.8" S, 43°33'42.1" W; 515 m a.s.l.; 24 Dec. 2013; J.A. Rafael, F. Limeira-de-Oliveira and T.T.A. Silva leg. [00087]; C.L. Franco det. 2021; CZMA.

Distribution

BRAZIL (Herrich-Schäffer 1848): **Alagoas** (Ribeiro 2007; Ribeiro *et al.* 2017), **Bahia** (De Carlo 1938; Lauck 1964; Ribeiro 2007; Ribeiro *et al.* 2017), **Ceará** (Dias da Rocha 1936; Ribeiro 2007; Ribeiro *et al.* 2017; this work), **Espírito Santo** (De Carlo 1938; Ribeiro *et al.* 2017), **Maranhão** (Ribeiro 2007; Ribeiro *et al.* 2017; this work), **Minas Gerais** (Lauck 1964; Pereira *et al.* 1993; Nieser & Melo 1997; Melo & Nieser 2004; Souza *et al.* 2006; Ribeiro 2007; Ribeiro *et al.* 2017; Valbon *et al.* 2018, 2019; Santos *et al.* 2020), **Piauí** (this work); **Rio de Janeiro** (Stål 1860; De Carlo 1938; Lauck 1964; Ribeiro 2005, 2007; Ribeiro *et al.* 2017), **Rio Grande do Norte** (Lauck 1962), **Rio Grande do Sul** (Lanzer 1976), **Santa Catarina** (Lauck 1964), **São Paulo** (Ribeiro 2007; Castanhole *et al.* 2013; Pereira *et al.* 2015; Ribeiro *et al.* 2017); COLOMBIA (Mayr 1871); ECUADOR (Distant 1891); FRENCH GUIANA (Dufour 1863); GRENADA (Uhler 1894); MARTINIQUE (Ribeiro 2007); PARAGUAY (Montandon 1895); ST. VINCENT & THE GRENADINES (Uhler 1893); VENEZUELA (Ribeiro *et al.* 2017).



Figs 1–8. Dorsal and ventral habitus of males of examined species of Belostomatidae. 1. *Belostoma bosqi* De Carlo, 1932, ♂, Carolina municipality. 2. *B. costalimai* De Carlo, 1938, ♀, Caxias municipality. 3. *B. anurum* (Herrich-Schäffer, 1848), ♀, Caracol municipality. 4. *B. dentatum* (Mayr, 1863), ♀, Carolina municipality. 5. *B. elongatum* Montandon, 1908, ♀, Cândido Mendes municipality. 6. *B. harrisi* Lauck, 1964, ♀, Carolina municipality. 7. *B. dilatatum* (Dufour, 1863), ♂, Carolina municipality. 8. *B. gestroi* Montandon, 1900, ♂, Carolina municipality. Scale bars: 10 mm.

Distribution in northeastern Brazil

Alagoas, Bahia, Ceará, Maranhão, Piauí, and Rio Grande do Norte.

Note

First records from the state of Piauí.

Belostoma dallasi De Carlo, 1930

Diagnosis

Body relatively slender; anterior frontogenal suture equal to or longer than posterior frontogenal suture; vertex without median carina. Pronotum without median carina; scutellum reaching nodal line, with weak median carina posteriorly; prosternal keel prominent. Pubescence not extending along genital operculum, covering part of connexivum. Ventral diverticulum of phallosoma 1.3 × as wide as long (ventral view); ventroapical protuberance well developed (Ribeiro 2007).

Distribution

ARGENTINA (De Carlo 1930); BRAZIL (De Carlo 1960): **Bahia** (Almeida *et al.* 2019), **Ceará** (Ribeiro 2007), **Goiás** (Menke & Lauck 1962; Ribeiro *et al.* 2017), **Minas Gerais** (Ribeiro 2007), **Pará** (Almeida *et al.* 2019), **Rio de Janeiro** (Ribeiro *et al.* 2017); COLOMBIA (Ribeiro *et al.* 2017).

Distribution in northeastern Brazil

Bahia and Ceará.

Belostoma dentatum (Mayr, 1863)

Figs 4, 18, 24, 30–31, 39

Diagnosis

Body large, about 50 mm long; prosternal keel dilated, prominent (Fig. 24) (Ribeiro 2007); phallosoma with ventroapical protuberance of diverticulum strongly developed (Ribeiro 2007); dorsal arms of phallosoma broad, not widely separate (Figs 30–31) (Ribeiro *et al.* 2017).

Material examined

BRAZIL – **Maranhão** • 1 ♀; Carolina municipality, Pov. Canto Grande; [7°13'03.2" S, 47°25'35.2" W]; 23–27 Feb. 2009; F. Limeira-de-Oliveira, A.L. Costa and M.M. Abreu leg. [00077]; C.L. Franco det. 2021; CZMA • 2 ♀♀; Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00055, 00061]; C.L. Franco det. 2021; CZMA • 1 ♂; Caxias municipality, Reserva Ecologica do Inhamum; [4°53'56" S, 43°26'10" W]; 1–3 Sep. 2005; F. Limeira-de-Oliveira *et al.* leg. [00049]; C.L. Franco det. 2021; CZMA • 1 ♂; C.N [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi; 3°14'05" S, 46°41'03" W; 1–6 Mar. 2011; F. Limeira-de-Oliveira, M.M. Abreu and J.A. Silva leg. [00076]; C.L. Franco det. 2021; CZMA • 1 ♀; Coelho Neto municipality, Bairro Santana; [4°14'58.5" S, 43°00'47.1" W]; 30 Jun. 2010; L.M. Oliveira leg. [00092]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador [sic, Formosa da Serra Negra], municipality, Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 11–15 Nov. 2007; J.C. Silva *et al.* leg. [00075]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador municipality, Zona Rural, Sítio Melancia; [6°22'19.7" S, 44°21'44.1" W]; 7–8 Mar. 2008; F. Limeira-de-Oliveira and J.C. Silva leg. [00093]; C.L. Franco det. 2021; CZMA. – **Piauí** • 1 ♂; Teresina municipality, Jardim Zoobotânico; [5°02'28.4" S, 42°46'06.5" W]; 1 Jul. 1999; F.L. Oliveira leg. [00033]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Kirkaldy & Torre-Bueno 1909); BOLIVIA (Kirkaldy & Torre-Bueno 1909); BRAZIL (Dufour 1863): **Acre** (Ribeiro 2007), **Amazonas** (Nieser 1975; Ribeiro 2007; Almeida *et al.* 2019), **Maranhão** (this work), **Mato Grosso** (Ribeiro 2007), **Mato Grosso do Sul** (Nieser 1975; Ribeiro 2007; Gallo *et al.* 2017; Aranda *et al.* 2018), **Minas Gerais** (De Carlo 1938; Nieser & Melo 1997; Melo & Nieser 2004; Amato & Amato 2005; Ribeiro 2007), **Pará** (Nieser 1975; Ribeiro 2005, 2007; Almeida *et al.* 2019), **Piauí** (Ribeiro 2007; this work), **Rio de Janeiro** (Mayr 1871; Ribeiro 2005), **Rio Grande do Sul** (Mayr 1863; Lauck 1964; Nieser 1975; Lanzer 1976; Lanzer-de-Souza 1988; Ribeiro 2007; Ribeiro *et al.* 2017; Gauterio *et al.* 2021), **Rondônia** (Nieser 1975; Ribeiro 2007), **Roraima** (Almeida *et al.* 2019), **São Paulo** (Ribeiro 2007); PARAGUAY (Montandon 1895); PERU (Lauck 1964); URUGUAY (Ruffinelli & Pirán 1959).

Distribution in northeastern Brazil

Maranhão and Piauí.

Note

First records from the state of Maranhão.

Belostoma elongatum Montandon, 1908

Figs 5, 19, 25, 32–33, 40

Diagnosis

Body quite narrow; prosternal keel prominent, somewhat rounded at apex (Fig. 25) (Ribeiro 2007). Phallosoma with posterolateral margins of diverticulum sinuous in ventral view; dorsal arms of phallosoma slightly converge posteriorly and their inner margins are sinuous and convex basally and concave apically, protuberance indistinct in lateral view (Figs 32–33) (Ribeiro *et al.* 2017).

Material examined

BRAZIL – **Maranhão** • 2 ♀♀; Cândido Mendes municipality, Fazenda 7 Irmãos; 1°52'06" S, 45°45'59.7" W; 2–6 Jul. 2019; F. Limeira-de-Oliveira, D. Limeira and J.S. Brito leg. [00131, 00132]; C.L. Franco det. 2021; CZMA • 1 ♀; Carolina municipality, Pov. Canto Grande, Balneário Urupuxete; [7°13'03.2" S, 47°25'35.2" W]; 23–27 Feb. 2009; F. Limeira-de-Oliveira, A.L. Costa and M.M. Abreu leg. [00073]; C.L. Franco det. 2021; CZMA • 1 ♀; Cachoeira do Itapecuru; [7°24'58.3" S, 47°12'54.8" W]; 16–17 Oct. 2009; F. Limeira-de-Oliveira, R.O. Souza and P.A.M. Moraes leg. [00067]; C.L. Franco det. 2021; CZMA • 2 ♂♂; Caxias municipality, Reserva Ecologica do Inhamum; [4°53'56" S, 43°26'10" W]; 1–3 Sep. 2005; F. Limeira-de-Oliveira *et al.* leg. [00034, 00068]; C.L. Franco det. 2020; CZMA • 1 ♀; Reserva Ecologica do Inhamum, Povoado Coité; 4°54'43" S, 43°25'30" W; 25–26 Dec. 2013; M.K.A. Santos, C.M.S. Silva and A.A. Santos leg. [00074]; C.L. Franco det. 2021; CZMA • 1 ♀; Reserva Ecologica do Inhamum, Povoado Coité; 4°54'43" S, 43°25'30" W; 27–28 Nov. 2013; J.T. Câmara, P.C. Grossi and G.A. Reis leg. [00080]; C.L. Franco det. 2001; CZMA • 1 ♀; Mirador municipality, Zona Rural, Sítio Melancia; [6°22'19.7" S, 44°21'44.1" W]; 19–20 Dec. 2006; R.O. Souza, J.C. Silva *et al.* leg. [00071]; C.L. Franco det. 2021; CZMA • 1 ♀; Parque Estadual do Mirador, Base dos Cágados; 6°46'37" S, 45°06'34" W; 27 Nov.–3 Dec. 2011; A.A. Santos, T.M.A. Lima and F. Limeira-de-Oliveira leg. [00079]; C.L. Franco det. 2021; CZMA • 1 ♀; [Formosa da Serra Negra municipality], Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 30 Jun.–6 Jul. 2011; F. Limeira-de-Oliveira, T.T.A. Silva and A.A. Santos leg. [00072]; C.L. Franco det. 2021; CZMA • 1 ♂; Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 11–15 Nov. 2007; F. Limeira-de-Oliveira leg. [00090]; C.L. Franco det. 2021; CZMA. – **Piauí** • 1 ♂; Piracuruca municipality, Parque

Nacional de Sete Cidades; 4°05'57" S, 41°42'34" W; 8–12 Jan. 2013; T.M.A. Lima, F. Limeira-de-Oliveira and J.S. Pinto Junior leg. [00066]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (De Carlo 1930); BOLIVIA (Lauck 1964); BRAZIL: **Maranhão** (this work), **Mato Grosso** (Heckman 1998; Ribeiro 2007; Ribeiro *et al.* 2017; Almeida *et al.* 2019), **Mato Grosso do Sul** (Ribeiro 2007; Floriano *et al.* 2013), **Minas Gerais** (Souza *et al.* 2006; Ribeiro 2007), **Paraná** (Almeida *et al.* 2019), **Piauí** (Ribeiro 2007; this work), **Rondônia** (Ribeiro 2007), **Rio Grande do Sul** (Lanzer 1976; Ribeiro *et al.* 2017), **Santa Catarina** (Ribeiro *et al.* 2017), **São Paulo** (Gallo *et al.* 2017); PARAGUAY (Montandon 1908); PERU (Lauck 1964); URUGUAY (Ruffinelli & Pirán 1959).

Distribution in northeastern Brazil

Maranhão and Piauí.

Note

First records from the state of Maranhão.

Belostoma foveolatum (Mayr, 1863)

Diagnosis

Belostoma foveolatum is very similar to *B. elongatum*, but can be distinguished by the width of the ventral diverticulum in ventral view, which is narrower than in *B. elongatum*, as well as by the shape of the body; phallosoma with the dorsal arms more separate at mid-length in dorsal aspect. Finally, the lateral margins of the ventral diverticulum are clearly more strongly curved than in *B. elongatum* (Ribeiro *et al.* 2017).

Distribution

ARGENTINA (Berg 1879); BRAZIL: **Ceará** (Ribeiro 2000, 2007; Ribeiro *et al.* 2017; Almeida *et al.* 2019), **Mato Grosso** (Dias-Silva *et al.* 2010, 2020), **Mato Grosso do Sul** (Ribeiro 2000, 2007; Ribeiro *et al.* 2017), **Minas Gerais** (De Carlo 1938; Nieser & Melo 1997; Ribeiro 2000, 2007; Ribeiro *et al.* 2017), **Pará** (Lauck 1964; Ribeiro 2000, 2007; Ribeiro *et al.* 2017; Almeida *et al.* 2019), **Rio de Janeiro** (De Carlo 1938; Ribeiro 2005), **São Paulo** (De Carlo 1938; Lauck 1962; Ribeiro 2000, 2007; Ribeiro *et al.* 2017); FRENCH GUYANA (Mayr 1871); PARAGUAY (Montandon 1895).

Distribution in northeastern Brazil

Ceará.

Belostoma harrisi Lauck, 1964

Figs 6, 20, 40

Diagnosis

Clypeogenal cleft longer than clypeoloral cleft (Fig. 20); prosternal keel rounded, broad, prominent, slightly projecting anterad in lateral view; dorsal arms of phallosoma very slender, widely separate, with outer margins slightly directed posteroventrally at mid-length, and apices slightly convergent (Ribeiro *et al.* 2017).

Material examined

BRAZIL – **Maranhão** • 1 ♀; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00056]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador municipality, Zona Rural, Sítio Melancia; [6°22'19.7" S, 44°21'44.1" W]; 19–20 Dec. 2006; R.O. Souza, J.C. Silva *et al.* leg. [00048]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Ribeiro *et al.* 2017); BRAZIL: **Amazonas** (De Carlo 1966; Bachmann 1999; Ribeiro *et al.* 2017; Almeida *et al.* 2019), **Maranhão** (this work), **Pará** (Lauck 1964; Bachmann 1999; Ribeiro *et al.* 2017; Almeida *et al.* 2019), **Roraima** (Ribeiro *et al.* 2017; Almeida *et al.* 2019); GUYANA (Lauck 1964); PERU (Ribeiro *et al.* 2017); SURINAME (Lauck 1964); VENEZUELA (Lauck 1964).

Distribution in northeastern Brazil

Maranhão.

Note

First records from the state of Maranhão and northeastern Brazil.

Belostoma denticolle species group sensu Estévez & Polhemus (2001)

This group consists of four species, of which only one species is recorded from northeastern Brazil. Total lengths range between 11.0 and 16.0 mm. They are characterized by the ventral diverticulum flat and the arms of the phallobase longer than the posterior portion of the phallobase. This group resembles the *oxyurum* group by the flat shape of the male genitalia, but differs from it by the narrower pubescence of the connexivum (Estévez & Polhemus 2001).

Belostoma amazonum Estévez & Polhemus, 2001

Diagnosis

Body elongate; clypeogenal cleft as long as clypeolateral cleft; anteculus slightly shorter than interoculus; eyes globose, as wide as long; article II of the labium shorter than article III; prosternal keel acutely pointed, prominent; dorsal arms of phallosoma almost straight, not covering lateral margins of diverticulum (Estévez & Polhemus 2001).

Distribution

BRAZIL: **Amazonas** (Estévez & Polhemus 2001; Almeida *et al.* 2019), **Bahia** (Estévez & Polhemus 2001), **Mato Grosso** (Almeida *et al.* 2019), **Pará** (Cunha *et al.* 2015), **Roraima** (Almeida *et al.* 2019), **Santa Catarina** (Estévez & Polhemus 2001); VENEZUELA (Estévez & Polhemus 2001).

Distribution in northeastern Brazil

Bahia.

Belostoma dilatatum species group sensu Lauck (1964)

This group consists of three species, of which two are recorded from northeastern Brazil. Total lengths range between 35.0 and 50.0 mm. They are characterized by the anteoculus longer than the interoculus and the eyes triangular, frontally elongated, with the lateral margin straight (Ribeiro 2007).

Belostoma dilatatum (Dufour, 1863)

Figs 7, 41

Diagnosis

Body elliptical to rounded; ventral abdominal pubescence extending along genital operculum, covering entire margin of connexivum (Lauck 1963).

Material examined

BRAZIL – **Maranhão** • 3 ♂♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00051, 00052, 00160]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (De Carlo 1930); BOLIVIA (Lauck 1963); BRAZIL: **Maranhão** (Almeida *et al.* 2019; this work), **Mato Grosso** (Ribeiro 2007; Almeida *et al.* 2019), **Mato Grosso do Sul** (Ribeiro 2007; Floriano *et al.* 2013), **Minas Gerais** (Ribeiro 2007), **Pará** (Ribeiro 2007; Almeida *et al.* 2019), **Paraíba** (Ribeiro 2007; Almeida *et al.* 2019), **Paraná** (Gallo *et al.* 2017), **Rio de Janeiro** (Ribeiro 2005), **Rio Grande do Sul** (Lanzer 1976; Lanzer-de-Souza 1988; Amato & Amato 2005, 2006), **São Paulo** (Ribeiro 2007; Bardella *et al.* 2012); PARAGUAY (Lauck 1963); URUGUAY (Ruffinelli & Pirán 1959).

Distribution in northeastern Brazil

Maranhão and Paraíba.

Belostoma gestroi Montandon, 1900

Figs 8, 41

Diagnosis

Body elliptical; ventral abdominal pubescence not extending along the genital operculum, covering half of the connexivum (Lauck 1963).

Material examined

BRAZIL – **Maranhão** • 1 ♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00053]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00050]; CZMA • 1 ♂; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 20–23 Apr. 2007; F. Limeira-de-Oliveira leg. [00047]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Montandon 1900); BOLIVIA (De Carlo 1930); BRAZIL: **Amazonas** (Lauck 1963; Ribeiro 2004; Almeida *et al.* 2019), **Maranhão** (this work), **Mato Grosso** (Heckman 1998), **Mato Grosso do Sul** (Lauck 1963; Ribeiro 2004), **Pará** (Almeida *et al.* 2019); PARAGUAY (Montandon 1900); PERU (Lauck 1963); SURINAME (Nieser 1975).

Distribution in northeastern Brazil

Maranhão.

Note

First records from the state of Maranhão and northeastern Brazil.

Belostoma discretum species group sensu Lauck (1963)

This group consists of a single species; thus, it is characterized by the species features listed below.

Belostoma discretum Montandon, 1903

Figs 9, 42

Diagnosis

Body medium-sized, total length 22.5–27.2 mm; prosternal keel prominent, acute at apex; ventral abdominal pubescence not extending along genital operculum, covering about half of connexivum (Ribeiro 2007).

Material examined

BRAZIL – **Maranhão** • 1 ♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg.; C.L. Franco det. 2021; CZMA • 1 ♂; C.N [Centro Novo do Maranhão] municipality, Reserva Biológica do Gurupi; 3°14'01" S, 46°40'52" W; 1–5 Jul. 2011; M.M. Abreu and J.A. Silva leg. [00069]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 7–14 May 2010; J.K.P. Bezerra-Silva and J.H. Veras-e-Silva leg. [00078]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Montandon 1903); BOLIVIA (Lauck 1963); BRAZIL: **Acre** (Ribeiro 2007), **Amazonas** (De Carlo 1938; Lauck 1963; Nieser 1975; Pereira & Melo 2007; Ribeiro 2007; Almeida *et al.* 2019), **Maranhão** (Ribeiro 2007; this work); **Mato Grosso** (De Carlo 1930; Heckman 1998), **Mato Grosso do Sul** (Ribeiro 2007; Floriano *et al.* 2013), **Pará** (Nieser 1975; Ribeiro 2007; Almeida *et al.* 2019), **Rio de Janeiro** (Ribeiro 2005), **Rio Grande do Sul** (Almeida *et al.* 2019), **Rondônia** (Ribeiro 2007), **São Paulo** (De Carlo 1938; Lauck 1963; Ribeiro 2007; Gallo *et al.* 2017), **Tocantins** (Menke & Lauck 1962; Almeida *et al.* 2019); COLOMBIA (Morales-Castaño *et al.* 2008); PARAGUAY (Montandon 1903); PERU (Lauck 1963).

Distribution in northeastern Brazil

Maranhão.

Belostoma oxyurum group sensu Lauck (1964)

This group consists of seven species, of which only one is recorded from northeastern Brazil. Total lengths range between 12.0 and 21.2 mm. The species are characterized by male phallosoma straight with diverticulum of phallus flattened, circular and broad, without dorsal caudal protuberance, without depression in mid dorsal line, without developed ventroapical protuberance, and truncated at apex in ventral view; caudal laterodorsal margins; ventral abdominal pubescence well developed, covering about half of connexivum (slightly developed on penultimate visible segment) (Ribeiro & Estévez 2009).

Belostoma horvathi Montandon, 1903

Diagnosis

Body elliptical; anterior frontogenal suture usually longer than posterior frontogenal suture; clypeus reaching ocular line; vertex without median carina. Pronotum without median carina; scutellum not reaching nodal line (0.07–0.70 mm), without median carina; prosternal keel prominent, truncated or obtuse at apex. Pubescence extending posteriorly along less than half of operculum and covering about half of connexivum (Ribeiro & Estévez 2009).

Distribution

ARGENTINA (De Carlo 1938); BRAZIL: **Bahia** (Ribeiro & Estévez 2009), **Goiás** (Ribeiro 2007), **Minas Gerais** (De Carlo 1938; Nieser & Melo 1997; Pelli & Barbosa 1998; Barbosa 2002; Souza *et al.* 2006; Ribeiro 2007), **Paraná** (Ribeiro 2007), **Rio de Janeiro** (Ribeiro *et al.* 1998; Ribeiro 2007), **Rio Grande do Sul** (De Carlo 1938; Gautério *et al.* 2021), **Santa Catarina** (De Carlo 1938; Ribeiro 2007), **São Paulo** (De Carlo 1938; Ribeiro 2007; Ribeiro & Estévez 2009; Gallo *et al.* 2017).

Distribution in northeastern Brazil

Bahia.

Belostoma plebejum species group sensu Nieser (1975)

This group consists of nine species, of which three are recorded from northeastern Brazil. Their total lengths range between 9.5 and 16.2 mm; The species are characterized by the diverticulum curved downward, elliptical (e.g., Fig. 35); the ventral abdominal pubescence covering about half of the connexivum, not extending to the sternites (Estévez & Polhemus 2007; Ribeiro & Alecrim 2008).

Belostoma micantulum (Stål, 1860)

Figs 10, 21, 26, 34–35, 43

Diagnosis

Total body length 10.4–13.3 mm (Ribeiro 2007); prosternal keel prominent (Fig. 26); ventral diverticulum of phallosoma strongly depressed dorsally (Figs 34–35) (Estévez & Polhemus 2007).

Material examined

BRAZIL – **Maranhão** • 1 ♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00104]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg.



Figs 9–16. Dorsal and ventral habitus of examined species of Belostomatidae. **9.** *Belostoma discretum* Montandon, 1903, ♂, Carolina municipality. **10.** *B. micantulum* (Stål, 1860), ♂, Caxias municipality. **11.** *B. nessimiani* Ribeiro & Alecrim, 2008, ♂, Caxias municipality. **12.** *B. aurivillianum* (Montandon, 1899), ♂, Cândido Mendes municipality. **13.** *B. stollii* (Amyot & Serville, 1843), ♀, Cândido Mendes municipality. **14.** *Lethocerus annulipes* (Herrich-Schäffer, 1845), ♂, Ubajara municipality. **15.** *L. delpontei* De Carlo, 1930, ♂, Caxias municipality. **16.** *L. maximus* De Carlo, 1938, ♀, Riachão municipality. Scale bars: 9–11, 14–16 = 10 mm; 12–13 = 1 mm.

[00106]; CZMA • 1 ♂; Caxias municipality, Universidade Estadual do Maranhão, Morro do Alecrim; [4°51'56" S, 43°21'16" W]; 5 Apr. 2009; Z.J.C. Sousa and L.P. Neres leg. [00098]; C.L. Franco det. 2021; CZMA. – **Piauí** • 1 ♂; Guaribas municipality, Parque Nacional Serra das Confusões, Andorinhas; 9°08'27" S, 43°33'42" W; 515 m a.s.l.; 5–8 Jun. 2013; J.A. Rafael, F. Limeira-de-Oliveira and A.A. Santos leg. [00099]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; J.A. Rafael, F. Limeira-de-Oliveira and A.A. Santos leg. [00101]; CZMA.

Distribution

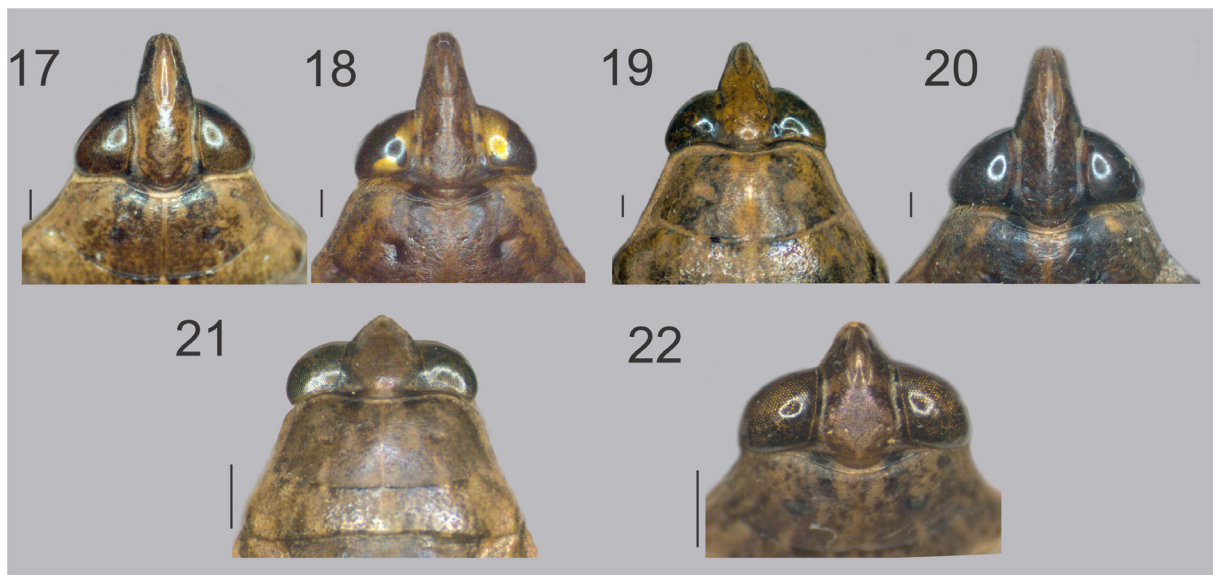
BRAZIL – **Maranhão** • 1 ♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00104]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00106]; CZMA • 1 ♂; Caxias municipality, Universidade Estadual do Maranhão, Morro do Alecrim; [4°51'56" S, 43°21'16" W]; 5 Apr. 2009; Z.J.C. Sousa and L.P. Neres leg. [00098]; C.L. Franco det. 2021; CZMA. – **Piauí** • 1 ♂; Guaribas municipality, Parque Nacional Serra das Confusões, Andorinhas; 9°08'27" S, 43°33'42" W; 515 m a.s.l.; 5–8 Jun. 2013; J.A. Rafael, F. Limeira-de-Oliveira and A.A. Santos leg. [00099]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; J.A. Rafael, F. Limeira-de-Oliveira and A.A. Santos leg. [00101]; CZMA.

Distribution in northeastern Brazil

Ceará, Maranhão, Piauí, and Rio Grande do Norte.

Note

First record from the state of Piauí.



Figs 17–22. Dorsal view of the head and part of the pronotum of examined species of Belostomatidae. **17.** *Belostoma anurum* (Herrich-Schäffer, 1848), ♀, Caracol municipality. **18.** *B. dentatum* (Mayr, 1863), ♀, Carolina municipality. **19.** *B. elongatum* Montandon, 1908, ♀, Carolina municipality. **20.** *B. harrisi* Lauck, 1964, ♀, Carolina municipality. **21.** *B. micantulum* (Stål, 1860), ♂, Caxias municipality. **22.** *B. nessimiani* Ribeiro & Alecrim, 2008, ♂, Caxias municipality. Scale bars: 1 mm.

Belostoma nessimiani Ribeiro & Alecrim, 2008
Figs 11, 22, 27, 36–37, 43

Diagnosis

Total body length 10–12 mm; eyes globose (Fig. 22); prosternal keel not prominent (Fig. 27); diverticulum of phallosoma with poorly developed median dorsal depression, dorsal arms abruptly convergent, shorter than phallobase (Figs 36–37) (Ribeiro & Alecrim 2008).

Material examined

BRAZIL – **Maranhão** • 6 ♂♂; Carolina municipality, Perímetro Urbano; 7°19'40" S, 47°27'14" W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00100, 00103, 00107, 00108, 00109, 00110]; C.L. Franco det. 2021; CZMA • 3 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00102, 00105, 00111]; CZMA • 1 ♂; Caxias municipality, Balneário Shalom; [4°55'41.6" S, 43°14'19.3" W]; 27–28 Feb. 2004; F. Limeira-de-Oliveira *et al.* leg. [00097]; C.L. Franco det. 2021; CZMA.

Distribution

BRAZIL: **Amazonas** (Ribeiro & Alecrim 2008; Almeida *et al.* 2019), **Maranhão** (this work), **Pará** (Ribeiro & Alecrim 2008), **Rio Grande do Sul** (Lopes *et al.* 2022).

Distribution in northeastern Brazil

Maranhão.

Note

First records from the state of Maranhão and northeastern Brazil.



Figs 23–27. Lateral view of the head, pronotum and prosternal keel of examined species of Belostomatidae. **23.** *Belostoma anurum* (Herrich-Schäffer, 1848). **24.** *B. dentatum* (Mayr, 1863). **25.** *B. elongatum* Montandon, 1908. **26.** *B. micantulum* (Stål, 1860). **27.** *B. nessimiani* Ribeiro & Alecrim, 2008. Scale bars: 1 mm.

Belostoma plebejum (Stål, 1860)

Diagnosis

Total body length 14.20–15.90 mm. Clypeogenal cleft as long as clypeoloral cleft; anteculus shorter than interoculus; labial article I shorter than II; prosternal keel prominent, with anterior margin straight, projected anterad. Abdominal pubescence slightly developed on the penultimate segment. More robust than *B. micantulum* (Estévez & Polhemus 2007).

Distribution

ARGENTINA (Montandon 1895); BRAZIL (Dufour 1863): **Amazonas** (Pereira & Melo 2007; Almeida *et al.* 2019), **Bahia** (Ribeiro 2007), **Espírito Santo** (Nieser & Melo 1997; Ribeiro 2007; Martins *et al.* 2017), **Goiás** (Menke & Lauck 1962), **Mato Grosso** (Ribeiro 2007), **Minas Gerais** (De Carlo 1938; Nieser & Melo 1997; Pelli & Barbosa 1998; Pereira & Melo 1998; Melo & Nieser 2004; Souza *et al.* 2006; Ribeiro 2007; Gallo *et al.* 2017; Pelli *et al.* 2020), **Pará** (Ribeiro 2007), **Rio de Janeiro** (Stål 1860; Ribeiro 2005; Estévez & Polhemus 2007), **Rio Grande do Sul** (Ribeiro *et al.* 2018), **Roraima** (Almeida *et al.* 2019), **Santa Catarina** (De Carlo 1938; Estévez & Polhemus 2007), **São Paulo** (Piza 1975; Estévez & Polhemus 2007; Ribeiro 2007); ECUADOR (Sites 1990); PARAGUAY (Estévez & Polhemus 2007); PERU (Estévez & Polhemus 2007); URUGUAY (Ruffinelli & Pirán 1959); VENEZUELA (Dufour 1863).

Distribution in northeastern Brazil

Bahia.

Belostoma stollii species group sensu Stefanello (2021)

This group consists of two species, both of which are recorded from northeastern Brazil. Total lengths range between 31.0 and 39.5 mm. They share the well-developed longitudinal carina on the vertex, pronotum, and scutellum (Figs 12–13); the concave vertex, slightly depressed in relation to the mesal margins of the eyes; and the pronotum and scutellum covered with golden-brownish setae (Lauck 1963).

Belostoma aurivillianum (Montandon, 1899)

Figs 12, 44

Diagnosis

Body elongate (length $2.3 \times$ the width); lateral margins of body almost parallel; length of anteculus $0.88\text{--}1.13 \times$ length of interoculus (Ribeiro 2007).

Material examined

BRAZIL – **Maranhão** • 16 ♂♂; Cândido Mendes municipality, Fazenda 7 Irmãos; $1^{\circ}52'06''$ S, $45^{\circ}45'59.7''$ W; 2–6 Jul. 2019; F. Limeira-de-Oliveira, D. Limeira and J.S. Brito leg. [00120, 00121, 00124, 00126, 00128, 00129, 00133, 00134, 00137, 00139, 00144, 00147, 00149, 00150, 00151, 00157]; C.L. Franco det. 2021; CZMA • 19 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, D. Limeira and J.S. Brito leg. [00122, 00123, 00125, 00127, 00135, 00136, 00138, 00140, 00141, 00142, 00143, 00145, 00146, 00148, 00152, 00153, 00154, 00155, 00156]; CZMA • 1 ♀; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador; [$6^{\circ}37'25''$ S, $45^{\circ}52'08''$ W]; 22 Feb.–1 Mar. 2009; M.B. Aguiar-Neto and M.J.A. Holanda leg. [00046]; C.L. Franco det. 2021; CZMA.

Distribution

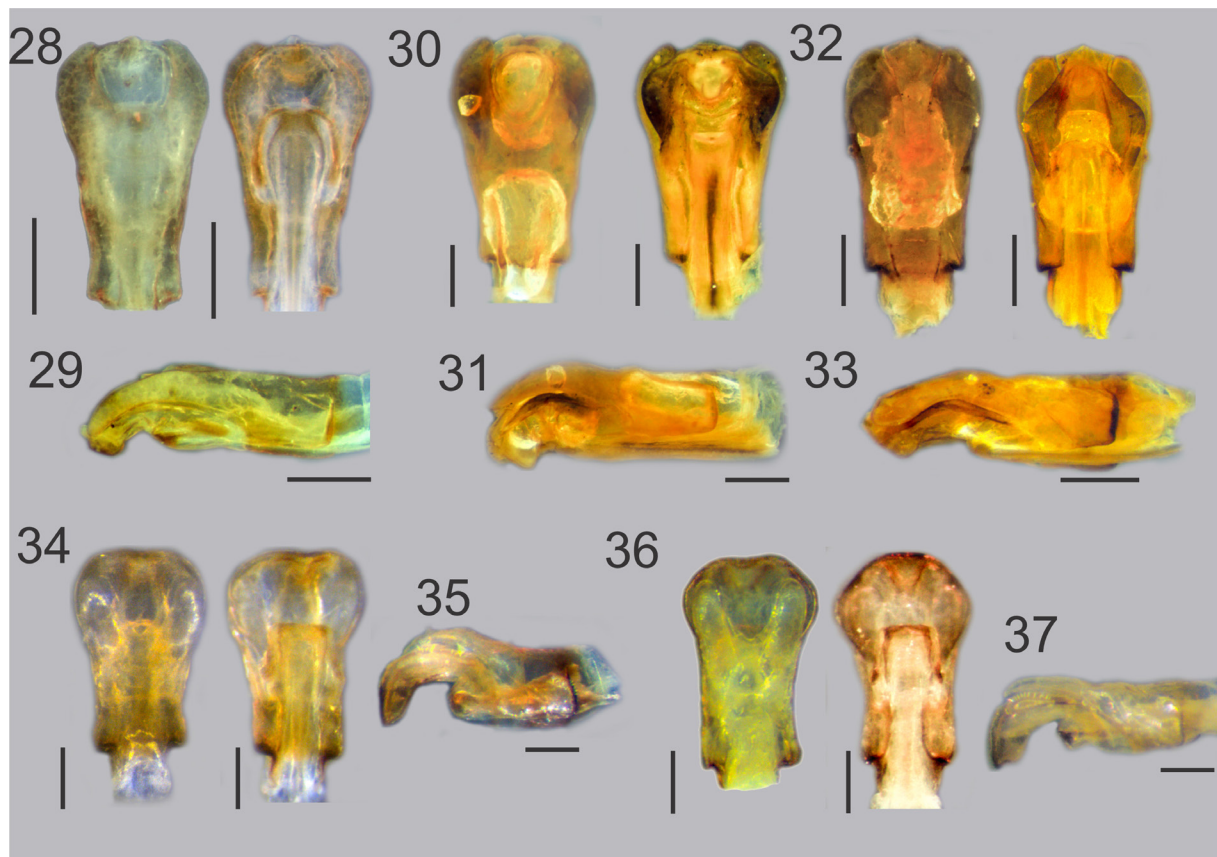
BOLIVIA (Nieser 1975); BRAZIL (Montandon 1899): **Goiás** (Menke & Lauck 1962), **Maranhão** (this work), **Mato Grosso** (Ribeiro 2007; Almeida *et al.* 2019), **Minas Gerais** (Nieser & Melo 1997; Pelli *et al.* 2006; Ribeiro 2007), **Pará** (Lauck 1963; Ribeiro 2007), **Paraná** (Ribeiro 2007), **Rio de Janeiro** (Ribeiro 2005), **Rio Grande do Sul** (Lanzer 1976), **Rondônia** (Almeida *et al.* 2019), **Roraima** (Nieser 1975; Ribeiro 2007; Almeida *et al.* 2019), **São Paulo** (De Carlo 1938; Lauck 1963; Ribeiro 2007); COLOMBIA (Montandon 1899); PARAGUAY (De Carlo 1966); SURINAME (Nieser 1975); VENEZUELA (Montandon 1899).

Distribution in northeastern Brazil

Maranhão.

Note

First records from the state of Maranhão and northeastern Brazil.



Figs 28–37. Male genitalia of species of *Belostoma*: phallosoma (phallosoma, dorsal arms, and diverticulum). **28–29.** *Belostoma anurum* (Herrich-Schäffer, 1848). **28.** Dorsal and ventral view. **29.** Lateral view. **30–31.** *B. dentatum* (Mayr, 1863). **30.** Dorsal and ventral view. **31.** Lateral view. **32–33.** *B. elongatum* Montandon, 1908. **32.** Dorsal and ventral view. **33.** Lateral view. **34–35.** *B. micantulum* (Stål, 1860). **34.** Dorsal and ventral view. **35.** Lateral view. **36–37.** *B. nessimiani* Ribeiro & Alecrim, 2008. **36.** Dorsal and ventral view. **37.** Lateral view. Scale bars: 28–29 = 1 mm; 30–33 = 0.5 mm; 34–37 = 0.2 mm.

Belostoma stollii (Amyot & Serville, 1843)

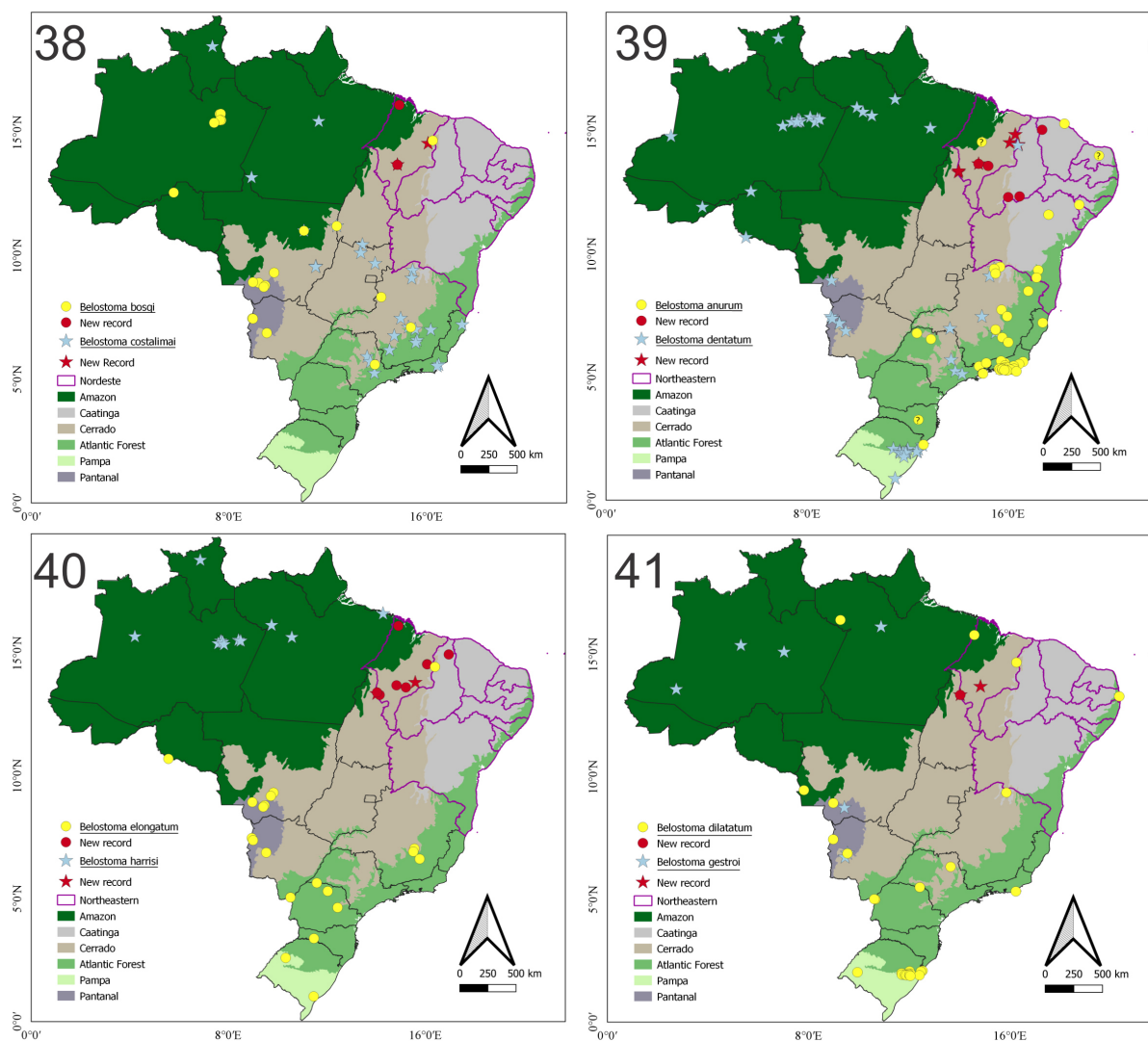
Figs 13, 44

Diagnosis

Body broad (length $2 \times$ width); length of anteoctulus $1.15\text{--}1.59 \times$ length of interoculus (Ribeiro 2007).

Material examined

BRAZIL – Maranhão • 1 ♀; Cândido Mendes municipality, Fazenda 7 Irmãos; $1^{\circ}52'06''$ S, $45^{\circ}45'59.7''$ W; 2–6 Jul. 2019; F. Limeira-de-Oliveira, D. Limeira and J.S. Brito leg. [00130]; C.L. Franco det. 2021; CZMA • 1 ♂; Carolina municipality, Perímetro Urbano; $7^{\circ}19'40''$ S, $47^{\circ}27'14''$ W; 25–26 Dec. 2013; F. Limeira-de-Oliveira, T.T. Silva and T.L. Rocha leg. [00054]; C.L. Franco det. 2021;



Figs 38–41. Geographic distribution of *Belostoma* in Brazil: yellow circles and gray stars indicate known record, red circles and stars indicate new records. **38.** *Belostoma bosqi* De Carlo, 1932 and *B. costalimai* De Carlo, 1938. **39.** *B. anurum* (Herrich-Schäffer, 1848) and *B. dentatum* (Mayr, 1863). **40.** *B. elongatum* Montandon, 1908 and *B. harrisi* Lauck, 1964. **41.** *B. dilatatum* (Dufour, 1863) and *B. gestroi* Montandon, 1900.

CZMA • 1 ♂; C.N [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'01" S, 46°40'52" W; 7–15 Jan. 2011; F. Limeira-de-Oliveira, M.M. Abreu and A.S. Barbosa leg. [00070]; C.L. Franco det. 2021; CZMA.

Distribution

BOLIVIA (De Carlo 1966); BRAZIL (Kirkaldy & Torre-Bueno 1909): **Alagoas** (Dubeux *et al.* 2020), **Amazonas** (Lauck 1963; Ribeiro 2007; Almeida *et al.* 2019), **Maranhão** (this work); **Mato Grosso** (De Carlo 1950; Lauck 1963), **Minas Gerais** (Nieser & Melo 1997; Munhoz *et al.* 2020), **Pará** (Ribeiro 2000, 2007), **Rio de Janeiro** (Ribeiro 2000, 2005, 2007), **Roraima** (Almeida *et al.* 2019); FRENCH GUIANA (Amyot & Serville 1843); GUYANA (Erichson 1848); PARAGUAY (Arnold 2014); PERU (Lauck 1963); SURINAME (Lauck 1963); VENEZUELA (Lauck 1963).

Distribution in northeastern Brazil

Alagoas and Maranhão.

Note

These are the first records of this species from the state of Maranhão.

Subfamily Lethocerinae Lauck & Menke, 1961
Genus *Lethocerus* Mayr, 1853

Lethocerus annulipes (Herrich-Schäffer, 1845)
Figs 14, 45

Diagnosis

Eyes with mesal margins parallel, posterior margins straight; fore claw longer than tarsomeres; prosternal keel pointed at apex (Perez-Goodwyn 2006: fig. 38); ventromesal projection of hind tibia rounded (Perez-Goodwyn 2006: fig. 3); parasternites III–VI or VII with longitudinal dark stripe (Fig. 14) (Perez-Goodwyn 2006).

Material examined

BRAZIL – **Ceará** • 1 ♂; Ubajara municipality, Parque Nacional de Ubajara, Cachoeira do Cafundó; 3°50'13" S, 40°54'35" W; 21–24 Apr. 2012; J.A. Rafael and F. Limeira-de-Oliveira leg. [00028]; C.L. Franco det. 2021; CZMA. – **Maranhão** • 1 ♂; Caxias municipality, Reserva Ecologica do Inhamum; [4°53'56" S, 43°26'10" W]; 1–3 Sep. 200? [year unknown]; F. Limeira-de-Oliveira *et al.* leg. [00006]; C.L. Franco det. 2021; CZMA • 1 ♂; Fumo Verde; [4°55'15.0" S, 43°21'04.0" W]; 20 Feb. 2004; F. Limeira-de-Oliveira *et al.* leg. [00026]; C.L. Franco det. 2021; CZMA • 1 ♀; Universidade Estadual do Maranhão, Morro do Alecrim; 4°51'56" S, 43°21'16" W; 26 Feb. 2017; F. Limeira-de-Oliveira leg. [00032]; C.L. Franco det. 2021; CZMA • 1 ♀; Mirador municipality [sic, Formosa da Serra Negra], Parque Estadual do Mirador, Base da geraldina; [6°37'25" S, 45°52'08" W]; 11–15 Nov. 2007; F. Limeira-de-Oliveira leg. [00007]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Berg 1879); BRAZIL (Dohrn 1859; Dufour 1863; Mayr 1866): **Amazonas** (Almeida *et al.* 2019), **Bahia** (Perez-Goodwyn 2006), **Ceará** (this work), **Goiás** (Menke & Lauck 1962; Perez-Goodwyn 2006; Batista *et al.* 2014), **Maranhão** (Almeida *et al.* 2019; this work), **Mato Grosso** (De Carlo 1938; Heckman 1998; Almeida *et al.* 2019), **Mato Grosso do Sul** (Floriano *et al.* 2013), **Minas Gerais** (Nieser & Melo 1997; Melo & Nieser 2004; Souza *et al.* 2006), **Paraíba** (Almeida *et al.* 2019), **Paraná** (Batista *et al.* 2013; Gambale *et al.* 2014; Almeida *et al.* 2019), **Rio de Janeiro** (Mayr 1866;

Ribeiro 2005; Figueiredo-de-Andrade *et al.* 2010; Ribeiro *et al.* 2017), **Rio Grande do Sul** (De Carlo 1964; Lanzer 1975; Link & Lanzer-de-Souza 1983; Lanzer-de-Souza 1988; Perez-Goodwyn 2006; Ribeiro *et al.* 2017), **Roraima** (Almeida *et al.* 2019), **Santa Catarina** (Cummings 1933; Perez-Goodwyn 2006), **São Paulo** (Cummings 1933; Perez-Goodwyn 2006); COLOMBIA (Champion 1901); COSTA RICA (Pittier & Biolley 1895); DOMINICAN REPUBLIC (Reid & Malumphy 2008); ECUADOR (Uhler 1869); FRENCH GUIANA (Cummings 1933); GUADELOUPE (Meurgey 2011); GUYANA (Cummings 1933); HISPANIOLA ISLAND (Menke 1963); NICARAGUA (Maes 1989); PANAMA (Champion 1901); PARAGUAY (De Carlo 1930); PUERTO RICO (Barber 1923); SURINAME (Mayr 1871); TRINIDAD & TOBAGO (Hynes 1948); URUGUAY (De Carlo 1930); VENEZUELA (Mayr 1871).

Distribution in northeastern Brazil

Ceará, Maranhão, and Paraíba.

Note

First record from the state of Ceará.

Lethocerus delpontei De Carlo, 1930

Figs 15, 45

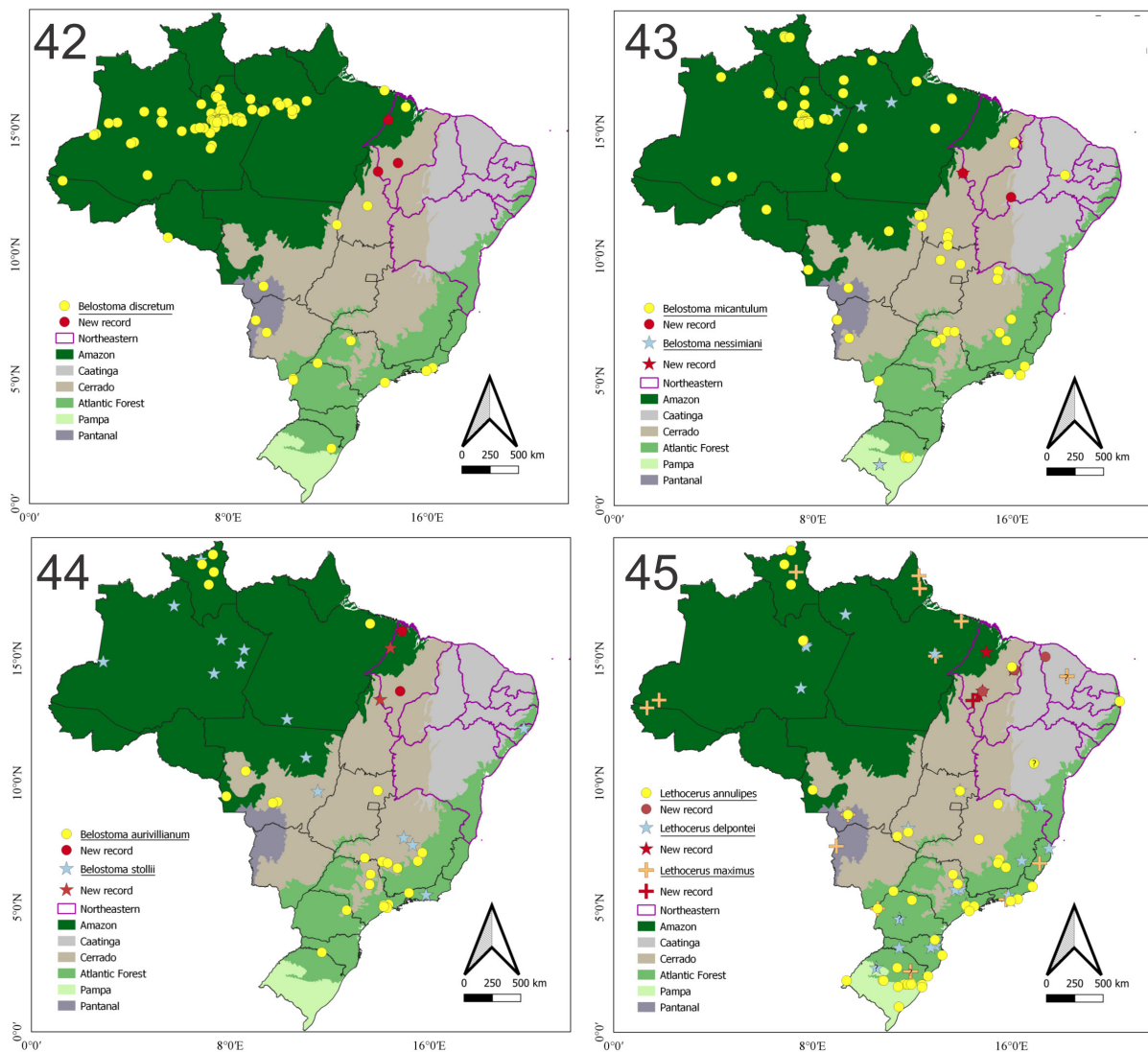
Diagnosis

Eyes with mesal margins parallel, posterior margin oblique; interoculus slightly carinated; prosternal keel rounded at apex (Perez-Goodwyn 2006: fig. 37); ventromesal projection of hind tibia rounded (Perez-Goodwyn 2006: fig. 3); hind tibia as wide as hind femur; tarsomere II of hindleg much longer than III (Perez-Goodwyn 2006).

Material examined

BRAZIL – **Maranhão** • 1 ♀; Bom Jardim municipality, Reserva Biologica do Gurupi, REBIO; [3°32'41.0" S, 45°36'35.1" W]; 1–5 Jan. 2011; M.M. Abreu and A.A. Santos leg. [00010]; C.L. Franco det. 2021; CZMA • 1 ♂; Caxias municipality, Reserva Ecologica do Inhamum; [4°53'56" S, 43°26'10" W]; 1–3 Sep. 2005; F. Limeira-de-Oliveira *et al.* leg. [00008]; C.L. Franco det. 2021; CZMA • 1 ♂; C.N. [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'03" W; 7–15 Jan. 2011; F. Limeira-de-Oliveira, M.M. Abreu and E.A. Barbosa leg. [00096]; C.L. Franco det. 2021; CZMA • 2 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, M.M. Abreu and E.A. Barbosa leg. [00011, 00012]; CZMA. • 1 ♂; C.N. [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'03" W; 7–15 Jan. 2011; F. Limeira-de-Oliveira, M.M. Abreus and E.A. Barbosa leg. [00005]; C.L. Franco det. 2021; CZMA • 1 ♂; C.N. [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'83" W; 1–6 Mar. 2011; F. Limeira-de-Oliveira, M.M. Abreu and J.A. Silva leg. [00003]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, M.M. Abreu and J.A. Silva leg. [00002]; CZMA. • 3 ♂♂; C.N. [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'03" W; 1–6 Mar. 2011; F. Limeira-de-Oliveira, M.M. Abreu and E.A. Barbosa leg. [00013, 00015, 00023]; C.L. Franco det. 2021; CZMA • 4 ♀♀; same data as for preceding; F. Limeira-de-Oliveira, M.M. Abreu and E.A. Barbosa leg. [00013, 00016, 00017, 00024]; CZMA. • 3 ♂♂; C.N. [Centro Novo do Maranhão] municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'03" W; 3–7 May 2011; M.M. Abreu and J.A. Silva leg. [00019, 00027, 00095]; C.L. Franco det. 2021; CZMA • 6 ♀♀; same data as for preceding; M.M. Abreu and J.A. Silva leg. [00004, 00005, 00009, 00014, 00020, 00021]; CZMA. • 1 ♀; C.N. [Centro Novo do Maranhão]

municipality, Reserva Biologica do Gurupi, REBIO; 3°14'05" S, 46°41'03" W; 1–5 Jul. 2011; M.M. Abreu and J.A. Silva leg. [00025]; C.L. Franco det. 2021; CZMA • 1 ♂; F.[ortaleza dos] Nogueiras municipality, Santa Maria Farm, E. Experimental Agroserra; [6°57'54.4" S, 46°09'58.9" W]; 7–15 May 2010; C.S. Nunes and E. Rodrigues-da-Silva leg. [00022]; C.L. Franco det. 2021; CZMA • 1 ♂; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador, Base da geraldina; 6°37'25" S, 45°52'08" W; 30 Jun.–6 Jul. 2011; F. Limeira-de-Oliveira, T.T. Silva and A.A. Santos leg. [00029]; C.L. Franco det. 2021; CZMA • 1 ♂; Mirador [sic, Formosa da Serra Negra] municipality, Parque Estadual do Mirador; 6°37'25" S, 45°52'08" W; 12–20 Sep. 2012; F. Limeira-de-Oliveira, L.S. Santos and C.F. Barros leg. [00030]; C.L. Franco det. 2021; CZMA • 1 ♀; same data as for preceding; F. Limeira-de-Oliveira, L.S. Santos and C.F. Barros leg. [00031]; CZMA.



Figs 42–45. 42–44. Geographic distribution of *Belostoma* in Brazil: yellow circles and gray stars indicate known records, red circles and stars indicate new records. 42. *Belostoma discretum* Montandon, 1903. 43. *B. micantulum* (Stål, 1860) and *B. nessimiani* Ribeiro & Alecrim, 2008. 44. *B. aurivillianum* (Montandon, 1899) and *B. stollii* (Amyot & Serville, 1843). 45. Distribution of *Lethocerus annulipes* (Herrich-Schäffer, 1845), *L. delpontei* De Carlo, 1930 and *L. maximus* De Carlo, 1938: yellow circles, gray stars, and orange cross indicate known records, red circles, stars, and cross indicate new records.

Distribution

ARGENTINA (De Carlo 1930); BOLIVIA (Perez-Goodwyn 2006); BRAZIL (Mayr 1866, 1871; Perez-Goodwyn 2006): **Amazonas** (Almeida *et al.* 2019), **Bahia** (Perez-Goodwyn 2006), **Espírito Santo** (Cummings 1933; Bastos *et al.* 1994), **Goiás** (Menke & Lauck 1962; Batista *et al.* 2013), **Mato Grosso** (Heckman 1998), **Minas Gerais** (Perez-Goodwyn 2006), **Pará** (Almeida *et al.* 2019), **Paraná** (De Carlo 1931), **Rio de Janeiro** (Mayr 1866; Ribeiro 2005), **Rio Grande do Sul** (Ribeiro *et al.* 2018), **Santa Catarina** (Cummings 1933; Perez-Goodwyn 2006), **São Paulo** (Cummings 1933; De Carlo 1964; Perez-Goodwyn 2006); COLOMBIA (Perez-Goodwyn 2006); COSTA RICA (Menke 1963); ECUADOR (Cummings 1933); GUYANA (Perez-Goodwyn 2006); NICARAGUA (Menke 1963); PANAMA (Cummings 1933); PARAGUAY (De Carlo 1930); PERU (Aichinger 1987); SURINAME (Nieser 1975); VENEZUELA (De Carlo 1964).

Distribution in northeastern Brazil

Bahia, and Maranhão.

Note

First records from the state of Maranhão.

Lethocerus maximus De Carlo, 1938

Figs 16, 45

Diagnosis

Total body length 90–110 mm; fore claw shorter than tarsomeres; ventromesal projection of hind tibia pointed (Perez-Goodwyn 2006: fig. 4); hind femur equal to or longer than fore femur (Perez-Goodwyn 2006).

Material examined

BRAZIL – **Maranhão** • 1 ♀; Riachão municipality, Faz. Alto Varredura; [7°21'55.3" S, 46°37'23.9" W]; 18–22 Jul. 2009; F. Limeira-de-Oliveira leg. [00001]; C.L. Franco det. 2021; CZMA.

Distribution

ARGENTINA (Río & Achaval 1904); BOLIVIA (De Carlo 1938); BRAZIL: **Acre** (Almeida *et al.* 2019), **Amapá** (Almeida *et al.* 2019), **Amazonas** (Almeida *et al.* 2019), **Ceará** (Dias da Rocha 1936), **Espírito Santo** (Perez-Goodwyn 2006), **Mato Grosso** (Heckman 1998), **Mato Grosso do Sul** (De Carlo 1938; Floriano *et al.* 2013), **Pará** (Cummings 1933; Lanzer-de-Souza 1991), **Rio de Janeiro** (Menke & Lauck 1962), **Rio Grande do Sul** (De Carlo 1938), **Roraima** (Almeida *et al.* 2019); COLOMBIA (Cummings 1933); CURAÇAO (Nieser & Alkins-Koo 1991); FRENCH GUIANA (Amyot & Serville 1843); GUYANA (Uhler 1884); PARAGUAY (Cummings 1933); PERU (Perez-Goodwyn 2006); SURINAME (De Geer 1773); TRINIDAD & TOBAGO (Hynes 1948); VENEZUELA (De Carlo 1938).

Distribution in northeastern Brazil

Ceará and Maranhão.

Notes

First record from the state of Maranhão.

Key to the species of Belostomatidae from northeastern Brazil

The key includes characters previously used to recognized species of *Lethocerus* from Perez-Goodwyn (2006) and *Belostoma* from Lauck (1964), Estévez & Polhemus (2007), Ribeiro (2007), Ribeiro & Alecrim (2008), Ribeiro *et al.* (2017), and Stefanello *et al.* (2021).

1. Sternites IV–VI subdivided laterally by a suture-like fold (Perez-Goodwyn 2006: figs 30–31); labium short, with second article thicker than long 2 *Lethocerus* Mayr, 1853
 – Sternites IV–VI not subdivided; labium long, with second article longer than thick (Stefanello *et al.* 2021: fig. 1A) 4 *Belostoma* Latreille, 1807
2. Ventromesal projection of hind tibia pointed (Perez-Goodwyn 2006: fig. 4); body length 90 mm or more *Lethocerus maximus* De Carlo, 1938
 – Ventromesal projection of hind tibia rounded (Perez-Goodwyn 2006: fig. 3); body length less than 70 mm 3
3. Parasternites III–VII with longitudinal dark stripe (Fig. 14); prosternal keel pointed at the apex (Perez-Goodwyn 2006: fig. 38) *L. annulipes* (Herrich-Schäffer, 1845)
 – Parasternites III–VII without longitudinal dark stripe; prosternal keel rounded at the apex (Perez-Goodwyn 2006: fig. 37) *L. delpontei* De Carlo, 1930
4. Eye triangular, lateral margins straight or slightly rounded (Stefanello 2021: fig. 1C–D) 5
 – Eye globose, lateral margins rounded 9
5. Anteoculus longer than interoculus; body length 40–52 mm 6
 – Anteoculus as long as interoculus (Stefanello 2021: fig. 1C); body length 21–28 mm 7
6. Ventral abdominal pilosity covering entirety of connexivum (Fig. 7)
 *Belostoma dilatatum* (Dufour, 1863)
 – Ventral abdominal pilosity covering only half of connexivum (Fig. 8)
 *B. gestroi* Montandon, 1900
7. Ventral abdominal pilosity covering entirety of connexivum and part of sternites (Ribeiro 2007: fig. 2E) *B. costalimai* De Carlo, 1938
 – Ventral abdominal pilosity not covering entirety of connexivum and not covering sternites (e.g., Figs 3, 5 and Ribeiro 2007: fig. 2A) 8
8. Metaxiphus with a carina-like structure developed along mesal part; lateral folding of the pronotum broad, extending up to the posterior part *B. bosqi* De Carlo, 1932
 – Metaxiphus with proximal part elevated and distal part swollen; lateral folding of the pronotum narrow, not extending up to the posterior part *B. discretum* Montandon, 1903
9. Vertex, pronotum, and posterior part of scutellum with distinct carina; vertex straight below the ocular line; eye small, interocular space $> 1.7 \times$ eye width 10
 – Vertex, pronotum, and posterior part of scutellum without distinct carina; vertex prominent above the ocular line; eye large, interocular space $< 1.6 \times$ eye width 11

10. Body narrow, ratio length/width about 2.3×; lateral margins of body almost parallel; length of antecolus 0.88–1.13 × length of intercolus ***B. aurivillianum*** (Montandon, 1899)
 – Body broad, ratio length/width about 2.0×; lateral margins of body slightly convex; length of antecolus 1.15–1.59 × length of intercolus ***B. stollii*** (Amyot & Serville, 1843)
11. Body 10–20 mm in length; prosternal keel not elevated (Ribeiro 2007: fig. 12A–B); antecolus shorter than intercolus..... 12
 – Body 28–52 mm in length; prosternal keel prominent, with apex rounded (Ribeiro 2007: fig. 7A–C); antecolus longer than intercolus 16
12. Ventral diverticulum straight distally, in lateral view (Ribeiro 2007: fig. 11G–I); diverticulum broad 13
 – Ventral diverticulum curved downward, in lateral view (as in Figs 35, 37); diverticulum elliptical 14
13. Body 13–16 mm in length; ratio length/width about 2.35, narrow species; dorsal arms of phallosoma straight, covering lateral margins of diverticulum..... ***B. amazonum*** Estévez & Polhemus, 2001
 – Body 17–19 mm in length, ratio length/width about 2.15, elliptical species; dorsal arms of phallosoma slightly convergent, not covering lateral margins of diverticulum..... ***B. horvathi*** Montandon, 1903
14. Body more than 13 mm in length; prosternal keel prominent ***B. plebejum*** (Stål, 1860)
 – Body 10.5–13 mm in length; prosternal keel not prominent 15
15. Diverticulum of phallosoma with strong, median dorsal depression, dorsal arms of phallosoma divergent (Ribeiro 2007: fig. 12C–E) ***B. micantulum*** (Stål, 1860)
 – Diverticulum of phallosoma with slight, median dorsal depression, dorsal arms of phallosoma abruptly convergent (Ribeiro & Alecrim 2008: fig. 4) ***B. nessimiani*** Ribeiro & Alecrim, 2008
16. Body narrow, elongate; diverticulum of phallosoma with lateral margins sinuous, broader basally than apically (Ribeiro *et al.* 2017: figs 32, 52) 17
 – Body elliptical; diverticulum of phallosoma evenly elliptical..... 18
17. Ratio basal/apical width of ventral diverticulum about 2.3 × (ventral view), dorsal arms divergent (Figs 32–33)..... ***B. elongatum*** Montandon, 1908
 – Ratio basal/apical width of ventral diverticulum about 2.0 × (ventral view), dorsal arms more parallel ***B. foveolatum*** (Mayr, 1863)
18. Clypeogenal cleft longer than clypeolateral cleft..... ***B. harrisi*** Lauck, 1964
 – Clypeogenal cleft as long as clypeolateral cleft (Stefanello *et al.* 2021: fig. 1D) 19
19. Prosternal keel narrowly rounded to acute (Fig. 24); dorsal arms of phallosoma broad (Fig. 30) (Ribeiro *et al.* 2017: figs 39–43); body length about 42–50 mm..... ***B. dentatum*** (Mayr, 1863)
 – Prosternal keel rounded; dorsal arms moderately slender; body length about 29–35 mm..... 20
20. Ventral diverticulum of phallosoma twice as wide as long (ventral view), ventroapical protuberance poorly developed (Fig. 29) ***B. anurum*** (Herrich-Schäffer, 1848)
 – Ventral diverticulum of phallosoma 1.3 × as wide as long (ventral view); ventroapical protuberance well developed ***B. dallasi*** De Carlo, 1930

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