

# ***Acestrorhynchus pantaneiro* (a fish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, March 2014

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Available: [http://eol.org/data\\_objects/33467871](http://eol.org/data_objects/33467871) (January 2018).

## **1 Native Range, and Status in the United States**

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### **Native Range**

From Froese and Pauly (2018):

“South America: Paraguay, Paraná, Uruguay, La Plata, [Brazil, Paraguay, Uruguay, Argentina] and Mamoré River basins [Bolivia, Brazil].”

From Eschmeyer et al. (2018):

“Distribution: Argentina, Bolivia, Brazil, Paraguay and Uruguay.”

### **Status in the United States**

This species has not been reported as introduced or established in the United States.

From Seriously Fish (2018):

“This species is a member of the putative ‘*A. lacustris* group’ of closely-related species within the genus alongside *A. abbreviatus*, *A. lacustris* and *A. pantaneiro* [*sic*]. [...] Several members of the group are occasionally available in the trade but unless collection data is known are virtually impossible to tell apart.”

### **Means of Introductions in the United States**

This species has not been reported as introduced or established in the United States.

### **Remarks**

From Artioli et al. (2013):

“This species differs from the other of the group [*A. lacustris*] in the presence of 31 to 35 longitudinal series of scales around the caudal peduncle, the tip of the pectoral fin not reaching the pelvic fin origin, 25 to 30 longitudinal series of scales between the lateral line and dorsal fin origin, and 15 to 17 series of scales between the lateral line and the anal fin origin (Menezes 1992).”

According to Meurer and Zaniboni-Filho (2012), saicanga and peixe-cachorro are common names of *Acestrorhynchus pantaneiro*.

## **2 Biology and Ecology**

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### **Taxonomic Hierarchy and Taxonomic Standing**

From ITIS (2018):

“Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Osteichthyes  
Class Actinopterygii  
Subclass Neopterygii  
Infraclass Teleostei  
Superorder Ostariophysii

Order Characiformes  
Family Acestrorhynchidae  
Genus Acestrorhynchus  
Species *Acestrorhynchus pantaneiro*

“Taxonomic Status: valid”

### **Size, Weight, and Age Range**

From Froese and Pauly (2018):

“Max length : 35.2 cm TL male/unsexed; [Zaniboni Filho et al. 2004]; max. published weight: 396.00 g [Zaniboni Filho et al. 2004]”

### **Environment**

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

### **Climate/Range**

From Froese and Pauly (2018):

“Tropical”

### **Distribution Outside the United States**

Native

From Froese and Pauly (2018):

“South America: Paraguay, Paraná, Uruguay, La Plata, and Mamoré River basins.”

From Eschmeyer et al. (2018):

“Distribution: Argentina, Bolivia, Brazil, Paraguay and Uruguay.”

Introduced

From Neuhaus et al. (2016):

“*Acestrorhynchus pantaneiro* is an invasive species in the Patos Lagoon system in South Brazil.”

### **Means of Introduction Outside the United States**

From Artiolo et al. (2013):

“Regarding the introduction of *A. pantaneiro* into the Tramandaí River system [Brazil], we discarded the hypothesis of escapes through drainage from culture tanks, as suggested by Saccol-Pereira et al. (2006) for the Patos system.”

“The first record of the *A. pantaneiro* in the Tramandaí River system at Fortaleza lagoon suggests that invasion started by the south, perhaps facilitated by the short distance between the northeast portion at Patos Lagoon basin and Tramandaí system [...].”

## Short Description

From Artiolo et al. (2013):

“The specimens have a round black humeral spot and a distinct spot at the base of the caudal fin, the general pattern in the *A. lacustris* species group, which includes *A. pantaneiro*.”

## Biology

From Froese and Pauly (2018):

“Feeds on fish [Zaniboni Filho et al. 2004].”

From Neuhaus et al. (2016):

“This species apparently develops better in lentic or semi-lentic conditions. The success in lentic environments may be associated with the fact that the species is an opportunistic piscivore that tends to feed on the most abundant species and reproduces by multiple spawning without parental care (Meurer and Zaniboni-Filho 2012).

From Meurer and Zaniboni-Filho (2012):

“*Acestrorhynchus pantaneiro* in the present study demonstrated opportunistic reproductive and feeding behavior (multiple spawning, ability to prey different fish species, and tolerate distinct hydrological conditions). Additionally, the species presents a long reproductive period and consumed the most abundant fish species.”

## Human Uses

From Froese and Pauly (2018):

“Fisheries: commercial”

From Seriously Fish (2018):

“This species is a member of the putative ‘*A. lacustris* group’ of closely-related species within the genus alongside *A. abbreviatus*, *A. lacustris* and *A. pantaneiro* [*sic*]. [...] Several members of the group are occasionally available in the trade but unless collection data is known are virtually impossible to tell apart.”

## Diseases

From Chemes and Takemoto (2011):

“Family Bucephalidae (Poche, 1907)

*Rhipidocotyle santanaensis* (Lunaschi, 2004)

Host: *Acestrorhynchus pantaneiro* (Menezes, 1992)

Site of infection: caeca

Location: Paraná River (Santa Ana City, Corrientes Province)

Refs.: Lunaschi (2004)”

No OIE reportable diseases have been documented for this species.

## Threat to Humans

From Froese and Pauly (2017):

“Harmless”

## 3 Impacts of Introductions

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From Neuhaus et al. (2016):

“Introductions and invasions of piscivorous predator species can impact not only the species richness of native fish community but may also cause changes over all trophic levels of the ecosystem by eliminating fish with particular diet traits as, for example, zooplanktivorous species (Pinto-Coelho et al., 2008). The results of the present study show that *A. pantaneiro* competes principally with *O. robustus* for food resources. The congeners *O. robustus* and *O. jenynsii*, which developed simpatrically [*sic*], partitioned their food niches during the process of co-evolution, to decrease the overlap and, consequently, competition for the same food resources. Niche theory suggests that the high food niche overlap of both species may cause future niche partitioning of *A. pantaneiro* and *O. robustus* or, as consequence of competition, a decrease in abundance of one of them. Due to the fact that *A. pantaneiro* is dispersing in all directions along the tributaries of the Patos Lagoon and the Tramandaí River basin, further studies are recommended to understand the interaction of this species with other native species of these river systems.”

From Meurer and Zaniboni-Filho (2012):

“[...] *A. pantaneiro* is well adapted to colonize impounded areas. [...] *A. pantaneiro* changed from 0.06% of the total fish biomass per unit of effort before the construction of Itá Dam to 7.80% after the formation of the reservoir (Zaniboni-Filho et al., 2008). The increase in 130 times in biomass shows its success in the colonization of this reservoir, which can be attributed to the reproductive and food strategies of the species. The great food availability created by the proliferation of small-sized species, a common characteristic of newly formed reservoirs, probably propitiated an abundance of food for *A. pantaneiro*.”

## 4 Global Distribution

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**Figure 1.** Map of known global distribution of *Acestrorhynchus pantaneiro*, reported from South America. Map from GBIF Secretariat (2017).

## 5 Distribution Within the United States

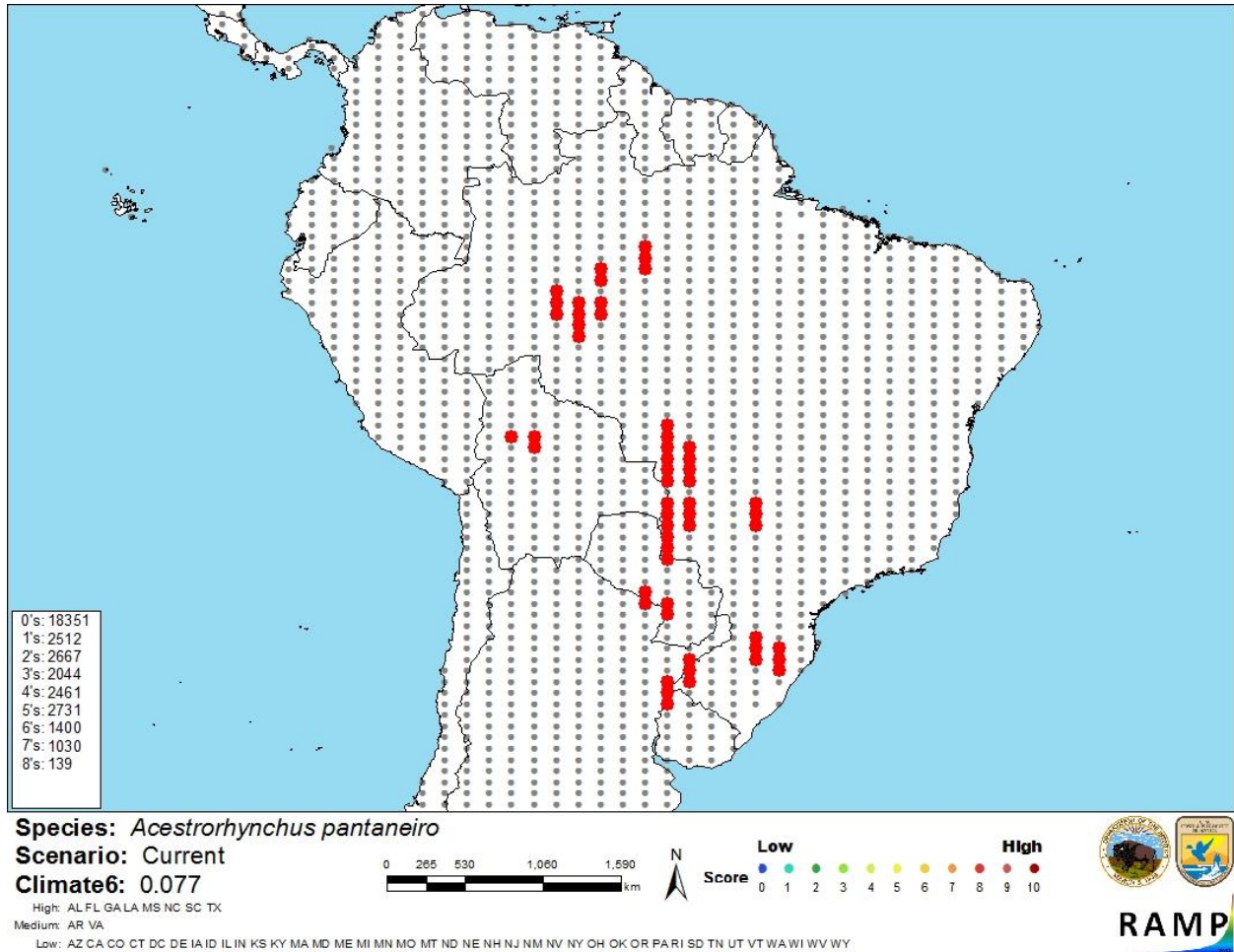
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This species has not been reported as introduced or established in the United States.

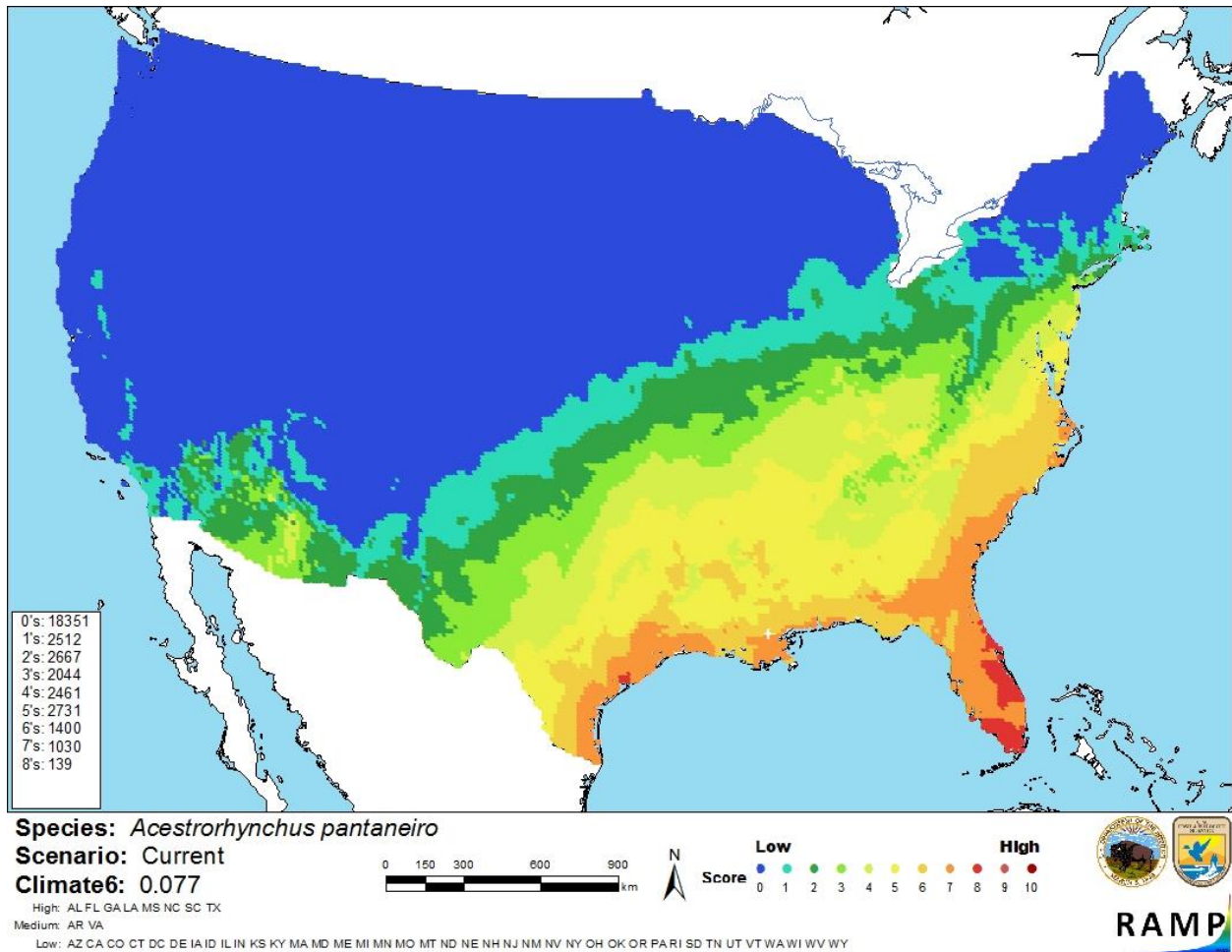
# 6 Climate Matching

## Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was highest in Florida, high in the coastal Southeast and along the coasts of the Gulf Coast states. Medium match occurred in the remainder of the Southeast. Low matches occurred in the northern Great Lakes states, New England, and the northern and western United States. Climate 6 match indicated that the contiguous U.S. has a medium climate match. The range for a medium climate match is from 0.005 to 0.103; Climate 6 match of *Acestrorhynchus pantaneiro* is 0.077.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; Brazil, Bolivia, Paraguay, Uruguay, Argentina) and non-source locations (gray) for *Acestrorhynchus pantaneiro* climate matching. Source locations from GBIF Secretariat (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Acestorhynchus pantaneiro* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 < X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

Information on the biology and distribution of *A. pantaneiro* is available. Where introduced, *A. pantaneiro* may compete with native piscivorous fishes for food as shown through one study of dietary overlap, but it is unclear if that is enough to cause harm to the native species at a population level. Certainty of this assessment is low.



## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Acestrorhynchus pantaneiro* is a freshwater fish species native to South America. This species is fished commercially and may appear in the aquarium trade. *A. pantaneiro* feeds on other fish and reproduces by multiple spawning. In the Patos Lagoon in Brazil, introduced *A. pantaneiro* may compete with native piscivorous fishes for food, as shown in one dietary study; however, there is no evidence that *A. pantaneiro* has negatively impacted populations of native piscivores in that system. More research is needed to fully understand the impacts from introductions of this species; absence of this research makes the certainty of this assessment low. Climate match with the contiguous United States is medium. Overall risk posed by this species is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec.6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.**

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## 10 References Quoted But Not Accessed

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**Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.**

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