



Scientific Note

Occurrence of *Goyazana castelnaui* (H. Milne-Edwards, 1853) (Crustacea: Decapoda: Trichodactylidae) in the semi-arid region of the state of Pernambuco, Brazil

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Abstract. This paper describes the first occurrence of *Goyazana castelnaui* (H. Milne-Edwards, 1853) in the Brígida River, located in the semi-arid region of the state of Pernambuco, Brazil.

Key words: range extension, Neotropical region, zoogeography, freshwater crabs

Resumo. Ocorrência de *Goyazana castelnaui* (H. Milne-Edwards, 1853) no semiárido do estado de Pernambuco, Brasil. O presente estudo registra a ocorrência de *Goyazana castelnaui* no rio Brígida, localizado na região semiárida do estado de Pernambuco, Brasil.

Palavras chave: ampliação de distribuição, região Neotropical, zoogeografia, caranguejos de água doce

The trichodactylid crabs are widely distributed in nearly all hydrographic basins of the Atlantic drainage of South America (Rodríguez 1992; Magalhães 2003). However their occurrence in the semi-arid region of the Brazilian northeastern region is still poorly known, in spite recent contributions about new records of the family from Brazil (Lima Júnior *et al.* 2008, Gomides *et al.* 2009, Azevedo-Santos & Lima-Stripari 2010). *Goyazana castelnaui* (H. Milne-Edwards, 1853) is distributed throughout nearly all regions of Brazil and is found in the Araguaia/Tocantins, São Francisco, upper Xingu, upper Paraguai and upper Paraná River drainages (Magalhães & Türkay 1996; Magalhães 2003).

The Brígida River sub basin is located in the semi-arid region of the Pernambuco state. This sub basin has an area of 11,792 km² and is one of that comprises the River São Francisco basin. Unfavorable ecological conditions predominate throughout nearly the entire length of the river: high temperatures, low, poorly distributed rainfall and xerophytic vegetation. The main human activities in the region are subsistence farming and extensive

livestock farming (Maltchik 1999). The sampling of crabs was carried out in July 2012 with the aid of traps and manual collections on the banks of the river. Species identification was performed with the use of specific keys (Magalhães 2003). Voucher material were deposited at the Laboratório de Crustáceos do Semiárido (LACRUSE) da Universidade Regional do Cariri, Crato, CE; Museu de Zoologia da Universidade de São Paulo (MZUSP), and Instituto Nacional de Pesquisa da Amazônia, Manaus (INPA). The specimens of *G. castelnaui* captured in the present study (Fig. 1) were found in both, either lotic or lentic environments (Table 1).

The distribution of *Goyazana castelnaui* is related to perennial environments, such as large river basins in the northern, northeastern, southeastern and central western regions of Brazil. According to Magalhães & Türkay (1996) and Magalhães (2003), this species is found in the states of Pará, Maranhão, Tocantins, Pernambuco, Sergipe, Bahia, Goiás, Mato Grosso, Mato Grosso do Sul, and São Paulo. Previous records indicate the presence of *G. castelnaui* in the rio São Francisco (Magalhães &

Türkay 1996; Magalhães 2003) and, more recently, in the state of Piauí (Lima Júnior *et al.* 2008), all in the Brazilian northeastern region.

The records made by Magalhães & Türkay (1996) are from the river São Francisco, which is a perennial body of water. However, *G. castelnaui* has not been recorded from its temporary tributaries from the semiarid region. The construction of dams on these tributaries, such as the Brígida River, allows crabs to have access to water for a longer period of time. These reservoirs may have led to the dispersal of *G. castelnaui* in the search for new

habitats and its adaptation to the peculiar characteristics of the region. Other habitat changes caused by human activities, such as deforestation on the banks of the river, agricultural activities and livestock farming, may have hindered colonization by this species. In some months, the rivers of the region dry up, forming only puddles of water with a low degree of oxygenation and a muddy appearance. However, such aspects seem not to have been capable of preventing the dispersion of the species in the region, which may be indicating the adaptive ability of *G. castelnaui*.



Figure 1. *Habitus*, dorsal view. *Goyazana castelnaui*, male. Scale bar: 2 cm.

Table I. *Goyazana castelnaui*. Sample location (Brazil – state of Pernambuco), geographic coordinates and voucher numbers (INPA – Instituto Nacional Pesquisa da Amazônia; LACRUSE – Laboratório de Crustáceos do Semiárido da Universidade Regional do Cariri; MZUSP – Museu de Zoologia da Universidade de São Paulo).

| Location | Coordinates | Voucher numbers |
|----------|-------------------------------|-----------------|
| Exú | 07°34'55.4"S - 039°45'03.3" W | LACRUSE 02 |
| Ouricuri | 08°07'57.66"S - 40°05'3.98" W | LACRUSE 01 |
| | 08°06'01.7"S - 40°06'20.2" W | MZUSP 24501 |
| | 08°05'00.3"S - 40°06'58.9" W | INPA 1984 |

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