

## New record of *Brachyhypopomus draco* (Gymnotiformes, Hypopomidae) from the Reserva Natural del Iberá, Corrientes, Argentina

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### Abstract

*Brachyhypopomus draco* is recorded from the Reserva Natural Provincial del Iberá, province of Corrientes, Province. This finding remarkably expands its distribution in Argentina.

### Resumen

Se registra a *Brachyhypopomus draco* en la Reserva Natural Provincial del Iberá, Corrientes. Este hallazgo amplía notablemente su distribución en Argentina.

### Introduction

The genus *Brachyhypopomus* (Mago-Leccia, 1994) is the most speciose of the family Hypopomidae. Albert (2001) diagnosed this genus by having a gracile premaxilla with a curved anterior margin and forming an angle with the maxillary in lateral view, gracile dentary, 16-17 precaudal vertebrae and only one transitional vertebra. *Brachyhypopomus* species occur in all major river systems in the humid Neotropics and inhabit a wide variety of lowland aquatic habitats from Panamá to the Río de la Plata in Argentina (Albert & Crampton, 2003; Almirón et al., 2010). The genus *Brachyhypopomus* includes the following eleven species: *B. beebei* (Schultz, 1994), *B. bennetti* Sullivan, Zuanon & Cox Fernandez, 2013, *B. bombilla* Loureiro & Silva, 2006, *B. brevirostris* (Steindachner, 1868), *B. bullocki* Sullivan & Hopkins, 2009, *B. diazi* (Fernández-Yépez, 1972), *B. draco* Giora, Malabarba & Crampton, 2008, *B. gauderio* Giora & Malabarba, 2009, *B. janeiroensis* (Costa & Campos-da-Paz, 1992), *B. jureiae* Triques & Khamis, 2003, *B. occidentalis* (Regan, 1914), *B. pinnicaudatus* (Hopkins, 1991), and *B. walteri* Sullivan, Zuanon & Cox Fernandes, 2013.

For many years, only *B. brevirostris* has been frequently recorded from the Paraná, Uruguay, and Paraguay river basins in Argentina (Liotta, 2005). However, new records for three other *Brachyhypopomus* species (*B. gauderio*, *B. bombilla*, and *B. draco*) were registered from this country (Almirón et al., 2010). These authors also noted that some records belonging to *B. brevirostris* for Argentina are misidentifications of *B. gauderio*, or could be assigned to some other species. At present the record of *B. brevirostris* in Argentina is doubtful.

*Brachyhypopomus draco* was originally described from Laguna dos Patos, río Uruguay, río Tramandaí, and río Paraguay basins (Giora et al., 2008). Later, this species was found in Argentina from arroyo Las Mangas, lower río Paraná basin, at Pre-Delta National Park (Almirón et al., 2010)

The aim of the present paper is to expand the distributional range of *B. draco* to the protected area Esteros del Iberá.



fig. 1. *Brachyhypopomus draco*, male. Laguna Iberá, Corrientes, Argentina

### Material examined

All from Argentina, Corrientes province, Esteros del Iberá wetland: UNNEict (Ichthyologic Collection of Universidad Nacional del Nordeste) 00098, 1 ex, 128.4 mm LEA, río Corriente in Dorado Fishing, coll: Silva et al. March 2014. UNNEict 00099, 1 ex, 137.4 mm LEA, Laguna Iberá, coll: Almirón et al., November 2013.

### Analysis

*Brachyhypopomus draco* is distinguished from its congeners by the shape of the distal portion of the caudal filament, which is a distinct paddle shape structure in mature males. Morphometric and meristic data of the examined specimens are provided in table 1.

*Brachyhypopomus draco* has a seasonal reproductive period between August and December for females and July to December for males (Schaan et al., 2009). Males with deepest caudal filament paddle-like shape were found from August to January, during reproductive climax. After the reproductive period a hypertrophic regression of the caudal filament may occur (Schaan et al., 2009). The development of the caudal filament in males seems to be variable during the reproductive climax (fig. 1). In one of the examined male specimens, collected end of November (i.e., reproductive period), the distal portion of the caudal filament was not as expanded as it was illustrated in the original description (Giora et al., 2008, figs. 1 and 2).

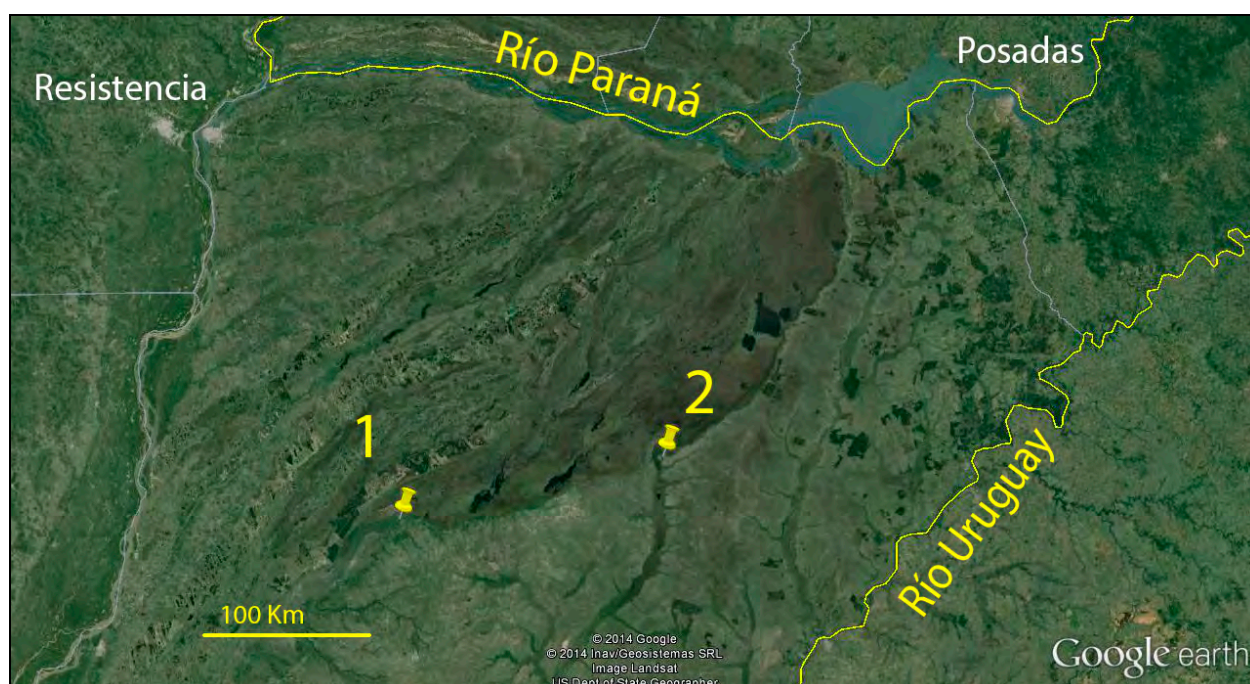


fig. 2. Map showing the collecting sites of *Brachyhypopomus draco* in Esteros del Iberá wetland: 1. río Corriente, 2. Laguna Iberá



fig. 3. collecting site of *Brachyhypopomus draco*: río Corriente in Dorado fishing, Esteros del Iberá, Corrientes, Argentina



fig. 4. collecting site of *Brachyhypopomus draco*: East coast of the Laguna Iberá, Esteros del Iberá, Corrientes, Argentina

### Distribution

*Brachyhypopomus draco* is known from Laguna dos Patos, río Uruguay, río Tramandaí, and río Paraguay basins (Giora et al., 2008). In Argentina this species was found in the río Paraná basin, Pre-Delta National Park (Almirón et al., 2010). *Brachyhypopomus draco* was found living in sympatry with *B. gauderio* and *B. bombilla* in Esteros del Iberá wetland, río Paraná basin: río Corriente (28°44'13.30"S-58°8'13.22"W) and Laguna Iberá (28°32'18.39"S-57°11'11.74"W) (fig.3 and 4).

### Habitat:

*Brachyhypopomus draco* was collected in littoral areas of lentic and lotic water bodies of Esteros del Iberá (figs. 3 and 4). Habitats were surrounded by “embalsados”, a local name given to thick (1-3 m) peat accumulations originated by incompletely decomposed aquatic macrophytes such as *Typha* sp. and *Cyperus* sp. Masses of this tropical organic soils extend for hundreds of kilometers, surrounding large shallow lakes connected by natural channels. These formations and the abundant floating vegetation present in the Iberá wetlands are ideal microhabitats for Gymnotiformes.

The depth of Laguna Iberá was variable, ranging from 0.7 to 0.9 m. The bottom was predominantly composed of sand and organic matter. Transparency was low (60 cm Secchi disc) perhaps due to the turbulences in these shallow environments. Oxygen ranged between 95.9 to 101.5 % relative saturation due to constant water removal by wind. Lack of water currents and neutral to slightly acidic pH were also characteristic.

The depth of río Corriente was variable, averaging about 2.9 m and the waters were very transparent. The pH values were slightly acidic (5.6-5.7) and the level of relative oxygen saturation decreased substantially (37.8-55.5%) due to the decomposition of organic matter. The bottom was composed by mud, sand, and mainly organic matter and abundant submerged vegetation.

### Acknowledgements

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Table 1: Morphometric data of *Brachyhypopomus draco*. Length to the end of anal fin (LEA); head length (HL)

Character	río Corriente	Laguna Iberá
LEA (mm)	128.4	137.4
	% of LEA	% of LEA
HL	10.5	10.8
Caudal filament length	35.0	33.1
Snout to anal fin origin	17.6	19.4
Depth of caudal filament	2.8	2.7
Longest anal fin ray	3.5	3.5
Longest pectoral fin ray	5.5	5.8
Anal-fin length	82.1	81.4
Body depth	11.6	12.2
Body width	5.9	6.3
	% of HL	% of HL
Snout length	29.6	30.4
Gape width	14.8	16.9
Orbital diameter	12.6	12.8
Interorbital distance	30.4	32.4
Posterior nare to eye	5.2	5.4
Branchial aperture	25.2	25.7
Head width at operculum	60.0	58.8
Head width at eyes	45.2	44.6
Anal-fin rays	199	202
Pectoral-fin rays	ii+13	ii,14

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