

NEW RECORD OF PLANKTONIC CLADOCERAN TO THE UPPER PARANÁ RIVER, BRAZIL: *Bosmina huarioensis* DELACHAUX, 1918

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(With 2 figures)

ABSTRACT

In this paper we register the first occurrence of *Bosmina huarioensis* Delachaux, 1918 in the upper Paraná River basin, which is probably the first record to Brazil. Illustrations and an updated description of the species are given.

Key words: zooplankton, Cladocera, taxonomy, *Bosmina huarioensis*, Itaipu reservoir.

RESUMO

Novo registro de cladóceros planctônicos para o alto Rio Paraná, Brasil: *Bosmina huarioensis* Delachaux, 1918

No presente estudo assinalamos a primeira ocorrência de *Bosmina huarioensis* Delachaux, 1918 na bacia do alto Rio Paraná, constituindo, possivelmente, o primeiro registro no Brasil. São fornecidas ilustrações e descrição da espécie.

Palavras-chave: zooplâncton, Cladócera, taxonomia, *Bosmina huarioensis*, reservatório de Itaipu.

INTRODUCTION

Taxonomical studies of cladocerans in Brazil have traditionally been dealt with prior to biological and ecological studies. Major studies were undertaken by Sars (1901), Bergamin (1935, 1939a, b, c, 1940a, b, 1941), Brehm (1937, 1938), Brandorff (1976), Montú & Goeden (1986), Elmoor-Loureiro (1988, 1990, 1997).

In a recent study of the plankton on the Brazilian side of the Itaipu reservoir we recorded the occurrence of *Bosmina huarioensis* which is the first register in Brazil. At this opportunity we present a description and drawings of the species.

MATERIAL AND METHODS

Closed in October of 1982, Itaipu reservoir is located on the border of Brazil and Paraguay (24°05'–

25°33'S and 54°00'–54°37'W). The reservoir is a consequence of the damming of the Paraná River whose drainage basin extend until 10% of Brazilian areas (820,000 km²) (Fig. 1). The surface area is 1,350 km² of which 625 km² are in Brazil. The reservoir has a mean depth of 22 m and a maximum depth of 170 m near the dam. The maximum volume of the reservoir is 29,109 m³, current velocities can reach 0.6 m/s and the mean residence time is 40 days.

Plankton samples were taken in the central region of the Itaipu reservoir and in two arms, formed by São Francisco Falso and Ocoí rivers, by a motorized-pump, using a plankton net (70 µm), during October of 1996 and March of 1997, monthly.

RESULTS

Olivier, 1962: 218-219, figs. 4-5 (as *B. obtusirostris*); Paggi, 1979: 141-143, pl. III, figs.

36-79; Elmoor-Loureiro, 1997: 36, figs. 22 a-b.

Diagnosis of adults parthenogenetic females: Head strongly inclined ventrally, rostrum long and pointed. Dorsal part of head and rostrum form a continual arc without any evident constriction between them. Cephalic pore located between the sensory setae of the rostrum shaped like a horseshoe. Antennules short; in dorsal view parallel and close

to each other. Mucron with variable form and length, with evident spicules on the dorsal part, mainly in young specimens. Claw with a basal pecten made up of six to seven teeth. Males not found.

Measurements based on ten adult females. Length of body 317.4-353.3 μm , length of antennule 84.5-99.8 μm , length of mucron 51.2-64.0 μm .

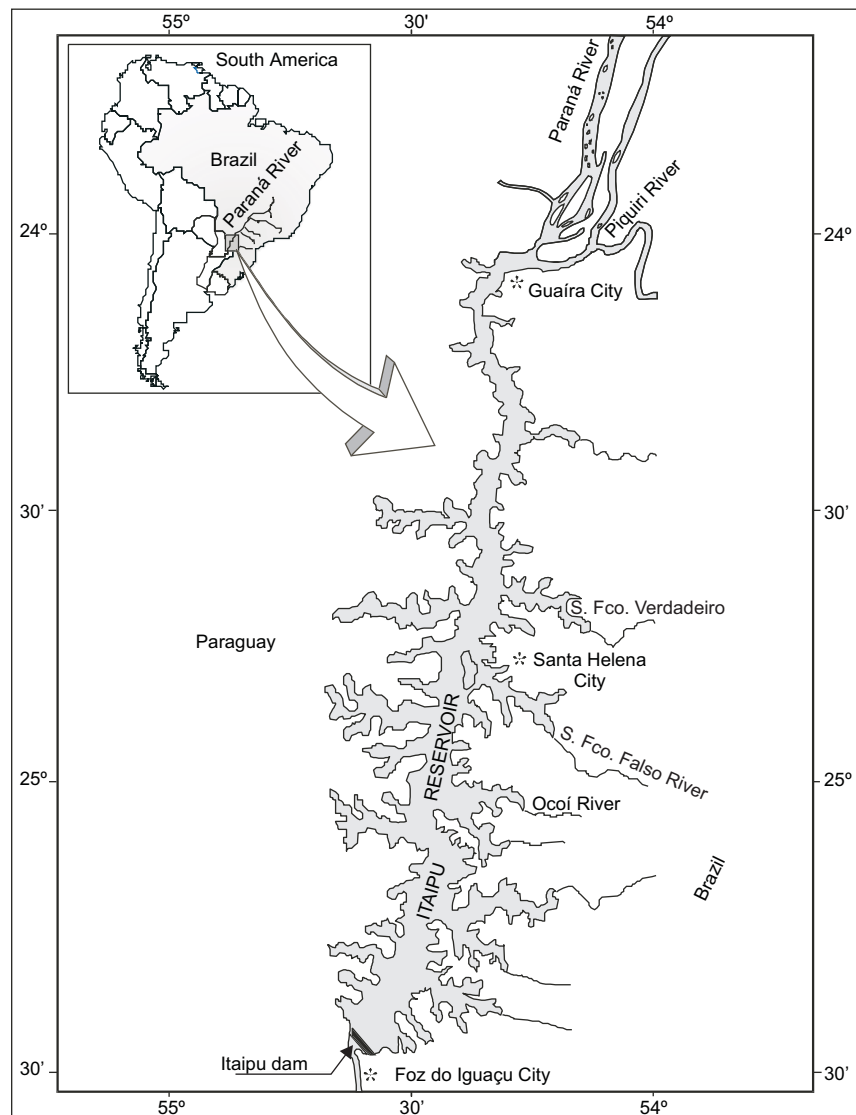


Fig. 1 — Map of study area.

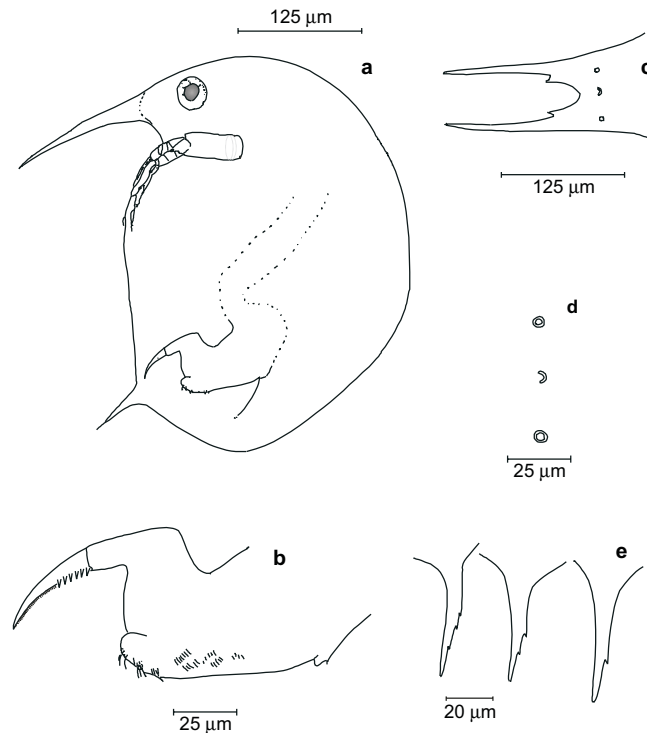


Fig. 2 — *Bosmina huaruensis*. **a)** adult parthenogenetic female; **b)** claw; **c)** dorsal view of the head with localization of the cephalic pore; **d)** cephalic pore; and **e)** mucron.

Comments: The morphology and measurements of our specimens agree with those given by Paggi (1979). There are various registers of *B. huaruensis* from the middle Paraná River system in Argentina (Olivier, 1962; Paggi & José de Paggi, 1974, 1990; Paggi, 1979) some of them identified as *B. hagmanni* or *B. obtusirostris*.

Although the Cladocera of the floodplain of the upper Paraná River, particularly above Itaipu reservoir, have been studied intensively in the last few years (Lansac-Tôha *et al.*, 1992, 1993, 1997; Lima *et al.*, 1996, 1998) *B. huaruensis* have not been previously recorded for this river in Brazilian stretch.

In Brazil, Elmoor-Loureiro (1997) cites Bohrer *et al.* (1988) for the registering of *B. huaruensis* in state of Rio Grande do Sul. However in Bohrer *et al.* (1988) there is actually no mention of *B. huaruensis*, at best there is mention of *B. longirostris* and a *Bosmina* sp. Therefore, it is very probable that the current register in the Itaipu reservoir is the first register in Brazil.

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