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FIRST RECORD OF *Engraulisoma taeniatum* CASTRO, 1981 (CHARACIFORMES, TRIPORTHEIDAE) FOR URUGUAY AND THE URUGUAY RIVER BASIN

*Primer registro de Engraulisoma taeniatum Castro, 1981 (Characiformes, Triportheidae)
para Uruguay y la Cuenca del Río Uruguay*

Wilson S. Serra^{1,2*}, Fabrizio Scarabino^{2,1}, Matías García^{3,5}
and Germán Sanguinetti^{4,5}

¹Sección Ictiología, Dpto. de Zoología, Museo Nacional de Historia Natural (MNHN), Miguelete
1825, Montevideo, Uruguay. serraelbicho@gmail.com

²Centro Universitario Regional del Este (CURE) – Sede Rocha, Ruta 15 y Ruta 9, Rocha, Uruguay.

³Independent researcher. Teniente Rinaldi 4870 EE, Montevideo, Montevideo, Uruguay.

⁴Independent researcher. Baltazar Brum 445, Canelones, Canelones, Uruguay.

⁵Autóctonos de Uruguay (ADU) - <https://www.instagram.com/autoctonosdeuruguay/>.

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Resumen. Una reciente expedición al norte de Uruguay reveló la presencia del pez triportéido *Engraulisoma taeniatum* Castro, 1981, representando el primer registro de esta especie para la cuenca del Río Uruguay y para el país. Proponemos que sea tratada como una especie amenazada para Uruguay considerando su distribución restringida en el país y su singularidad taxonómica.

Palabras clave. *Engraulisoma*, Uruguay, Cuenca del Río Uruguay, primer registro, prioridad para la conservación.

Abstract. A recent expedition to northern Uruguay revealed the presence of the triportheid fish *Engraulisoma taeniatum* Castro, 1981, which represents the first record of this species in the Uruguay River Basin and for the country. We indicate it as an endangered species for Uruguay considering its restricted distribution in the country and its taxonomic singularity.

Key words. *Engraulisoma*, Uruguay, Uruguay River Basin, first record, conservation priority.

INTRODUCTION

Triporthidae is a moderately diverse characiform family endemic to South America, with representatives recorded in all major basins of the continent. It is composed by 21 valid species allocated in five genera: *Triporthus* Cope, 1872, *Agoniates* Müller and Troschel, 1845, *Clupeocharax* Pearson, 1924, *Engraulisoma* Castro, 1981 and *Lignobrycon* Eigenmann and Myers, 1929 (Fricke *et al.*, 2023a, 2023b; Toledo-Piza *et al.*, 2024). In the Uruguay River Basin only one species of the family has been recorded, *Triporthus nematurus* (Kner, 1858) (Vaz-Ferreira *et al.*, 1983; Nión *et al.*, 2002, 2016; Loureiro *et al.*, 2013, 2023; Litz and Koerber, 2014; Serra *et al.*, 2017), with a few specimens known in ichthyologic collections, all of them from southwestern Uruguay (Vaz-Ferreira *et al.*, 1983; Serra *et al.*, 2017). We present the record of a second representative of the family for Uruguay and Uruguay River Basin, belonging to the genus *Engraulisoma*.

The genus *Engraulisoma* is known from a single species, *Engraulisoma taeniatum* Castro, 1981, originally described from the Cuiabá River, Municipality of Poconé (Mato Grosso) and from Cachoeira das Palmeiras, Municipality of Coxim (Mato Grosso do Sul), Brazil, both localities in the upper basin of the Paraguay River (Castro, 1981). Later it was reported for other regions of the South American continent in the basins of the La Plata (e.g. Braga, 1998), Amazon (e.g. Ohara, 2012) and Orinoco rivers (e.g. Taphorn, 1992).

MATERIALS AND METHODS

Analyzed specimens were collected with hand nets and euthanized by overdose in eugenol solution. Some specimens were fixed in 4% formaline solution and pre-

served in 70% ethanol, and other preserved without fixation in 95° ethanol for future molecular analyses. Samples are housed in the ichthyologic collection of Museo Nacional de Historia Natural (MHNM), Montevideo, Uruguay. Measurements (nearest mm) are straight-line point to point distances taken with a digital caliper. Standard length (SL) is measured from tip of snout to hypural joint. Identification was based on Castro (1981), Braga (1998) and Almirón *et al.* (2015).

The distribution mapped from previous records has been based on the following references: Castro (1981), Taphorn (1992), Braga (1998), Chernoff *et al.* (2000), Casciotta *et al.* (2002), Liotta (2005), Ortega *et al.* (2006), Carvalho *et al.* (2009), Albert *et al.* (2011), Ohara (2012), Castro and Vizzotto (2013), Almirón *et al.* (2015), Quezada-García *et al.* (2017), Urbano-Bonilla *et al.* (2018), Souza da Silva *et al.* (2020), Reis *et al.* (2020), Meza-Vargas *et al.* (2021) and Gimênes Junior and Rech (2022).

RESULTS AND DISCUSSION

Engraulisoma taeniatum Castro, 1981 (Figures 1 and 2)

Examined material: URUGUAY: Artigas: MHNM 5069, 21 ex., 19.7–33.3 mm SL, fixed in 4% formaline, Bella Unión (30°16'44"S 57°34'35"W), col. M. García, G. Sanguinetti and W.S. Serra, 1/III/2022; MHNM 5073, 9 ex, 27.5–31.4 mm SL, preserved in 95° ethanol, Bella Unión (30°16'44"S 57°34'35"W), col. M. García, G. Sanguinetti and W.S. Serra, 1/III/2022.

The species was collected in an artificial canal near the city of Bella Unión, Artigas Department, northern Uruguay (Figure 3). Collection site has clear water and rocky bottom, without submerged vegetation (Figure 4). Other fish species observed and collected at the same collection event were



Figure 1 - *Engraulisoma taeniatum* specimens before fixation, Bella Unión, Artigas, Uruguay.



Figure 2 - *Engraulisoma taeniatum* specimens after fixation in formalin (A: MHNM 5069) and 95° ethanol (B: MHNM 5073), Bella Unión, Artigas, Uruguay.

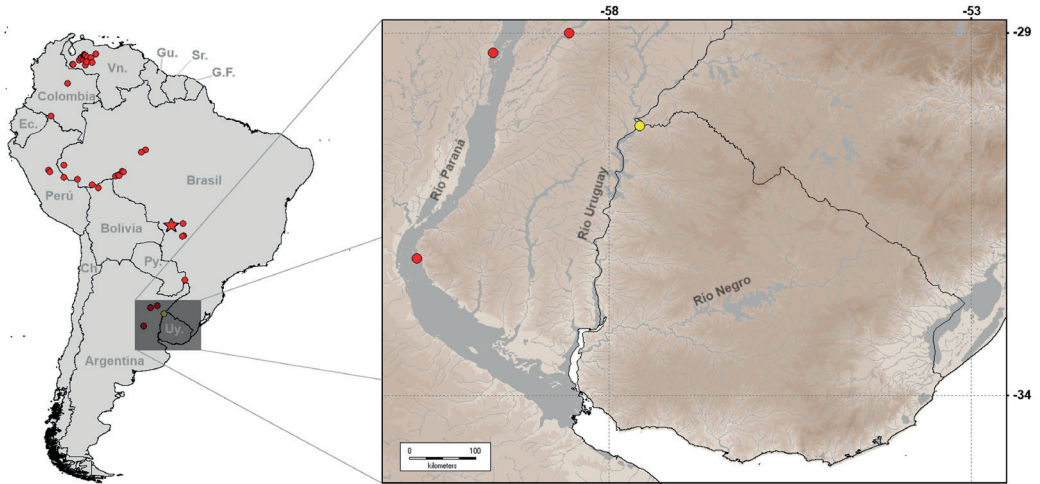


Figure 3 - Distribution map of *Engraulisoma taeniatum* in South America: yellow dot = record from Uruguay; red star = type locality; red dots = previous records (see Mat. and met.). Ch. = Chile; Ec. = Ecuador; Gu. = Guyana; G.F. = French Guyana; Py. = Paraguay; Sr. = Surinam; Uy. = Uruguay; Vn. = Venezuela.



Figure 4 -Artificial canal where specimens of *E. taeniatum* were collected, Bella Unión (Artigas, Uruguay).

Gymnogeophagus australis (Eigenmann, 1907) (Cichlidae), *Piabarchus stramineus* (Eigenmann, 1908), *Moenkhausia bonita* Be-

nine, Castro and Sabino, 2004 and *Hypthesobrycon togoi* Miquelarena and López 2006 (Characidae).

Engraulisoma taeniatum differs from the other species of the family Triportheidae by the following combination of characters: body elongated and compressed, pectoral keel not evident, dorsal fin origin posterior to the middle of the body (considering the standard length) and anterior to the anal fin origin, mouth terminal with upper jaw projected forward, two rows of teeth on the premaxilla with four teeth in the inner and two in the outer row, maxillary bone edentulous, lateral line incomplete (Castro, 1981; Braga, 1998; Almirón *et al.*, 2015). Specimens here reported present all these characters. The previously known distribution of *E. taeniatum* extended through Paraná, upper Amazon and Orinoco River basins, in Argentina, Bolivia, Brazil, Perú, Ecuador, Colombia and Venezuela (Taphorn, 1992; Fricke *et al.*, 2023b), suggesting the possibility of a species complex. The new locality here reported represent the first record for the middle Uruguay River Basin and the first from Uruguay. Taking into account the distribution reported for *E. taeniatum*, we can propose a couple of possible scenarios about its presence in this new area:

- 1) Recent colonization through Iberá-Río Miriñay wetlands: The presence of *E. taeniatum* in the middle Uruguay River seems to reaffirm what was observed by some authors (e.g. Olazarri 1979, 1984; Clavijo and Olazarri, 2009; Zarucki *et al.*, 2010), which indicate an affinity between the aquatic fauna of this area and those of the Paraguay and middle Paraná rivers. The connection between both systems would be given by the Miriñay River, which apparently would drain waters from the Iberá Lagoon in times of major flooding through the homonymous wetlands (Bonetto and Hurtado, 1998).
- 2) Species with low frequency in the Uru-

guay River system: As seems to happen in other areas of the La Plata River Basin (see Braga, 1998; Casciotta *et al.*, 2002; Almirón *et al.*, 2015), the recent detection of the species in the middle Uruguay River may be due to the fact that it is a scarce species in the system, which, added to its small size, would make its detection difficult.

According to the criteria defined by Soutullo *et al.* (2013), we indicate that *E. taeniatum* must be considered a priority for conservation and categorized as an Endangered Species on the species list of Sistema Nacional de Áreas Protegidas (SNAP) of Uruguay: its occurrence area represents less than 10% of the national territory (Criteria 4) and it could be considered a “taxonomically singular” species (Criteria 7). The presence of the species in Bella Unión reinforces the value of this area for conservation and the requirement of expanding the protected area of Rincón de Franquia to incorporate surrounding habitats.

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