

First record of *Gymnogeophagus terrapurpura* (Teleostei: Cichliformes) from Argentina.

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Introduction

The genus *Gymnogeophagus* Miranda Ribeiro 1918 is a diverse genus of geophagin Neotropical cichlids with 1 fossil (Malabarba et al., 2010) and 17 extant species (Malabarba et al., 2015; Loureiro et al., 2016). Species of this genus are endemic to the La Plata basin, the Laguna dos Patos/Merím system, and rio Tramandaí drainage (Malabarba et al., 2015) with one record of *G. balzanii* in the headwaters of the Guaporé river in the Amazon basin (Lowe-McConnell, 1975). This genus is diagnosed by the presence of a forward-directed spine on top of the first dorsal-fin pterygiophore and by the absence of bony supraneurals (Gosse, 1976).

Recently, *Gymnogeophagus terrapurpura* Loureiro, Zarucki, Malabarba & González-Bergonzoni, 2016 was described as a member of the substrate brooding *Gymnogeophagus-rhabdotus*-group from the East of the lower Uruguay river basin, the Eastern coastal affluents of the Río de la Plata estuary, and affluents of the Atlantic Ocean in Uruguay. The aim of this work is to report the occurrence of this species in Argentina in tributaries of the Uruguay river near the city of Colón in Entre Ríos province.

As part of a revision of the genus *Gymnogeophagus* from Argentina, we examined existing collection specimens from the San Benito creek and recently collected fresh material from the Perucho Verna and the La Leche creeks, which have been identified as *Gymnogeophagus terrapurpura* (fig. 1-5).

Examined material

Gymnogeophagus terrapurpura: all lots from Argentina, Entre Ríos province, Colón county, Uruguay river basin: MACN-ict 12248, 75-77 mm SL. Arroyo de la Leche at RN 135, near the city of Colón, 32°14'42"S 58°8'58"W, coll. H.G. Fernández, 28.01.2016. MLP 11227, 62 mm SL. Municipio Villa Elisa, balneario municipal, Arroyo Perucho Verna, 32°10'27"S 58°18'33"W, coll. A. Puentes, 09.2016. ZFMK 39780, 7.5 mm SL. Municipio Ubajay, estancia Los Monigotes, Arroyo San Benito, 31°49'64"S 58°10'74"W, coll. S. Koerber, R. Filiberto, J.O. Fernández Santos, 02.02.2002.



fig. 1. *Gymnogeophagus terrapurpura*. ZFMK 39780. alive, upon capture



fig. 2. *Gymnogeophagus terrapurpura*. MLP 11227. juvenile, alive, in aquarium



fig. 3. *Gymnogeophagus terrapurpure*. MACN-ict 12248. alive, in aquarium



fig. 4. ZFMK 39780. preserved specimen



fig. 5. MLP 11227. preserved specimen



fig. 6. collection locality of ZFMK 39780



fig. 7. collection locality of MLP 11227.



fig. 8. collection locality of MACN-ict 12248

Analysis

The specimens collected where identified as *Gymnogeophagus terrapurpure* following the diagnoses provided by Loureiro et al. (2016) which can be summarized in: 23-25 of E1 scales and by a unique conspicuous coloration pattern which consist in diagonal bright blue stripes in the dorsal-fin over a red background in the spiny section, and a combination of round, elliptical, and elongated bright blue spots in the soft section; termination of the bright blue band that runs above the upper lateral line before reaching a bright blue spot placed above the first perforated scale; and light blue rounded spots over a red to orange background in the anal-fin [light brown over brown in preserved specimens]. Using the information provided in the original description, *G. terrapurpure* can only be determined based on the colors in live (fig. 1-3) and thus, collection specimens are close to worthless if no respective photograph is available. Furthermore, *G. terrapurpure* do not present the diagnostic characters in juvenile specimens due to their pale unconspicuous body coloration (fig. 2).

Conclusion

These new findings represent the first records of *Gymnogeophagus terrapurpure* from Argentina and from Western tributaries of the Uruguay River (fig. 6-10). These also represent the western most record of this species and a linear range extension of the know distribution of this species in about 70

km from the nearest known locality. Furthermore, this is the sixth identified species of *Gymnogeophagus* registered for Argentina. Miranda & Koerber (2015) originally listed six species of the genus for this country, but subsequently *G. gymnogenys* was deleted from the list of the Argentinian ichthyofauna (Koerber et al., 2016). An analysis on the occurrence and distribution of species from the *Gymnogeophagus-gymnogenys*-group in Argentina is currently ongoing.

As noted by Loureiro et al. (2016) the distribution of *G. terrapurpura* is coincident with the distribution of *Ectreopaterus uruguayensis* (Fowler, 1943). Interestingly, this species was recorded also in Argentina by Miquelarena & Carvalho (2013) from El Molino creek (ca. 32°25'S 58°16'W), nearby from the herein mentioned collection localities of *Gymnogeophagus terrapurpura*. It is important to note these overlapping records in terms of biogeography and it should be worth to investigate the relationship of this area with the left margin of the Uruguay River.

These kind of new records are important also in terms of conservation, as they allow adequate planning of the use of the natural environments and its components, therefore being important tools governments on all levels can rely on when making decisions on management and conservation issues.

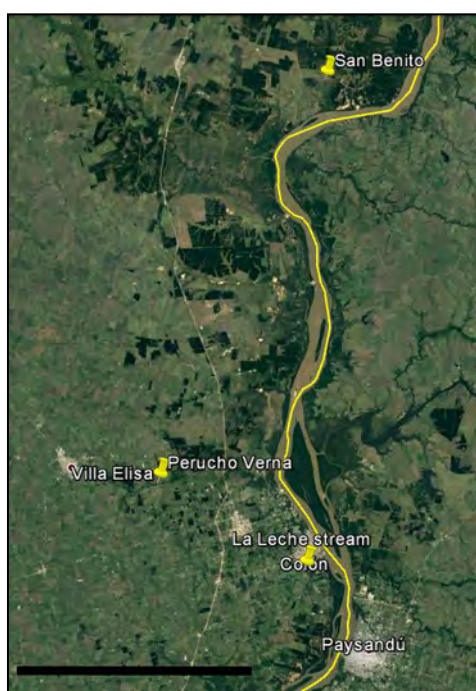


fig. 9. Collection localities of the examined specimens few km West of the Uruguay river. bar = 23 km.

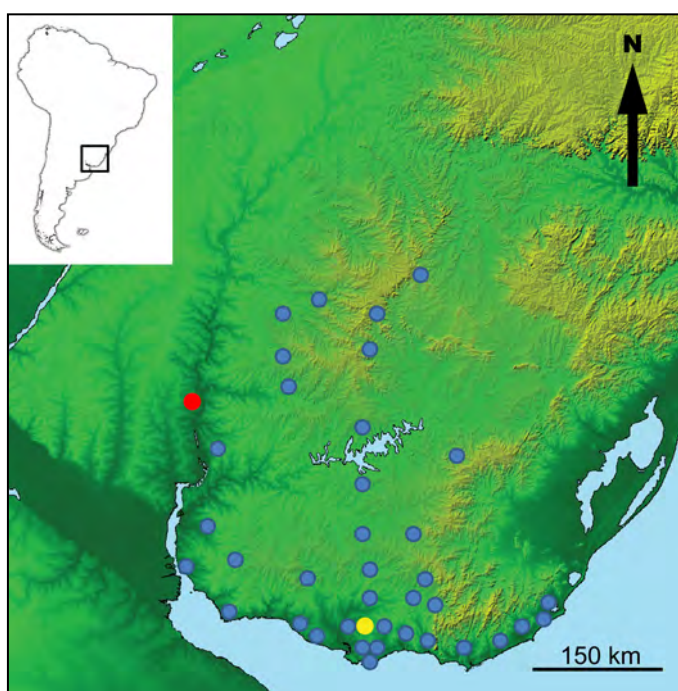


fig. 10. Distribution of *Gymnogeophagus terrapurpura*. yellow: type locality, blue: non-type localities, red: new records reported herein. Map modified from Loureiro et al., (2016).

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