

Acestrorhynchus grandoculis (a fish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2014
Revised, January 2018
Web Version, 6/11/2018



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1 Native Range, and Status in the United States

Native Range

From Lopez-Fernandez and Winemiller (2003):

“[In Venezuela,] *Acestrorhynchus grandoculis* occurs [...] mostly within the Rio Negro-Casiquire drainages and the middle Orinoco near the Atabapo and Ventuari rivers. The species is also recorded from the Venezuelan Amazon, from Rio Cinaruco in the western llanos and Rio Caura in the Guyana Shield region.”

From Froese and Pauly (2017):

“South America: Negro, Orinoco, and Amazon River basins [Venezuela, Brazil].”

Status in the United States

This species has not been reported in the United States. There is no indication that this species is in trade in the United States.

Means of Introductions in the United States

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

Remarks

From Lopez-Fernandez and Winemiller (2003):

“*Acestrorhynchus grandoculis* is distinguishable from all other *Acestrorhynchus* except *A. microlepis* by the possession of a minute, dark spot behind the operculum, which is much larger and teardrop-shaped in *A. falcatus* or completely absent in all other species.”

2 Biology and Ecology

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 Ostariophysi
Order Characiformes
Family Acestrorhynchidae
Genus *Acestrorhynchus*
Species *Acestrorhynchus grandoculis* Menezes and Géry, 1983”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“[...] Max length : 10.8 cm SL male/unsexed; (Toledo-Piza and Menezes 1996).”

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2017):

“Tropical”

Distribution Outside the United States

Native

From Lopez-Fernandez and Winemiller (2003):

“[In Venezuela,] *Acestrorhynchus grandoculis* occurs [...] mostly within the Rio Negro-Casiquiare drainages and the middle Orinoco near the Atabapo and Ventuari rivers. The species is also recorded from the Venezuelan Amazon, from Rio Cinaruco in the western Ilanos and Rio Caura in the Guyana Shield region.”

From Froese and Pauly (2017):

“South America: Negro, Orinoco, and Amazon River basins [Venezuela, Brazil].”

Introduced

This species has not been reported as introduced.

Means of Introduction Outside the United States

This species has not been reported as introduced.

Short Description

From Froese and Pauly (2017):

“Presence of a minute, dark spot behind the operculum; scales on lateral line 77-87; scale rows between the lateral line and the base of the dorsal fin 16-17; large eye 31.1-38.6% HL; short snout 26.3-33.3% HL (López-Fernández and Winemiller. 2003).”

Biology

From Lopez-Fernandez and Winemiller (2003):

“*Acestrorhynchus grandoculis* occurs in black-water rivers [...].”

From Arrington and Winemiller (2003):

“Nocturnal piscivores include [...] some characins (e.g. *A. ginesi* and *A. grandoculis*).”

From Toledo-Piza and Menezes (1996):

“In this species [*Acestrorhynchus grandoculis*] females are comparatively larger than males (966-108 vs 67-86 mm, respectively) with 56% of the females measuring more than 88 mm in standard length.”

Human Uses

No information reported for this species.

Diseases

No information available. No OIE reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

There are no reported introductions for this species. Data on the impacts of introductions are lacking.

4 Global Distribution



Figure 1. Map of known global distribution of *Acestrorhynchus grandoculis*, reported from Venezuela and Brazil. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

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 (Sander et al. 2014; 16 climate variables; Euclidean Distance) was low for the entire contiguous United States. Climate 6 match indicated that the contiguous U.S. has a low climate match. The range for a low climate match is from 0.0 to 0.005, inclusive; climate match of *Acestrorhynchus grandoculis* is 0.000.

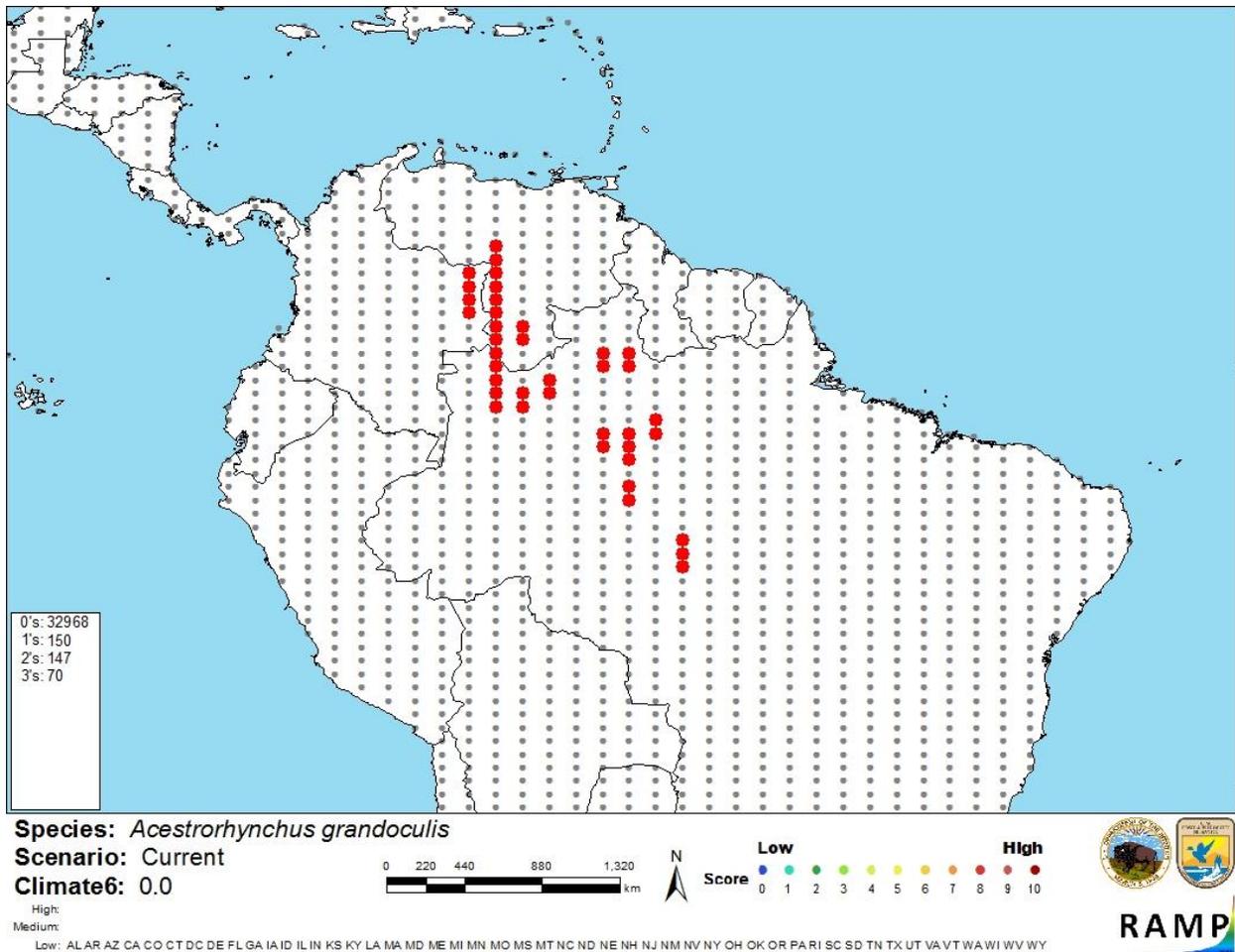


Figure 2. RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) source map showing weather stations in South America selected as source locations (red; Brazil, Venezuela, Colombia) and non-source locations (gray) for *Acestrorhynchus grandoculis* climate matching. Source locations from GBIF Secretariat (2017). Red source locations represent climate stations within 100 km of reported observations of *A. grandoculis*, rather than precise occurrence locations.

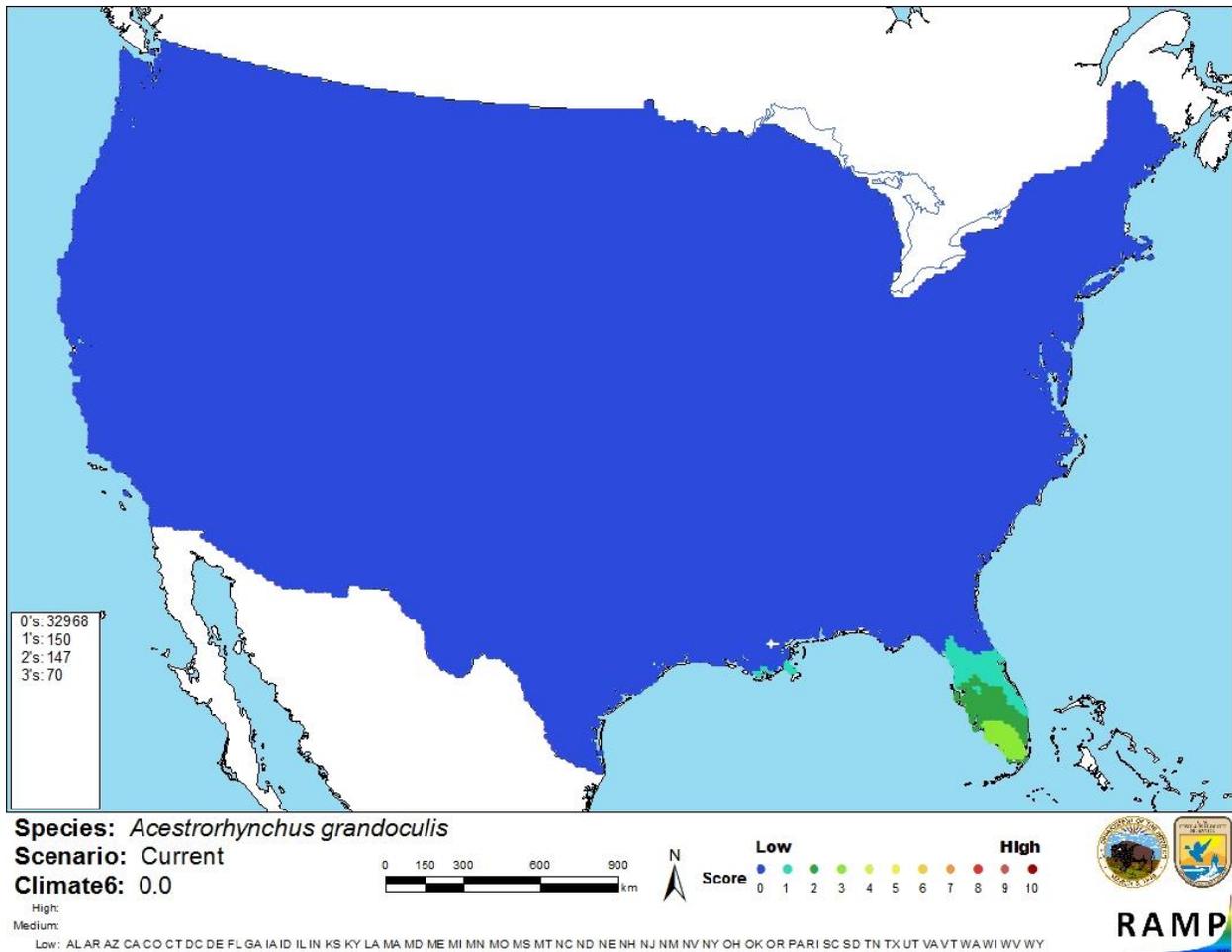


Figure 3. Map of RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) climate matches for *Acestorhynchus grandoculis* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match.

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
≥ 0.103	High

7 Certainty of Assessment

Information on the distribution and biology of *A. grandoculis* is available; however, scientific information on the impacts of introductions is lacking because no introductions of this species have been reported. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Acestrorhynchus grandoculis is a freshwater fish species native to northern South America. No introductions of this species have been reported. More information is needed to understand the impacts from introductions of *A. grandoculis*; absence of this information makes the certainty of this assessment low. Climate match with the contiguous United States is low. Overall risk posed by *A. grandoculis* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec.6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

- Arrington, D. A., and K. O. Winemiller. 2003. Diel changeover in sandbank fish assemblages in a neotropical floodplain river. *Journal of Fish Biology* 63:422-459.
- Froese, R. and D. Pauly, editors. 2017. *Acestrorhynchus grandoculis* Menezes & Géry, 1983. FishBase. Available: <http://www.fishbase.us/summary/Acestrorhynchus-grandoculis.html> (January 2018).
- GBIF Secretariat. 2017. GBIF backbone taxonomy: *Acestrorhynchus grandoculis* Menezes & Géry, 1983. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2355575>. (January 2018, June 2018).
- ITIS (Integrated Taxonomic Information System). 2018. *Acestrorhynchus grandoculis* (Menezes and Géry 1983). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=640362#null (January 2018).
- Lopez-Fernandez, H., and K. O. Winemiller. 2003. Morphological variation in *Acestrorhynchus microlepis* and *A. falcatus* (Characiformes: Acestrorhynchidae), reassessment of *A. apurensis* and distribution of *Acestrorhynchus* in Venezuela. *Ichthyological Exploration of Freshwaters* 14(3):193-208.
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Toledo-Piza, M. and N.A. Menezes. 1996. Taxonomic redefinition of the species of *Acestrorhynchus* of the *microlepis* group with the description of *Acestrorhynchus*

apurensis, a new species from Venezuela (Ostariophysi: Characiformes: Characidae).
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