

LISTS OF SPECIES

**Fish fauna from the Ajó river in Campos del Tuyú National Park,
province of Buenos Aires, Argentina**

Agustín Solari,¹* Mirta L. García,¹ and Andrés J. Jaureguizar²

¹ *Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Museo de La Plata, Departamento Zoología Vertebrados. Paseo del Bosque s/n. CP 1900. La Plata, Argentina..*

² *Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP), Comisión de Investigaciones Científicas de la Provincia de Buenos Aires (CIC). PO Box 175. CP 7600. Mar del Plata, Argentina..*

* Corresponding author e-mail: asolari@fcnym.unlp.edu.ar

Abstract: We provide the first list of the ichthyofauna from the Ajó river, a water course situated at the southward border of the Samborombón bay (36°20'12" S, 56°54'17" W), a RAMSAR site in Argentina. These results were obtained bi-monthly along two years. Forty-five species belonging to 26 families and 11 orders were identified. This fish fauna is composed by freshwater, euryhaline and marine species. Richest groups were Perciformes and Characiformes, with 10 species each. A single species, *Micropogonias furnieri* (whitemouth croaker), represented more than 70 % of the captured specimens, being juvenile individuals only. Remaining species were also represented by juvenile specimens, confirming the importance of this environment as nursery area, particularly for the whitemouth croaker.

Introduction

The Ajó river, located inside the RAMSAR site Samborombón bay, originates by the confluence of Guido del Mar creek and a man-made drainage (Channel 2), both of which flow through part of the depressed Pampas. The Ajó river, with a length of 25 km, and a width averaging 165 m, is the eastern border of Rincón de Ajó Provincial Reserve and the west border of the recently created (May 2009, National law 26.499) Campos del Tuyú National Park. The Ajó river flows into in the southern region of the Samborombón Bay (Figure 1). This environment is subjected to strong fluctuations in volume and salinity, by influence of tides, winds and the pluvial discharge (Carol et al. 2008).

From the zoogeographic point of view, the Ajó river is located in the Pampean Province (López et al. 2008) and it is within the Bonaerensean Atlantic Drainage ecoregion (Abell et al. 2008). Some contributions have been made about the composition of the ichthyofauna of the south region of the Samborombón Bay (e.g. Menni, 1983; Cousseau, 1985, and Lasta, pers. com.). Jaureguizar et al. (2003a; 2004) among others,

described fish assemblages from the Río de la Plata including the Samborombón Bay, but a complete list of the fish fauna from the water bodies that discharge in this sector of the bay has not yet made. In this context, we provide the first list of the fish fauna of the Ajó river.

Materials and methods

The list of species is based on the material collected in bimonthly field expeditions made among 2007-2009. Five equidistant sites among themselves were selected from the headwater to its mouth, with the following geographical coordinates: St. 1: 36°28'27" S, 56°59'52" W; St. 2: 36°26'44" S, 56°58'35" W; St. 3: 36°24'59" S, 56°57'56" W; St. 4: 36°23'17" S, 56°56'45" W; St. 5: 36°20'12" S, 56°54'17" W (Figure 1). Fishes were captured using a modified Garlito/Bituron fixed net (Colautti 1998) and a haul net (10 m length with 5 mm stretched mesh in the wings and 2,5 mm stretched mesh in the cod ends). For all the specimens total length and weight were taken. The species were identified according to Ringuelet et al. (1967), Menni et al. (1984), Azpelicueta and Almirón (1991), Miquelarena and Menni (2005) and Miquelarena and López (2006).

Results and discussion

Forty five species belonging to 26 families and 11 orders were identified. Characiformes and Perciformes were represented by 10 species each, followed by Siluriformes with 6 species, Clupeiformes with 5 species, Atheriniformes and Pleuronectiformes with 3 species, Cyprinodontiformes with 2 species and the remaining orders with only one each (Table 1). This usual conformation with an identical diversity in two groups, one characteristic of fresh water and the other mostly marine, clearly indicates the brackish conditions of the studied environment and the great variety of habitats available under estuarine conditions.

One single species, *Micropogonias furnieri*, the whitemouth croaker, was the most abundant

species (more of 70 %) followed by *Odontesthes argentinensis* (4.9 %), *Brevoortia aurea* (1.2 %), *Paralonchurus brasiliensis* (1.1 %); the remaining species did not reach 1 %.

Micropogonias furnieri was found associated to coastal and estuarine waters, which are nursery and feeding areas of juveniles (Macchi et al. 1996; Acha et al. 1999; Jaureguizar et al. 2003b; Braverman et al. 2009). In the whole area of study, *M. furnieri* represented respectively the 70.2 % and 89.8 % of the biomass and number of individuals. The capture was totally composed by juveniles measuring around 80 mm total length, which confirms that the studied area functions as a nursery to a large number of species, many of them commercially exploited.

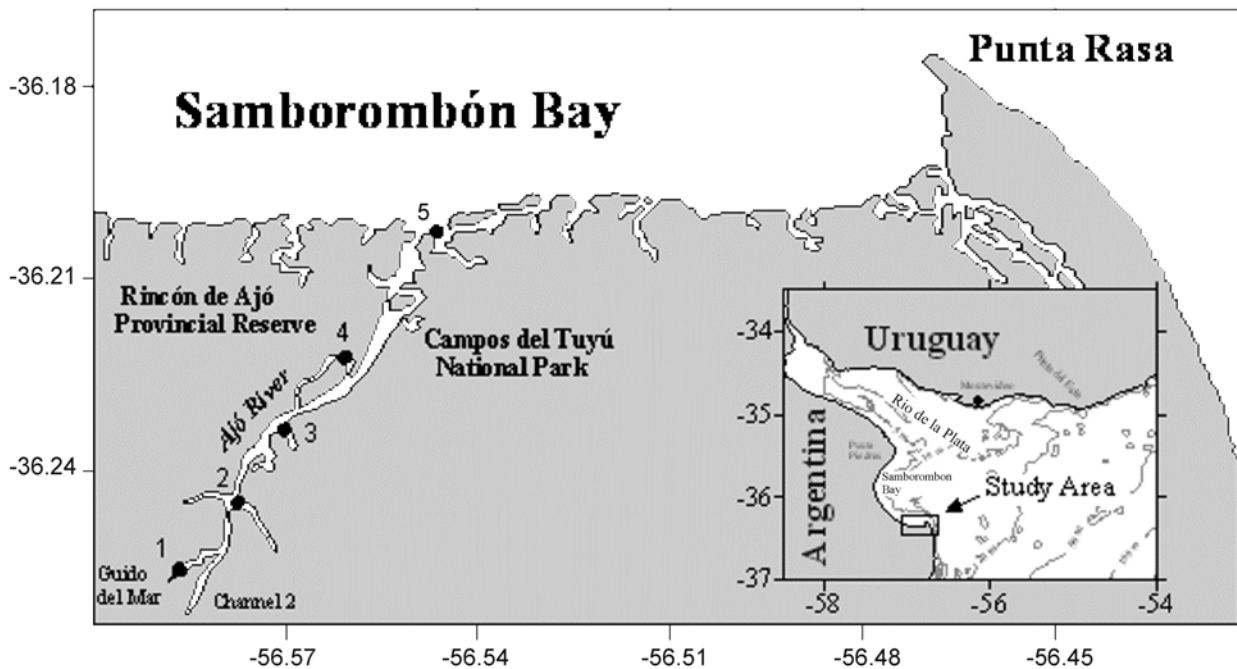


Figure 1. Collection sites (black circles) in the Ajó river.

Table 1. Ichthyofaunal composition of Ajó river, including the site of fish collected.

| List of collected species | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Characiformes | | | | | |
| Characidae | | | | | |
| <i>Oligosarcus jenynsii</i> (Günther, 1864) | x | x | x | x | |
| <i>Cheirodon interruptus</i> (Jenyns, 1842) | x | x | x | x | |
| <i>Astyanax eigenmanniorum</i> (Cope, 1894) | x | x | x | x | x |
| <i>Astyanax sp.</i> | | x | x | | |
| <i>Bryconamericus iheringi</i> (Boulenger, 1887) | | | | x | |
| <i>Hyphessobrycon anisitsi</i> (Eigenmann, 1907) | x | | | | |
| <i>Hyphessobrycon togoi</i> Miquelarena and Lopéz, 2006 | x | | | | |

| List of collected species | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Curimatidae | | | | | |
| <i>Cyphocharax spilotos</i> (Vari, 1987) | x | x | | | |
| <i>Cyphocharax voga</i> (Hensel, 1870) | x | x | x | x | x |
| Erythrinidae | | | | | |
| <i>Hoplias malabaricus</i> (Bloch, 1794) | x | | | | |
| Siluriformes | | | | | |
| Callichthyidae | | | | | |
| <i>Corydoras paleatus</i> (Jennyns, 1842) | x | x | x | x | x |
| Heptapteridae | | | | | |
| <i>Pimelodella laticeps</i> Eigenmann, 1917 | x | x | x | x | |
| <i>Rhamdia quelen</i> (Quoy and Gaimard, 1824) | x | x | x | x | x |
| Loricariidae | | | | | |
| <i>Loricariichthys anus</i> (Valenciennes, 1835) | x | x | x | | |
| Pimelodidae | | | | | |
| <i>Parapimelodus valenciennis</i> (Kröyer, 1874) | | | x | x | |
| <i>Pimelodus albicans</i> (Valenciennes, 1840) | x | x | x | x | |
| Cyprinodontiformes | | | | | |
| Anablepidae | | | | | |
| <i>Jenynsia multidentata</i> (Jenyns, 1842) | x | x | x | x | x |
| Poeciliidae | | | | | |
| <i>Cnesterodon decemmaculatus</i> (Jenyns, 1842) | | | x | | |
| Cypriniformes | | | | | |
| Cyprinidae | | | | | |
| <i>Cyprinus carpio</i> Linné, 1758 | x | | x | x | |
| Atheriniformes | | | | | |
| Atherinidae | | | | | |
| <i>Odontesthes argentinensis</i> (Valenciennes, 1835) | x | x | x | x | x |
| <i>Odontesthes bonariensis</i> (Valenciennes, 1835) | x | x | x | x | x |
| <i>Odontesthes</i> sp. | x | x | x | x | x |
| Clupeiformes | | | | | |
| Clupeidae | | | | | |
| <i>Brevoortia aurea</i> (Agassiz, 1829) | x | x | x | x | x |
| <i>Platanichthys platana</i> (Regan, 1917) | x | x | x | x | x |
| <i>Ramnogaster arcuata</i> (Jenyns, 1842) | | x | | x | |
| Engraulidae | | | | | |
| <i>Anchoa marinii</i> Hildebrand, 1943 | x | x | x | x | |
| <i>Lycengraulis grossidens</i> Agassiz, 1829 | x | x | x | x | x |
| Gasterosteiformes | | | | | |
| Syngnathidae | | | | | |
| <i>Syngnathus folletti</i> Herald, 1942 | x | x | x | x | x |
| Mugiliformes | | | | | |
| Mugilidae | | | | | |
| <i>Mugil</i> sp. | x | x | x | x | x |
| Perciformes | | | | | |
| Cichlidae | | | | | |
| <i>Australoheros facetus</i> (Jenyns, 1842) | | | x | | |
| Sciaenidae | | | | | |
| <i>Macrodon ancylodon</i> (Schneider, 1801) | x | x | x | x | x |
| <i>Menticirrhus americanus</i> (Linné, 1758) | | x | x | x | x |
| <i>Micropogonias furnieri</i> (Desmarest, 1823) | x | x | x | x | x |
| <i>Paralonchurus brasiliensis</i> (Steindachner, 1875) | | x | x | x | x |
| <i>Pogonias cromis</i> (Linné, 1766) | x | x | x | x | x |
| Pomatomidae | | | | | |
| <i>Pomatomus saltatrix</i> (Linné, 1766) | | | x | | |

| List of collected species | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|
| Stromateidae | | | | | |
| <i>Stromateus brasiliensis</i> Fowler, 1906 | | | x | | x |
| Carangidae | | | | | |
| <i>Trachurus lathami</i> Nichols, 1920 | | | | | x |
| <i>Parona signata</i> (Jenyns, 1841) | | | x | x | x |
| Pleuronectiformes | | | | | |
| Cynoglossidae | | | | | |
| <i>Symphurus plagiusa</i> (Linné, 1766) | | x | x | x | x |
| Paralichthyidae | | | | | |
| <i>Paralichthys orbignyanus</i> (Valenciennes, 1839) | | x | | x | x |
| Pleuronectidae | | | | | |
| <i>Oncopterus darwini</i> Steindachner, 1874 | | | | | x |
| Gadiformes | | | | | |
| Gadidae | | | | | |
| <i>Urophycis brasiliensis</i> (Kaup, 1858) | | x | x | x | x |
| Scorpaeniformes | | | | | |
| Triglidae | | | | | |
| <i>Prionotus punctatus</i> (Bloch, 1793) | | | | | x |
| Anguilliformes | | | | | |
| Congridae | | | | | |
| <i>Conger orbignyanus</i> Valenciennes, 1847 | | | | | x |

Acknowledgements: The authors are grateful to L. Massolo, A. Milessi Millan, F. Cortéz and J. Waessle for the support offered in field work and to the *Centro de Estudios de Recursos Costeros* (CERC) and C. Lasta by offering us a place of work. This research was supported by *Agencia de Promoción Científica* PICT 2005 # 31982.

Literature cited

- Abell, R., M.L. Thieme, C. Revenga, M. Bryer, M. Kottelat, N. Bogutskaya, B. Coad, N. Mandrak, S. Contreras Balderas, W. Bussing, M.L.J. Stiassny, P. Skelton, G.R. Allen, P. Unmack, A. Naseka, R. Ng, N. Sindorf, J. Robertson, E. Armijo, J.V. Higgins, T.J. Heibel, E. Wikramanayake, D. Olson, H.L. López, R.E. Reis, J.G. Lundberg, M.H. Sabaj Pérez and P. Petry. 2008. Freshwater ecoregions of the world: a new map of biogeographic units for freshwater biodiversity conservation. *BioScience* 58(5): 403-414.
- Acha, E.M., H.W. Mianzan, C.A. Lasta and R.A. Guerrero. 1999. Estuarine spawning of the whitemouth croaker *Micropogonias furnieri* in the Río de la Plata, Argentina. *Marine and Freshwater Research* 50: 57-65.
- Azpelicueta, M.M. and A. Almirón. 1991. *Cyphocharax spilotos* (Characiformes, Curimatidae) en el río Paraná y afluentes del Río de la Plata. *Neotropica* 37(98): 158-159.
- Braverman, M.S., E.M. Acha, D.A. Gagliardini and M. Rivarossa. 2009. Distribution of whitemouth croaker (*Micropogonias furnieri*, Desmarest 1823) larvae in the Río de la Plata estuarine front. *Estuarine, Coastal and Shelf Science* 82(4): 557-565.
- Carol, E., E. Kruse and J. Pousa. 2008. Environmental hydrogeology of the southern sector of the Samborombon Bay wetland, Argentina. *Environmental Geology* 54: 95-102.
- Colautti, D.C. 1998. Sobre la utilización de trampas para peces en las lagunas pampásicas. *Revista de Ictiología* 6(1/2): 17-23.
- Cousseau, M.B. 1985: Los peces del Río de la Plata y de su Frente Marítimo; p. 515-534 *In* A. Yáñez-Arancibia (ed.). *Fish community ecology in estuaries and coastal lagoons: Towards and ecosystem integration*. México DF: Universidad Nacional Autónoma de México.
- Jaureguizar, A.J., R.C. Menni, C. Bremec, H. Mianzan and C. Lasta. 2003a. Fishes assemblage and environmental patterns in the Río de la Plata estuary. *Estuarine, Coastal and Shelf Science* 56: 921-33.
- Jaureguizar, A.J., J. Bava, C.R. Carozza and C.A. Lasta. 2003b. Distribution of whitemouth croaker *Micropogonias furnieri* in relation to environmental factors at the Río de la Plata estuary, South America. *Marine Ecology Progress Series* 255: 271-282.
- Jaureguizar, A.J., R. Menni, R. Guerrero and C. Lasta. 2004. Environmental factors structuring fish communities of the Río de la Plata estuary. *Fisheries Research* 66: 195-211.
- Macchi, G.J., E.M. Acha and C.A. Lasta. 1996. Desove y fecundidad de la corvina rubia (*Micropogonias*

- furnieri*, Desmarest, 1826) en el estuario del Río de La Plata, Argentina. Boletín del Instituto Español de Oceanografía 12: 99-113.
- López, H.L., R.C. Menni, M. Donato and A.M. Miquelarena. 2008. Biogeographical revision of Argentina (Andean and Subtropical Regions): an analysis using freshwater fish. Journal of Biogeography 35: 1564-1579.
- Menni, R.C. 1983. Los peces en el medio marino. Buenos Aires: Estudio Sigma S.R.L. 169 p.
- Menni, R.C., R.A. Ringuelet and R.H. Arámburu. 1984. Peces marinos de la Argentina y Uruguay. Buenos Aires: Editorial Hemisferio Sur. 359 p.
- Miquelarena, A.M. and H.L. López. 2006. *Hyphessobrycon togoi*, a new species from the La Plata basin (Teleostei: Characidae) and comments about the distribution of the genus in Argentina. Revue Suisse de Zoologie 113(4): 817-828.
- Miquelarena, A.M. and R.C. Menni. 2005. *Astyanax tumbayaensis*, a new species from northwestern Argentina highlands (Characiformes: Characidae) with a key to the Argentinean species of the genus and comments on their distribution. Revue Suisse de Zoologie 112 (3): 661-676.
- Ringuelet, R.A., R.H. Arámburu, and A.A. de Arámburu. 1967. Los peces argentinos de agua dulce. Buenos Aires: Comisión Científica de la Provincia de Buenos Aires. 602 p.

Received: August 2009
Revised: September 2009
Accepted: October 2009
Published online: October 2009
Editorial responsibility: Marcelo Loureiro