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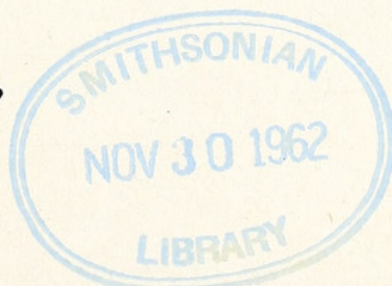
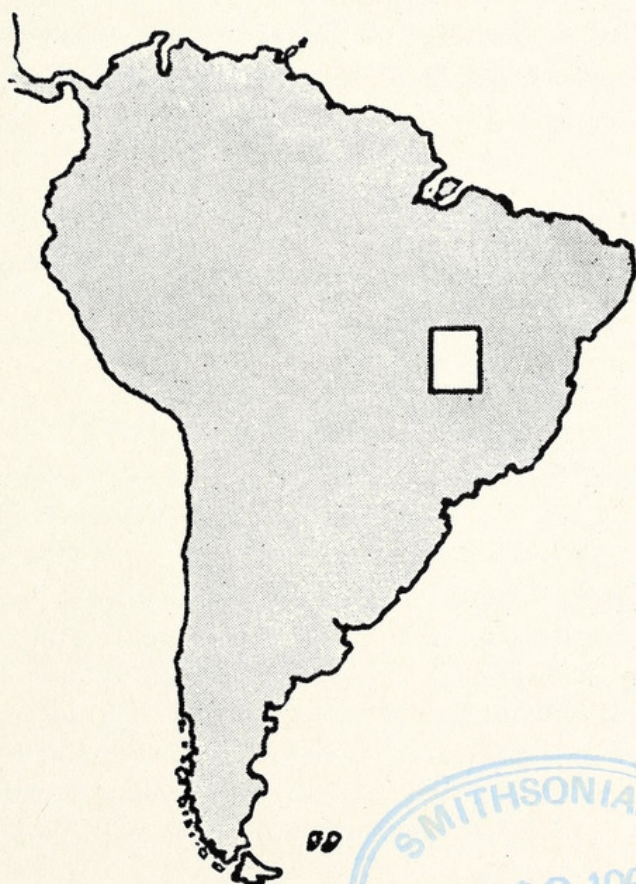
# CONTRIBUTIONS ★ IN SCIENCE ★

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## THE MACHRIS BRAZILIAN EXPEDITION ENTOMOLOGY: BELOSTOMATIDAE (HEMIPTERA)

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CONTRIBUTIONS IN SCIENCE is a series of miscellaneous technical papers in the fields of Biology, Geology and Anthropology, published at irregular intervals by the Los Angeles County Museum. Issues are numbered separately and numbers run consecutively regardless of subject matter. Number 1 was issued January 23, 1957. The series is available to scientists and scientific institutions on an exchange basis. Copies may also be purchased at a nominal price.

The MACHRIS BRAZILIAN EXPEDITION from the Los Angeles County Museum was sponsored by Mr. and Mrs. Maurice A. Machris and Mrs. Maybell Machris Low. It was conducted under the auspices of the Museu Nacional do Brasil. Botanical and zoological collections were made from April through June, 1956, in the region of the headwaters of the Rio Tocantins in the state of Goiás. General accounts and itineraries are given in papers 1 and 2 of this series. Technical type specimens of new entities are deposited in the Museu Nacional in Rio de Janeiro.

DAVID K. CALDWELL  
*Editor*



## THE MACHRIS BRAZILIAN EXPEDITION

### ENTOMOLOGY: BELOSTOMATIDAE (Hemiptera)

By ARNOLD S. MENKE<sup>1</sup> and DAVID R. LAUCK<sup>2</sup>

#### Abstract

Three species of *Lethocerus* were taken in Brazil by the Machris Expedition: *L. maximus* De Carlo, *delpontei* De Carlo, *annulipes* (Herrich-Schaffer). Nine species of *Belostoma* were collected, one of which is new to science: *B. machrisi* n. sp., *dallasi* De Carlo, *aurivillanum* (Mont.), *discretum* Mont., *bosqi* De Carlo, *costalimai* De Carlo, *ribeiroi* De Carlo, *plebejum* (Stål), and *micantulum* (Stål). All of the material was collected in the state of Goiás, with the expedition of *L. maximus*, which was taken in the Distrito Federal.

The Belostomatidae listed below were taken primarily in the state of Goiás, Brazil, during the 1956 Machris Expedition. Delacour (1957) and Truxal (1957) have given excellent descriptive accounts of the area involved.

Seventy-two specimens of *Belostoma* and five specimens of *Lethocerus* were collected by members of the expedition. One new species of *Belostoma* is described, the holotype of which will be deposited in the collection of the Museu Nacional do Brazil. Paratypes will be placed in the Los Angeles County Museum.

#### Genus *Lethocerus* Mayr

*Lethocerus* Mayr, 1853, Verhandlungen des zoologisch-botanischen Vereins in Wien, 2:17.

Six species of this cosmopolitan genus are known to occur in Brazil and three of these are represented in the material taken during the Machris Expedition.

#### *Lethocerus maximus* De Carlo

*Lethocerus maximus* De Carlo, 1938, Anales del Museo Argentino de Ciencias Naturales 39:209.

DISTRITO FEDERAL: Rio de Janiero, June 22, 1956 (Truxal), ♂.

This species is widely distributed in South America east of the Andes. It is the largest member of the genus, some individuals attaining a length of 110 mm. *L. maximus* is closely related to *L. grandis* (Linn.), but the two species can be separated by measuring the length of the profemur and metafemur. The profemur of *L. maximus* is slightly shorter than the metafemur, while in *L. grandis* the profemur is slightly longer than the metafemur. The phalli are identical in the two species (Fig. 1).

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**Lethocerus delpontei** De Carlo

*Lethocerus delpontei* De Carlo, 1930, Revista de la Sociedad Entomologica Argentina, 13:108.

GOIAS: 20 km. N. São João da Aliança, April 17, 1956 (Truxal), ♀; April 21, 1956 (Truxal), ♂.

This widespread South American species is very similar to *L. mellaleitaoi* De Carlo but the phalli offer good differences (Figs. 2 and 3).

**Lethocerus annulipes** (Herrich-Shaffer)

*Belostoma annulipes* Herrich-Schaffer, 1848, Die Wanzenartigen Insecten, 8:28.

GOIAS: 20 km. N. São João da Aliança, April 14, 1956 (Truxal), ♂; April 17, 1956 (Truxal), ♂.

This common South American species is easily recognized by the two longitudinal stripes on the abdominal venter. The phallus (Fig. 4) differs slightly from that of *L. melloleitaoi*.

Genus **Belostoma** Latreille

*Belostoma* Latreille, 1807, Genera Crustaceorum et Insectorum, 3:144.

Nine species of this New World genus were collected during the expedition.

**Belostoma dallasi** De Carlo

*Belostoma dallasi* De Carlo, 1930, Revista de la Sociedad Entomologica Argentina, 13: 114-115, pl. 5, fig. 11.

*Belostoma boscii*, De Carlo, 1938, Anales del Museo Argentino de Ciencias Naturales, 39:215-216, pl. 8, fig. 52 (in part).

GOIAS: 20 km. N. São João da Aliança, April 12, 1956 (Truxal), ♂; April 17, 1956, ob. loc., ♂.

De Carlo (1930), confusing *B. elongatum* Montandon with *Belostoma boscii* Amyot and Serville, described *B. dallasi* as a new species. Later (1938), discovering his error, he placed *B. dallasi* in synonymy with *B. boscii*. However, *B. dallasi* is distinct from the several more northern species that are often considered as *B. boscii*. The status of *B. boscii* will be discussed in a monograph of *Belostoma* (Lauck, in press).

**Belostoma aurivillianum** (Montandon)

*Zaitha aurivilliana* Montandon, 1899, Bulletin du Muséum d'histoire naturelle, Paris, 5:171-172.

GOIAS: 20 km. N. São João da Aliança, April 28, 1956 (Truxal), ♂; April 30, 1956 (Stager), ob. loc., ♂.

**Belostoma discretum** Montandon

*Belostoma discretum* Montandon, 1903, Bulletin du Muséum d'histoire naturelle, Paris, 9:22-23.

GOIAS: Santa Isabel, Rio Arguaia, June 6, 1956 (Machris), 2 ♀ ♀.



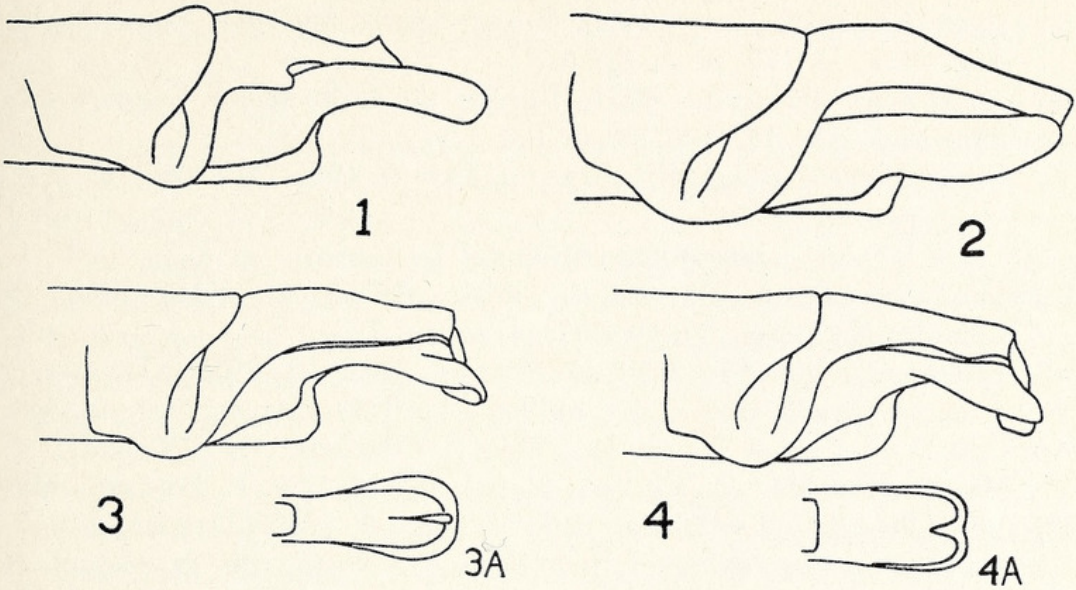


Fig. 1. Lateral aspect of phalli of *Lethocerus maximus* De Carlo and *Lethocerus grandis* (Linn.). Fig. 2 Lateral aspect of phallus of *Lethocerus delpontei* De Carlo. Fig. 3. Lateral aspect of phallus of *Lethocerus melloleitaoi* De Carlo, 3A. Ventral aspect of ventral diverticulum. Fig. 4. Lateral aspect of phallus of *Lethocerus annulipes* (Herrich-Schaffer). 4A. Ventral aspect of ventral diverticulum.

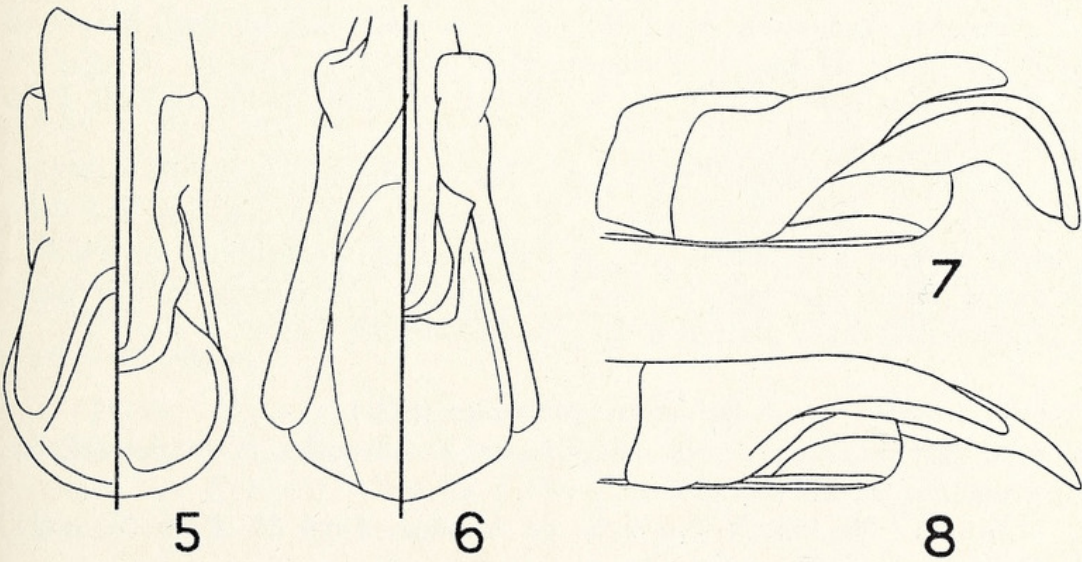


Fig. 5. Dorsal and ventral aspect of phallus of *Belostoma plebejum* (Stål). Fig. 6. Dorsal and ventral aspect of phallus of *Belostoma machrisi* n. sp. Fig. 7. Lateral aspect of phallus of *Belostoma plebejum* (Stål). Fig. 8. Lateral aspect of phallus of *Belostoma machrisi* n. sp.



**Belostoma bosqi** De Carlo

*Belostoma bergi*, De Carlo, 1930, Revista de la Sociedad Entomologica Argentina, 13:177, pl. 5, fig. 4.

*Belostoma bosqi* De Carlo, 1932, Revista de la Sociedad Entomologica Argentina, 22: 125-126, pl. 5, fig. 1.

GOIAS: Santa Isabel, Rio Araguaia, June 6, 1956 (Machris), 2 ♂♂.

**Belostoma costalimai** De Carlo

*Belostoma costalimai* De Carlo, 1938, Anales del Argentino de Ciencias Naturales, 39:234-235, pl. 6, fig. 72.

GOIAS: 20 km. São João da Aliança, April 12, 1956 (Truxal), 2 ♀♀; ob. loc., April 13, 4 ♂♂; ob. loc., April 20 (Stager), ♀; ob. loc., April 30, 7 ♂♂, 5 ♀♀; ob. loc., May 3, (Machris), ♂, (Truxal), ♂, ♀; May 4 (Truxal), ♂; ob. loc., May 5, ♂; 24 km. E. Formoso, May 19, 1956 (Truxal), ♂; 124 km. S. Peixe, June 2, 1956 (Truxal), 2 ♀♀.

Previous to the taking of this fine series during the expedition, *B. costalimai* was known from only a few specimens. In accord with the statement by De Carlo (1950) in his correction of the original description, these specimens have the dense pilosity covering part of the abdominal sternites as well as the ventrotergites.

**Belostoma ribeiroi** De Carlo

*Belostoma ribeiroi* De Carlo, 1933, Boletim do Museu Nacional de Buenos Aires, 9:95-96, fig. 3.

*Belostoma dufouri* De Carlo, 1933, Boletim do Museu Nacional de Buenos Aires, 9:96-98, fig. 4.

GOIAS: Veadeiros, April 26, 1956 (Truxal), ♀; ob. loc., May 1, 2 ♂♂, 4 ♀♀; 24 km. E. Formoso, May 24, 1956 (Truxal), 2 ♂♂, 2 ♀♀; ob. loc., June 12, 2 ♂♂, ♀; 34 km. S. Amaro Leite, May 30, 1956 (Truxal), ♂, ♀.

*B. ribeiroi* was known from only a few specimens prior to the collection reported here. In some specimens, the sternites of the abdomen are completely covered with dense pile, as described in the original description, while in others the keel is devoid of pilosity. Variations in this same character have been noticed in *B. grandicollum* De Carlo.

**Belostoma plebejum** (Stål)

*Zaitha plebeja* Stål, 1858, Handlingar K. Svenska Vetenskapsakademien, n. s., 2(7):83-84.

GOIAS: 20. km. N. São João da Aliança, April 23, 1956 (Truxal), 2 ♂♂.

As this name has been erroneously applied to several other species, the phallus is illustrated in figures 5 and 7 for recognition. This species is apparently restricted to Brazil, Argentina, Paraguay, and Uruguay. The above specimens were compared with the holotype of *B. plebejum*.



***Belostoma micantulum* (Stål)**

*Zaittha micantula* Stål, 1858, Handlingar K. Svenska Vetenskapsakademien, n. s., 2 (7):84.

GOIAS: 3 km. S. Peixe, June 1, 1956 (Truxal), ♂; 48 km. S. Peixe, June 1, 1956 (Truxal), ♂; 124 km. S. Peixe, June 2, 1956 (Truxal), 2 ♂♂, 6 ♀♀; 20 km. N. São João da Aliança, April 17, 1956 (Truxal), ♂; 34 km. S. Amaro Leite, May 30, 1956 (Truxal), ♂.

The name *B. micantulum* has previously been applied to a complex of closely related species. The range of *B. micantulum* is similar to that of *B. plebejum* and does not extend into Central America or Mexico. The above specimens were compared with the lectotype of *B. micantulum*. The phallus of *B. micantulum* is very similar to that of *B. plebejum*.

***Belostoma machrisi* n. sp.**

SIZE: Length: ♂ (holotype), 18.6 mm.; ♀♀, 18.5-19.6 mm. Width: ♂ (holotype), 8.7 mm.; ♀♀, 8.1-8.9 mm. Width of head, 8.1-8.9 mm.; width of pronotum, 5.8-6.5 mm.; length of pronotum, 3.4-3.6 mm.

COLOR: General facies dark brown above and lighter below. Head dark mahogany brown. Profemur with three, irregular, dark brown bands, each meso and metafemur with two, sometimes effaced, apical bands; protibia with four nearly regular bands. Abdominal venter yellowish, marked with irregular patches of black; lateral margins of venter brown, or with two dark spots on each segmental margin.

STRUCTURAL CHARACTERISTICS: Interocular space 1.3 to 1.4 times the width of an eye; segment I of the beak only slightly shorter than segment II. Prosternal keel elongate, projecting slightly anteriorly. Phallus as shown in figures 6 and 8.

COMPARATIVE NOTES: *B. machrisi* is a member of the *oxyurum* group as described by Lauck (1959), and, thus, has characters of this group. However, this species does seem to deviate from the other members of this group by having a much narrower interocular space and by having segment I of the beak nearly subequal to II. This species also may be distinguished from other members of the group by the phallus. It is probably most closely related to *B. horvathi*, which has a similar phallus and body shape.

TYPES: Holotype, allotype and 5 ♀♀ paratypes labelled 20 km. N. São João da Aliança, Goiás, Brazil. The holotype and one paratype were collected on April 21, 1956 by F. S. Truxal, while the remainder were collected April 17 by Truxal.

DISTRIBUTION: *B. machrisi* is known only from the type series.



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