Acestrorhynchus altus (a fish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2014
Revised, January 2018 and May 2018
Web Version, 5/25/2018

Photo: MCZBASE: The Database of the Zoological Collections. Licensed under Creative Commons (CC-BY-NC). Available: https://mczbase.mcz.harvard.edu/MediaSet.cfm?media_id=7818 (January 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

"South America: Amazon River basin."

From Eschmeyer et al. (2017):

"Distribution: Amazon River basin, Brazil and Bolivia."

Status in the United States

This species has not been reported as introduced or established in the United States. The species is present in the aquarium trade (see Human Uses, below), but no U.S. sellers were found.

Means of Introductions in the United States

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

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 altus*"

"Taxonomic Status: valid"

From Eschmeyer et al. (2017):

"Current status: Valid as *Acestrorhynchus altus* Menezes 1969."

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Max length : 23.3 cm SL male/unsexed; [Oyakawa 1998]"

Environment

From Froese and Pauly (2017):

"Freshwater; benthopelagic; pH range: 5.5 - 7.2; dH range: ? – 18 […]."

"[…] 22°C - 26°C [Baensch and Riehl 1991; assumed to represent recommended aquarium temperature]"

Climate/Range
From Froese and Pauly (2017):

"Tropical; […]"

Distribution Outside the United States
Native
From Froese and Pauly (2017):

"South America: Amazon River basin."

Introduced
This species has not been reported as introduced outside of its native range.

Means of Introduction Outside the United States
No introductions of this species have been reported outside of its native range.

Short Description
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*."

"These are all characterised by possession of a blackish, more-or-less circular-shaped, humeral spot, i.e., the dark marking located just behind the gill cover, and can therefore be distinguished from *A. falcatus* which has a much larger marking shaped somewhat like an inverted teardrop."

Biology
From Sazima (1986):

"*Acestrorhynchus altus* Mendez, 1969 is almost exclusively a piscivore, foraging all day round. […] occasionally swim with other open-water fishes."

"Roving predators which patrol while swimming near the surface or at mid-water, lunging mainly at small fishes."

Human Uses
From Seriously Fish (2018):

"Members of this group are occasionally available in the trade but unless collection data is known are virtually impossible to tell apart."

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 altus*, reported from Brazil, Bolivia, and Argentina. Map from GBIF Secretariat (2017). The location in Argentina is outside the described established range of *A. altus* so it was not included in the climate matching analysis.

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 (Sanders et al. 2014; 16 climate variables; Euclidean distance) was high for the peninsular Florida. Medium matches occurred from northern Florida through coastal Georgia, and in coastal Texas. Low matches occurred throughout the rest of the contiguous United States. Climate 6 score indicated that the contiguous United States has a medium climate match overall. The range of scores for a medium climate match is between 0.005 and 0.103; the Climate 6 score of *Acestrorhynchus altus* is 0.009.

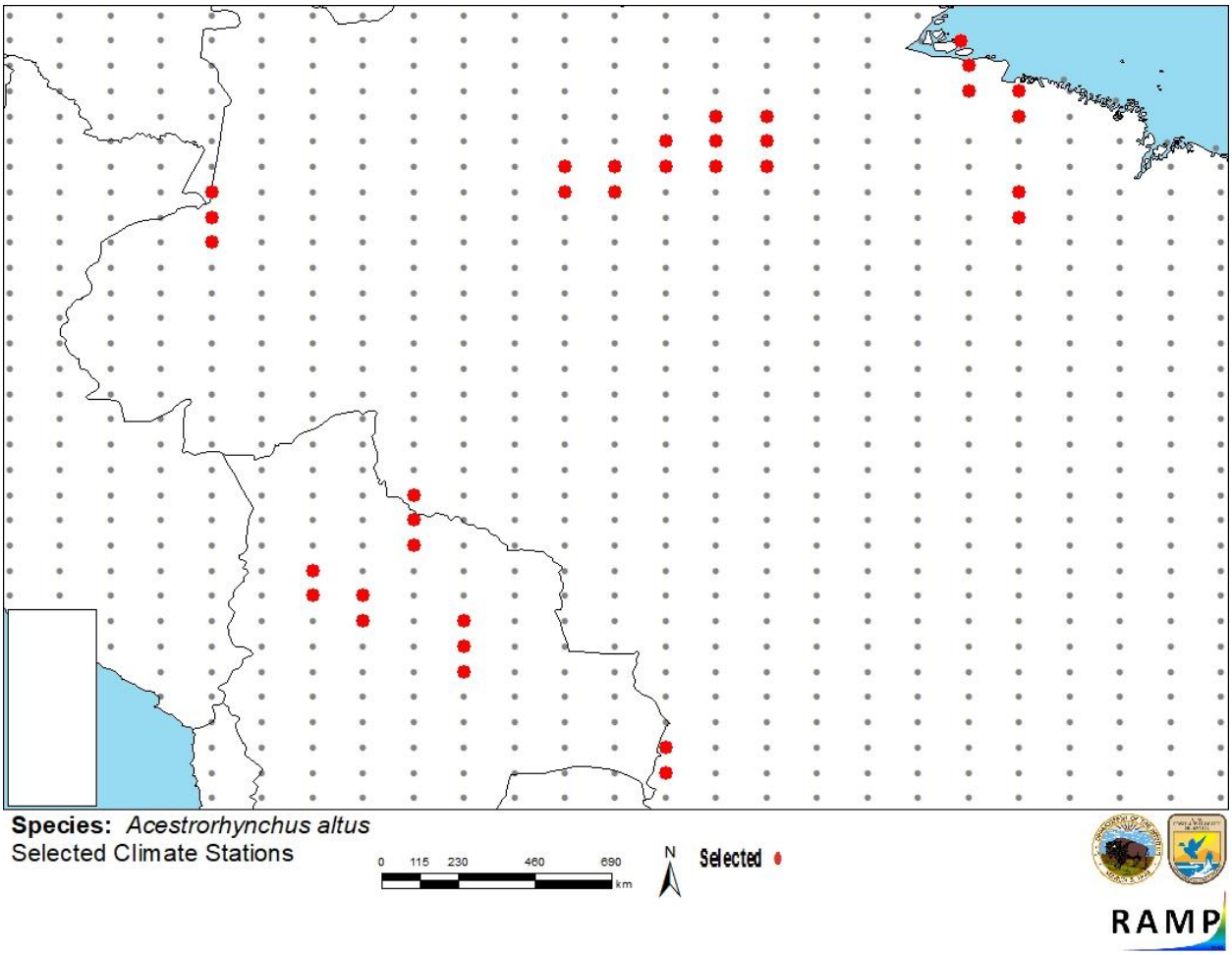

Figure 2. RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) source map of northern South America showing weather stations selected as source locations (red; Brazil, Bolivia) and non-source locations (gray) for *Acestrorhynchus altus* climate matching. Source locations from GBIF Secretariat (2017).

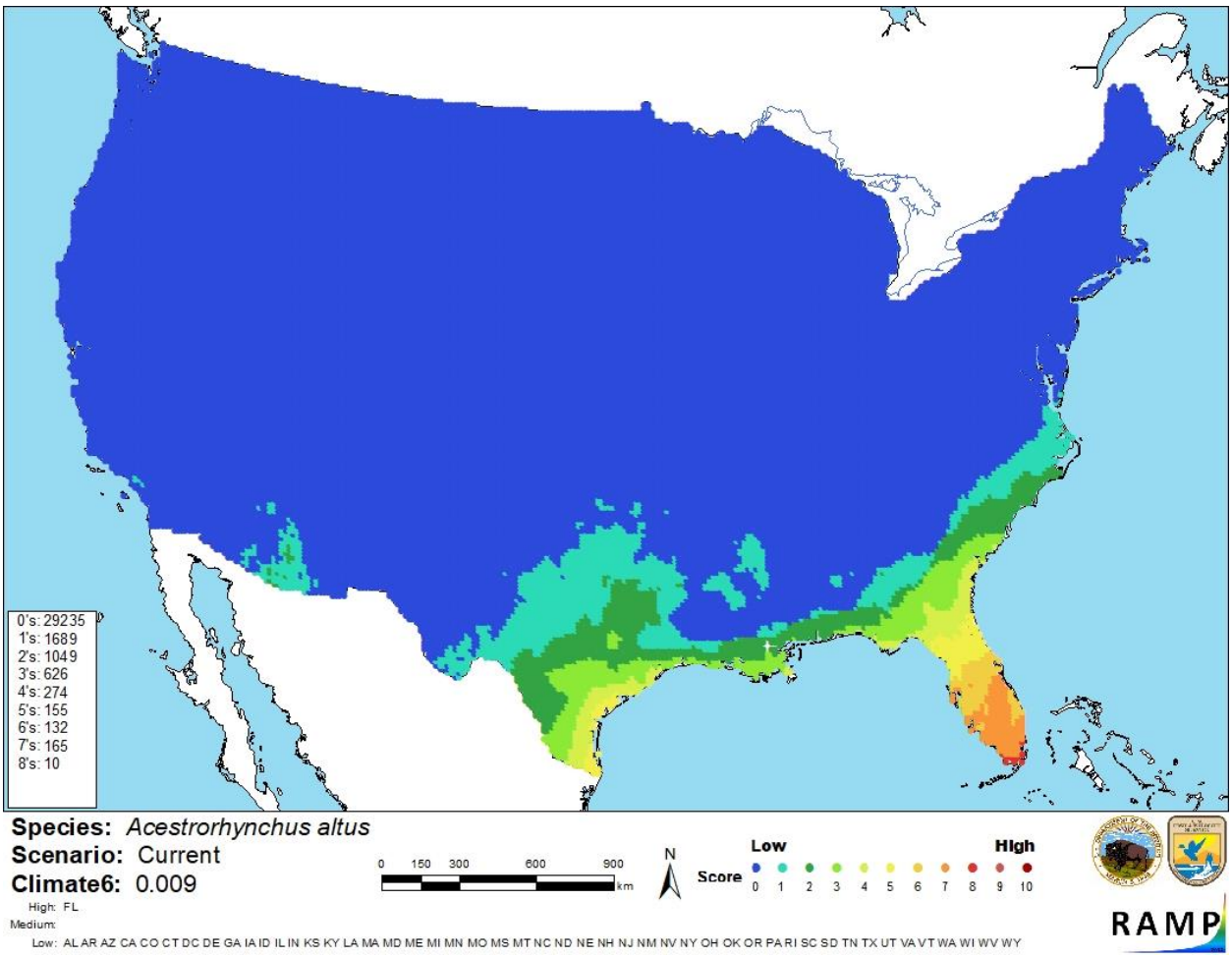

Figure 3. Map of RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) climate matches for *Acestrorhynchus altus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Little information on the biology and distribution of *Acestrorhynchus altus* is available. There are no reports of introductions of *A. altus,* therefore there is no scientific information available on the impacts of introductions. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Acestrorhynchus altus) is a freshwater fish species native to the Amazon River basin. No introductions of this species have been reported. Therefore, data on the impacts of introductions are lacking; absence of this research makes the certainty of this assessment low. Climate match with the United States is medium, with the highest match in Florida. Overall risk posed by this species is uncertain.

Assessment Elements

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

9 References

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

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. Catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp (January 2018).

Froese, R. and D. Pauly, editors. 2017. *Acestrorhynchus altus* Menezes, 1969. FishBase. Available: http://www.fishbase.us/summary/Acestrorhynchus-altus.html. (January 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Acestrorhynchus altus* (Menezes 1969). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/2355574 (January 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Acanthogobius altus* (Menezes 1969). Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=639855#null (January 2018).

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

Sazima, I. 1986. Similarities in feeding behaviour between some marine and freshwater fishes in two tropical communities. Journal of Fish Biology 29:53-65.

Seriously Fish. 2018. *Acestrorhynchus altus* Menezes, 1969. Seriously Fish. Available: https://www.seriouslyfish.com/species/acestrorhynchus-altus/. (May 2018).

10 References Quoted But Not Accessed

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.

Baensch, H. A. and R. Riehl. 1991. Aquarien atlas. Bd. 3. Melle: Mergus, Verlag für Natur-und Heimtierkunde, Germany.

Oyakawa, O. T. 1998. Catalogo dos tipos de peixes recentes do Museu de Zoologia da USP. I. Characiformes (Teleostei: Ostariophysi). Papéis Avulsos de Zoologia 39(23):443-507.