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LISTS OF SPECIES

Fish, Salto Osório Reservoir, Iguaçu River basin, Paraná State, Brazil

Dirceu Baumgartner[1]
Gilmar Baumgartner[1]
Carla Simone Pavanelli[2]
Pedro Rogério Leandro da Silva[3]
Vitor André Frana[3]
Luciano Caetano de Oliveira[3]
Márcio Roberto Michelon[3]

[1]Universidade Estadual do Oeste do Paraná, Grupo de Pesquisa em Recursos Pesqueiros e Limnologia (Gerpel), Rua da Faculdade, 645, 85903-000 Toledo, Paraná, Brazil. E-mail: dbaum@unioeste.br

[2]Universidade Estadual de Maringá, Núcleo de Pesquisas em Limnologia, Ictiologia e Aqüicultura (Nupélia), Avenida Colombo, 5790, 87020-900 Maringá, Paraná, Brazil.

[3]Fundação Universitária de Toledo. Rua da Faculdade, 645, 85903-000 Toledo, Paraná, Brazil.

Abstract
The Iguaçu River is a large tributary of the Paraná River, with a highly endemic ichthyofauna due to the geographic isolation imposed by the Iguaçu falls, located near its mouth. Fish were collected monthly in four sampling stations along the Salto Osório Reservoir, from July 2003 to June 2005, using gill nets, casting nets, and long lines. Considering the entire period, 41 fish species were colleted, which belong to six Orders, 17 Families, and 27 Genera. From these, 24 species are considered endemic. Comparisons with other surveys conducted in the Iguaçu River are provided, in addition to comments on the fish endemism, even within the basin.

Introduction

The Iguaçu River is a large tributary of the Paraná River, located just downstream from the Itaipu dam. The high degree of endemism of its ichthyofauna has been mentioned by several authors (e.g. Severi and Cordeiro 1994; Garavello et al. 1997), and is probably due to its geographic isolation imposed by the Iguaçu falls. These falls are steep and form a very effective barrier separating the ichthyofauna located upstream from the falls (most of the river's extension), from the ichthyofauna located downstream (a few kilometers before the river's mouth).

Salto Osório Reservoir (Fig. 1) is one of the several reservoirs already established in the Iguaçu River basin. It was concluded in 1975 for electricity generation, and has an area of 51 km^2. However, up to now, no surveys have been published related to this region. A few studies have been carried out in other regions of the Iguaçu River, such as Haseman (1911), Severi and Cordeiro (1994), Garavello et al. (1997), and Ingenito et al. (2004).

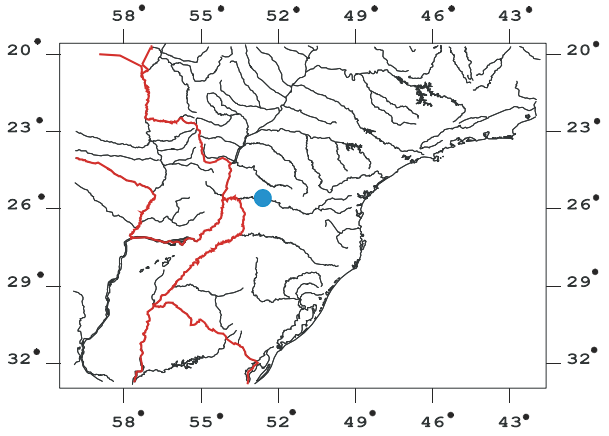

Figure 1. Partial map of Brazil and adjoining countries showing Salto Osório Reservoir (blue dot), Iguaçu River basin, Paraná State. Country boundaries in red.

Materials and Methods

Samples were collected monthly in four sampling stations along the Salto Osório Reservoir, from July 2003 to June 2005, using gill nets, casting nets, and long lines, under the Instituto Ambiental do Paraná (IAP) authorization number 358/2003. To identify fish species, Garavello et al. (1997) and Ingenito et al. (2004) were used, in addition to contacts with experts in some groups. Classification of species is presented according to Eschmeyer (1990) for superior categories and Reis et al. (2003) for families, with the exception of Cyprinidae that follows Cavender and Coburn (1992), and Clariidae that follows Burgess (1989). Undescribed species are identified by letters designed according to Garavello et al.

(1997).Voucher specimens of each species are deposited in the fish collection of Nupélia (Núcleo de Pesquisas em Limnologia, Ictiologia e Aqüicultura) of the Universidade Estadual de Maringá.

Results and Discussion

Considering the entire period, 41 fish species belonging to six Orders, 17 Families, and 27 Genera (Table 1) were collected. From these, 24 are considered endemic.

Table 1. Actinopterygii fish species from the Salto Osório Reservoir, Iguaçu River basin. Endemic species are marked with an asterisk, an "®" point out species first recorded in the basin, and the regional popular name of each species is provided between quotation marks.

	CYPRINIFORMES
Cyprinidae	*Cyprinus carpio* (Linnaeus, 1758) – "carpa-comum"
	CHARACIFORMES
Parodontidae	*Apareiodon vittatus* Garavello, 1977 – "canivete"*
Curimatidae	*Cyphocharax modestus* (Fernández-Yépez, 1948) – "sagüiru"®
Prochilodontidae	*Prochilodus lineatus* (Valenciennes, 1836) – "curimbatá"®
Anostomidae	*Leporinus* sp. – "piau"®
Erythrinidae	*Hoplias* aff. *malabaricus* (Bloch, 1794) – "traíra"
Crenuchidae	*Characidium* sp. – "charutinho"*
Characidae	*Astyanax altiparanae* Garutti & Britski, 2000 – "tambiú"
	Astyanax sp. B – "lambari-do-rabo-vermelho"*
	Astyanax sp. C – "lambari-do-rabo-amarelo"*
	Astyanax sp. E – "lambari-relógio"*
	Astyanax sp. F – "lambarizão"*
	Bryconamericus ikaa Casciota, Almirón & Azpelicueta, 2004 – "lambarizinho"*
	Bryconamericus sp. C – "lambarizinho"*
	Psalidodon gymnodontus Eigenmann, 1911 – "lambari"*
	Psalidodon sp. – "lambari"*
	Oligosarcus longirostris Menezes & Géry, 1983 – "saicanga"*
	SILURIFORMES
Auchenipteridae	*Glanidium ribeiroi* Haseman, 1911 – "bocudo"*
	Tatia sp. – "jundiá"*®
Pimelodidae	*Pimelodus ortmanni* Haseman, 1911 – "mandi-pintado"*
	Pimelodus sp. – "mandi"*
Heptapteridae	*Imparfinis* sp. – "bagre"*
	Rhamdia branneri Haseman, 1911 – "bagre"*
	Rhamdia voulezi Haseman, 1911 – "bagre"*
	Rhamdia sp. – "bagre"*
Clariidae	*Clarias gariepinus* (Burchell, 1822) – "bagre-africano"
Loricariidae	
Hypostominae	*Hypostomus albopunctatus* (Regan, 1908) – "cascudo"

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	Hypostomus aff. *commersoni* Valenciennes, 1836 – "cascudo"
	Hypostomus derbyi (Haseman, 1911) – "cascudo"*
	Hypostomus myersi (Gosline, 1947) – "cascudo"*
Ancistrinae	*Ancistrus* sp. – "cascudinho"*
Callichthyidae	*Corydoras* cf. *paleatus* (Jenyns, 1842) – "coridoras"
	GYMNOTIFORMES
Gymnotidae	*Gymnotus inaequilabiatus* (Valenciennes, 1839) – "morenita"
	Gymnotus sylvius Albert & Fernandes-Matioli, 1999 – "morenita"®
	PERCIFORMES
Cichlidae	*Cichlasoma facetum* (Jenyns, 1842) – "cará"
	Crenicichla iguassuensis Haseman, 1911 – "joaninha"*
	Crenicichla sp. – "joaninha"*
	Geophagus brasiliensis (Quoy & Gaimard, 1824) – "cará"
	Oreochromis niloticus (Linnaeus, 1758) – "tilápia-do-Nilo"®
	Tilapia rendalli (Boulenger, 1897) – "tilápia"
	ATHERINIFORMES
Atherinopsidae	*Odontesthes bonariensis* (Valenciennes, 1835) – "peixe-rei"

Garavello et al. (1997) produced a commented list of all Iguaçu River fish species described up to that date. They also presented a survey of the ichthyofauna from Segredo Reservoir, located immediately upstream from Salto Osório Reservoir. Both were built for electricity generation, and they are situated in the low Iguaçu River basin. However, the latter was closed 17 years after the former. Since 1997 some species names have been changed, such as *Astyanax bimaculatus* (Linnaeus, 1758), *Bryconamericus* sp. A, *Pariolius* sp., and *Gymnotus carapo*, which currently correspond to *Astyanax altiparanae*, *Bryconamericus ikaa*, *Imparfinis* sp., and *Gymnotus inaequilabiatus*, respectively.

Comparing the two lists of species, eight additional ones are presented herein, of which six have been recorded for the first time (as shown in Table I). Among these six, five are non indigenous species. Some of the non indigenous species captured in the whole survey are originally from other Brazilian basins and others are even from other countries. *Cyprinus carpio*, *Gymnotus inaequilabiatus, Odontesthes bonariensis*, and *Tilapia rendalli* were already mentioned by Garavello et al. (1997), and *Clarias gariepinus* was cited by Ingenito et al. (2004) for the upper Iguaçu River basin. *Cyphocharax modestus* may have been deliberately or accidentally carried from the Paraná River basin. *Prochilodus lineatus, Leporinus* sp., and *Oreochromis niloticus*, which are large species, and occurred sporadically in the samples, may also have been intentionally or accidentally carried or may have escaped from some small ponds or tanks situated near the sampling region. *Gymnotus sylvius* was also sporadic, and as it is commonly used as live bait by Brazilian fishermen, this can explain its presence in the Iguaçu River basin. *Bryconamericus* sp. C was registered by Russo et al. (2004) in the Salto Caxias Reservoir region of influence. Taking into account the high endemism of the Iguaçu River ichthyofauna, all the indigenous species listed in Table I with no specific name are probably new species, and most of them are already being studied by several ichthyologists.

Considering a recent fish inventory carried out in the upper Iguaçu River by Ingenito et al. (2004), the present study has 26 exclusive species, 19 of

which are endemic, demonstrating that there are endemic regions even within the proper Iguaçu River basin.

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