

# NEOTROPICAL PIRANHA, *SERRASALMUS MACULATUS* (ACTINOPTERYGII: CHARACIFORMES: SERRASALMIDAE), IN THE TIGRIS RIVER, BAGHDAD, IRAQ—A CASE OF DELIBERATE INTRODUCTION BY THE AQUARIUM TRADE

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**Abstract.** Fifteen specimens (four females and eleven males) of the speckled piranha, *Serrasalmus maculatus* Kner, 1858, native to South America, were captured in the Tigris River at Al-Taji, 17 km north of the City of Baghdad, Iraq. They represent the first record for this species in Iraq and were captured on 1 February 2018 by anglers, using a hook and line. We suspect that the aquarium trade is accountable for the introduction of this species into Iraq. Moreover, a new maximum size was also recorded based on the specimens examined. The gonads were dissected for a microscopic examination to determine the gender and the state of maturity. The reproductive state suggests that the population of *S. maculatus* has established itself in the area and is reproducing. An efficient system needs to be put in place to screen the introduction of fishes in order to identify potentially harmful species before their release to the aquarium market.

**Keywords:** speckled piranha, Iraq, Tigris River, new record, new maximum length

## INTRODUCTION

The family Serrasalminae is one of the largest families in the order Characiformes. It contains 97 species belonging to 16 genera, with *Serrasalmus* being the most numerous genus with 31 species (Fricke et al. 2018). Piranhas are dangerous to humans, injuring bathers and swimmers, but truly serious attacks have also been reported (Haddad Junior and Sazima 2010). The members of this family are endemic to the Neotropical realm and are widely distributed in all the major river systems of South America. The subject of this paper, the speckled piranha, *Serrasalmus maculatus* Kner, 1858, is a freshwater species confined to the Amazon and Paraguay–Paraná River basins in South America (Kner 1858, Jégu 2003). We report, however, the presence of this ornamental aquarium species in the open waters of the Tigris River near the capital city of Baghdad in Iraq. This appearance implies an introduction of a potentially harmful species into the inland waters of Iraq. Moreover, it seems to be well established in its new habitat, so that it can be considered an invasive species.

The speckled piranha has the following set of characters: body deep and compressed; dorsal profile of head slightly steep; snout short; eye large, with large pupil and vertical dark bar; mouth short; upper jaw shorter than

lower; teeth on premaxilla and dentary high and pointy; posterior dorsal edge of 1st dorsal fin rounded; caudal fin slightly forked; abdominal scales modified to sharp serrated; ventral side of operculum and pectoral fins red-orange; anterior ventral part of body red-orange to yellow at posterior part of pelvic fin; large black spots on body extending from posterior edge of operculum to base of caudal fin; no spots on dorsal part of body; pectoral and pelvic fins red-orange colour; dorsal fin black; anterior ventral side of anal fin dark red-black.

## MATERIAL AND METHODS

Fifteen specimens (four females and eleven males) were captured on 1 February 2018 in the Tigris River at Al-Taji, 17 km north of the City of Baghdad, Iraq (33°32'03.2"N, 44°18'01.43"E). The fish specimens were captured by anglers, using a hook and line. The specimens of *S. maculatus* is identical to the description of this species given by Jégu (2003). The identification was based on Jégu and Dos Santos (2001). The nomenclature follows Fricke et al. (2018). They were caught in the winter when the water temperature is 6–10°C. Some specimens appeared moribund at the surface of the water because of the low temperature, but they became active again once placed in warm water.

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