



First report of the alien species *Trichopodus trichopterus* (Pallas, 1770) in the state of Ceará, Brazil

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The three-spot gourami, *Trichopodus trichopterus* (Pallas, 1770), is naturally distributed in Southeast Asia: Indonesia and in the Mekong river basin (Low and Lim, 2012). Under natural conditions is found in slow-flowing streams, shallow lakes and swamps with lush riparian vegetation (Rainboth, 1996), tolerates large pH and temperature fluctuations and low levels of dissolved oxygen due to a suprabranchial labyrinth (Low and Lim, 2012; Blank and Burggren, 2014). The juveniles eat mainly zooplankton and benthonic algae, while adults are opportunistic omnivores (Low and Lim, 2012).

Due to its usefulness in the fight against mosquito larvae and its popularity as an ornamental fish, the species has

been introduced in many regions worldwide (Webb et al., 2007). The present study constitutes the second report of *T. trichopterus* from the Mid-Northeastern Caatinga fish ecoregion, and first report of a species of the genus *Trichopodus* in the state of Ceará (Northeastern Brazil).

On 16 November 2015 and 19 November 2015, specimens of *T. trichopterus* were captured in the Santo Anastácio (SA) reservoir during monitoring of the ecosystem conducted by the Laboratory of Aquatic Ecology (LEA/UFC). Located in the Metropolitan basin, within Federal University of Ceará (UFC), the reservoir is part of the Maranguapinho river basin (Figure 1). Following capture with a sieve among aquatic macrophytes, the

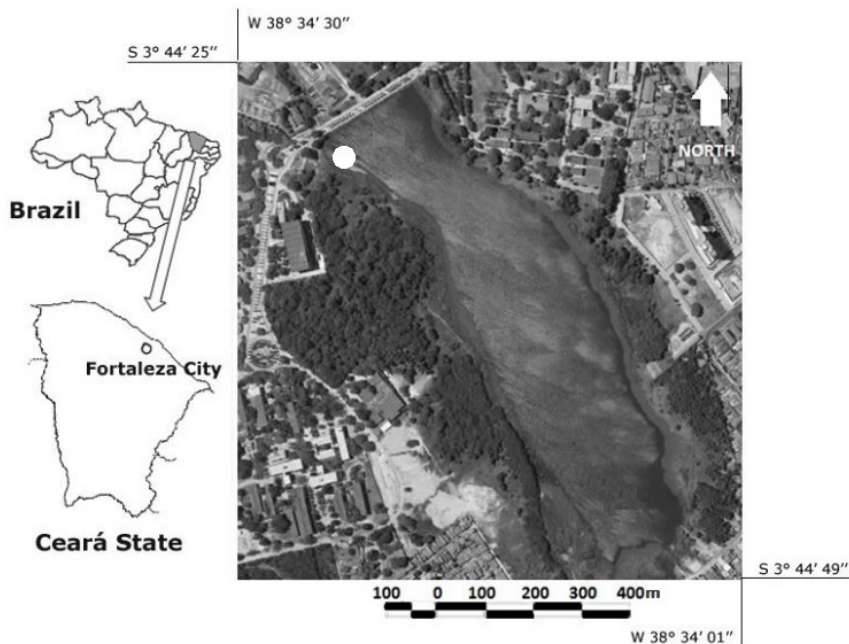


Figure 1. Geographic position (datum: WGS84) and aerial view of the Santo Anastácio (SA) reservoir showing the sampling location of *T. trichopterus* (white circle: 03°44'27.61" S 038°34'26.44" W).



Figure 2. Specimen (61.6 mm SL) of *T. trichopterus* captured in the Santo Anastácio (SA) reservoir (Maranguapinho river basin). Photo credit: CASRF.

specimens were cryoanesthetized, preserved in 70% alcohol and shelved in the fish collection of Laboratory of Systematic and Evolutionary Ichthyology of the Federal University of Rio Grande do Norte (LISE/UFRN) under entry voucher number UFRN3828.

Specimens of *T. trichopterus* as shown in Figure 2 were captured in macrophyte beds of *Eichhornia crassipes* (Mart.) Solms and *Paspalum repens* P. J. Bergius at a depth of 40 cm. The by-catch included the native species *Hoplias malabaricus* (Bloch, 1794) and *Poecilia vivipara* Bloch & Schneider 1801, and the exotic species *Poecilia reticulata* Peters 1859 and *Oreochromis niloticus* (Linnaeus, 1758). Interestingly, Geheber et al. (2010) observed *T. trichopterus* in syntopy with species of the same genera, *Poecilia caudofasciata* (Regan, 1913) and *Oreochromis mossambicus* (Peters, 1852), and in a similar habitat (turbid water, depth less than 1 m), suggesting this type of environment provides sufficient food and shelter.

The introduction of *T. trichopterus* in the SA reservoir is most likely recent since no previous survey has yielded any specimen, including a monthly sampling in areas with macrophytes between October 2009 and March 2010 using sieves, seine nets and gill nets (Sánchez-Botero et al., 2014). The presence of *T. trichopterus* is a potential threat to native species, in part because of its territorial nature, conspicuous aggressiveness (Webb et al., 2007). In view of the great adaptability of *T. trichopterus* (Geheber et al.,

2010) and the existence of an active local ornamental fish trade (the marketplace at Lagoa da Parangaba is located on the periphery of the ecosystem of the Maranguapinho river basin), the species should be monitored. If populations of *T. trichopterus* spread to adjacent river basins, profound changes in biodiversity may occur, with both environmental and social consequences (Vitule, 2009).

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