

A case of albinism in *Batrachoides surinamensis* (Batrachoidiformes: Batrachoididae) from north-eastern Brazil

NIVALDO MAGALHÃES PIORSKI¹ AND JORGE LUIZ SILVA NUNES²

¹Universidade Federal do Maranhão, Departamento de Oceanografia e Limnologia, Avenida dos Portugueses s/n, 65080-040, São Luís, Maranhão, Brazil, ²Universidade Federal do Maranhão, Centro de Ciências Agrárias e Ambientais, BR 222, Km 04, s/n, Boa Vista, 65500-000, Chapadinha, Maranhão, Brazil

*This paper reports the occurrence of a specimen of the toadfish *Batrachoides surinamensis* caught from the Ilha do Maranhão, State of Maranhão, north-eastern Brazil, which exhibited total albinism features.*

Keywords: Batrachoididae, albinism, estuary, north-eastern Brazil

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Albinism results from discontinuous genetic variation generated by the inability of or absence of genes that determine the production of the dark pigment melanin in skin cells (Griffiths *et al.*, 2002). In most fish, the absence of colours is related to mutations of the tyrosinase family of genes, where the skin of albinos lack melanin and eye development is affected (Wang *et al.*, 2007). There are also cases of albinism that are the result of chromatic anomalies with total or partial depigmentation (Sazima & Pombal Jr, 1986). There are several reports of instances of albinism in fish (e.g. Sazima & Pombal Jr, 1986; Teixeira & Araújo, 2002; Bottaro *et al.*, 2005; Brito & Caramaschi, 2005; Reum *et al.*, 2008).

The pacuma toadfish *Batrachoides surinamensis* (Bloch & Schneider, 1801) is a tropical benthic fish, widely distributed from Honduras to Bahia, Brazil (Cervigón, 1991; Carvalho-Filho, 1999). Individuals of this species can be found at the mouth of rivers (Leopold, 2004), being abundant in the estuaries (Cervigón, 1991; Almeida *et al.*, 2006).

In the State of Maranhão, *B. surinamensis* is captured by fishermen with hooks made of wires that remove them from their burrows (J.L.S. Nunes, personal observations), but are rarely captured with other types of traps (Almeida *et al.*, 2006; Piorski *et al.*, 2009).

The solitary habit of this species, associated with the benthic way of life, slow movements, camouflage coloration and general cryptic habits fit well in its foraging behaviour, as this fish ambushes its prey which are mainly fish, small molluscs and crustaceans.

The total albino pacuma toadfish reported herein is 320 mm in total length and a total weight of 460 g (Figure 1). It was caught in September 2002 in the estuary of the Pau Deitado, rural zone of the Ilha do Maranhão, north-eastern Brazil. Its morphological features agree well with the

diagnostic characteristics of *Batrachoides surinamensis* (Menezes & Figueiredo, 1998).

According to Bottaro *et al.* (2005) the occurrence of albinism is more common in bony fish than in cartilaginous fish for two reasons: (1) the low tendency of albinism in the Chondrichthyes; and (2) the low frequency of captures for this group (as well as its much lesser species richness compared with the former group), thus reducing the probability of such records.



Fig. 1. Lateral and dorsal views of the albino pacuma toadfish *Batrachoides surinamensis*.

Corresponding author:

N.M. Piorski

Email: nivaldopiorki@yahoo.com.br

Sazima & Pombal Jr (1986) and Brito & Caramaschi (2005) state that albinism in tropical fish is more common among nocturnal and/or cryptobiotic species than among diurnal or non-cryptobiotic ones. Additionally, the first two authors state that albinism would not influence the foraging and reproduction of nocturnal and/or cryptobiotic fish species, and that predation risk by visually-oriented predators is small even for albinotic fish with such habits, as most nocturnal predators do not rely on vision. Delgado *et al.* (2009) report an albino adult female of Trichiuridae with evidence of recent spawning (several trichiurid species are nocturnal), which strengthens this statement of Sazima & Pombal Jr (1986). Thus, as it occurs with other cryptic fish, albinism in *B. surinamensis* seemingly is no great handicap in the life of this fish, as the individual reported here is an adult (as indicated by its total length).

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Correspondence should be addressed to:

N.M. Piorski
 Universidade Federal do Maranhão
 Departamento de Oceanografia e Limnologia
 Avenida dos Portugueses s/n
 65080-040, São Luís
 Maranhão, Brazil
 email: nivaldopiorski@yahoo.com.br