

***Acestrorhynchus lacustris* (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



Photo: Augusto Bentinho. Licensed under Creative Commons (CC BY-NC). Available: <http://www.fishbase.org/photos/ThumbnailsSummary.php?Genus=Acestrorhynchus&Species=lacustris#> (January 2018).

1 Native Range, and Status in the United States

Native Range

From Eschmeyer et al. (2017):

“Distribution: São Francisco and upper Paraná River basins: Argentina, Brazil and Bolivia.”

Status in the United States

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

Remarks

From Carvalho et al. (2003):

“*Acestrorhynchus lacustris* (Lütken, 1875) is commonly known as “peixe-cachorro”.”

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 lacustris* (Lütken, 1875) [...]”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Maturity: L_m 13.0, range 15 - ? cm
Max length : 27.0 cm SL male/unsexed; [Menezes 1969].”

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2017):

“Tropical”

Distribution Outside the United States

Native

From Eschmeyer et al. (2017):

“Distribution: São Francisco and upper Paraná River basins: Argentina, Brazil and Bolivia.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

No information reported for this species.

Biology

From Carvalho et al. (2003):

“*Acestrorhynchus lacustris* is piscivorous, but is also an opportunist.”

“The predominant items in its diet are foragers [*sic*] species such as *Astyanax altiparanae*, *Moenkhausia intermedia* and *Steindachnerina insculpta* (Hahn et al., 1997). According to Dogiel (1970), the factor that influences parasite fauna is the feeding habit of the host. Piscivorous species such as *A. lacustris* can be parasitized by all endoparasite groups because their diets include fishes that feed on invertebrates. Therefore, *A. lacustris* can be the intermediate and definitive host of parasites that are transferred along the food web.”

Human Uses

From Bazzoli and Godinho (1991):

“*A. lacustris*, although fairly abundant in the Três Marias reservoir, is not caught for commercial purposes.”

Diseases

According to Froese and Pauly (2017), *A. lacustris* is a host for Procamallanus Infection 35, Travassosnema Infection 1, Travassosnema Infection 2 and Philonema Infection, all of which are parasitic infestations.

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 impact of introductions are lacking.

4 Global Distribution



Figure 1. Map of reported global distribution in South America of *Acestrorhynchus lacustris*. Map from GBIF Secretariat (2017). No verbal descriptions of the established range included the Amazon River basin; these occurrences (in northern Brazil, northwestern Bolivia, Colombia, and Peru) were not included in the climate matching analysis due to uncertainty about their validity. Additionally, the location from Paraguay was excluded from the climate matching analysis because it is outside the established range of the species.

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. 2018; 16 climate variables; Euclidean Distance) was high in much of Florida. Medium matches occurred in the southeast from Texas to Virginia, with higher matches along the coast. The rest of the United States matched low. Climate 6 score indicated that the contiguous United States has a medium climate match. The range for a medium climate match is between 0.005 and 0.103; Climate 6 score of *Acestrorhynchus lacustris* was 0.032.

The

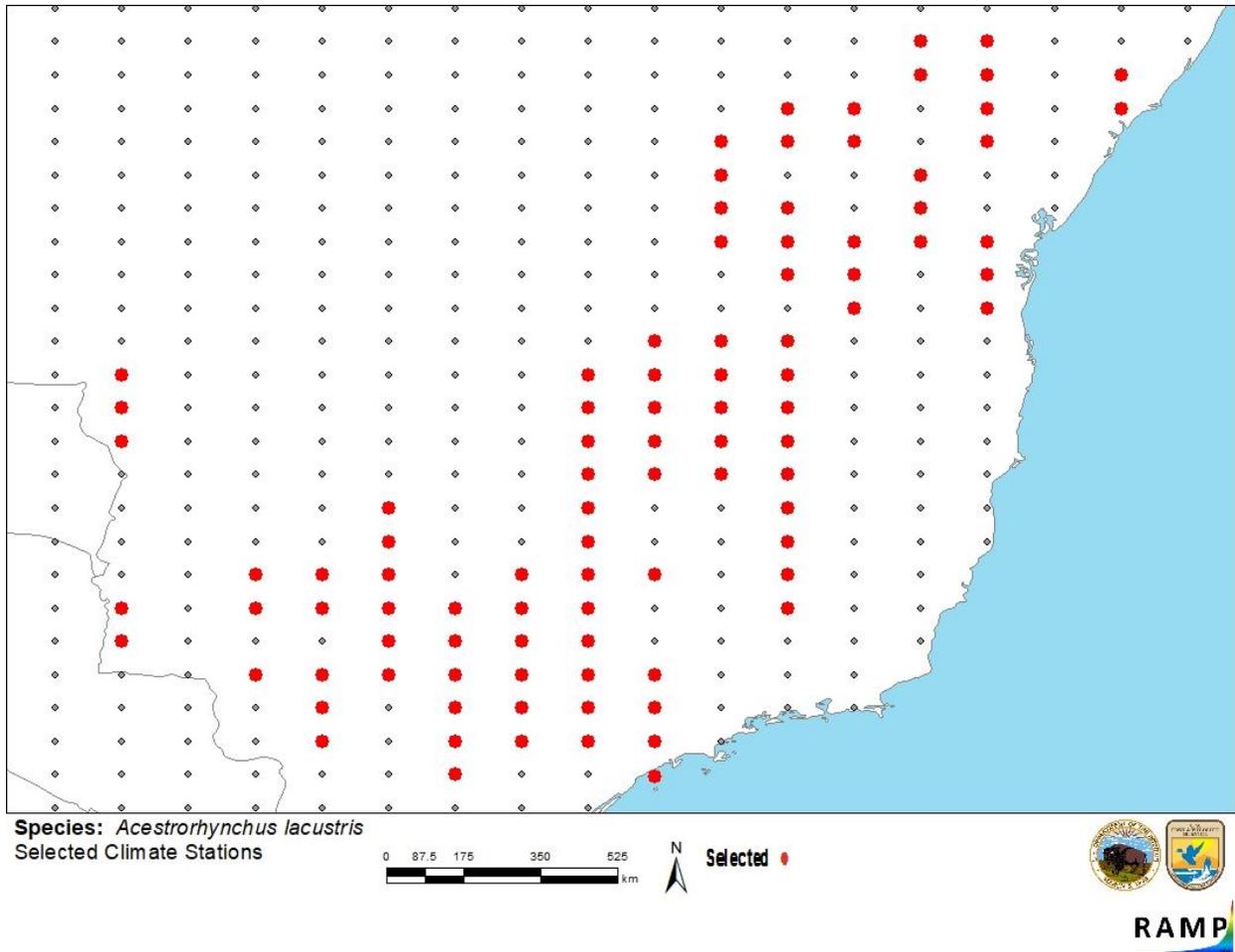


Figure 2. RAMP (Sanders et al. 2018; 16 climate variables; Euclidean distance) source map showing weather stations in South America selected as source locations (red; southeastern Brazil) and non-source locations (gray) for *Acestrorhynchus lacustris* climate matching. Source locations from GBIF Secretariat (2017).

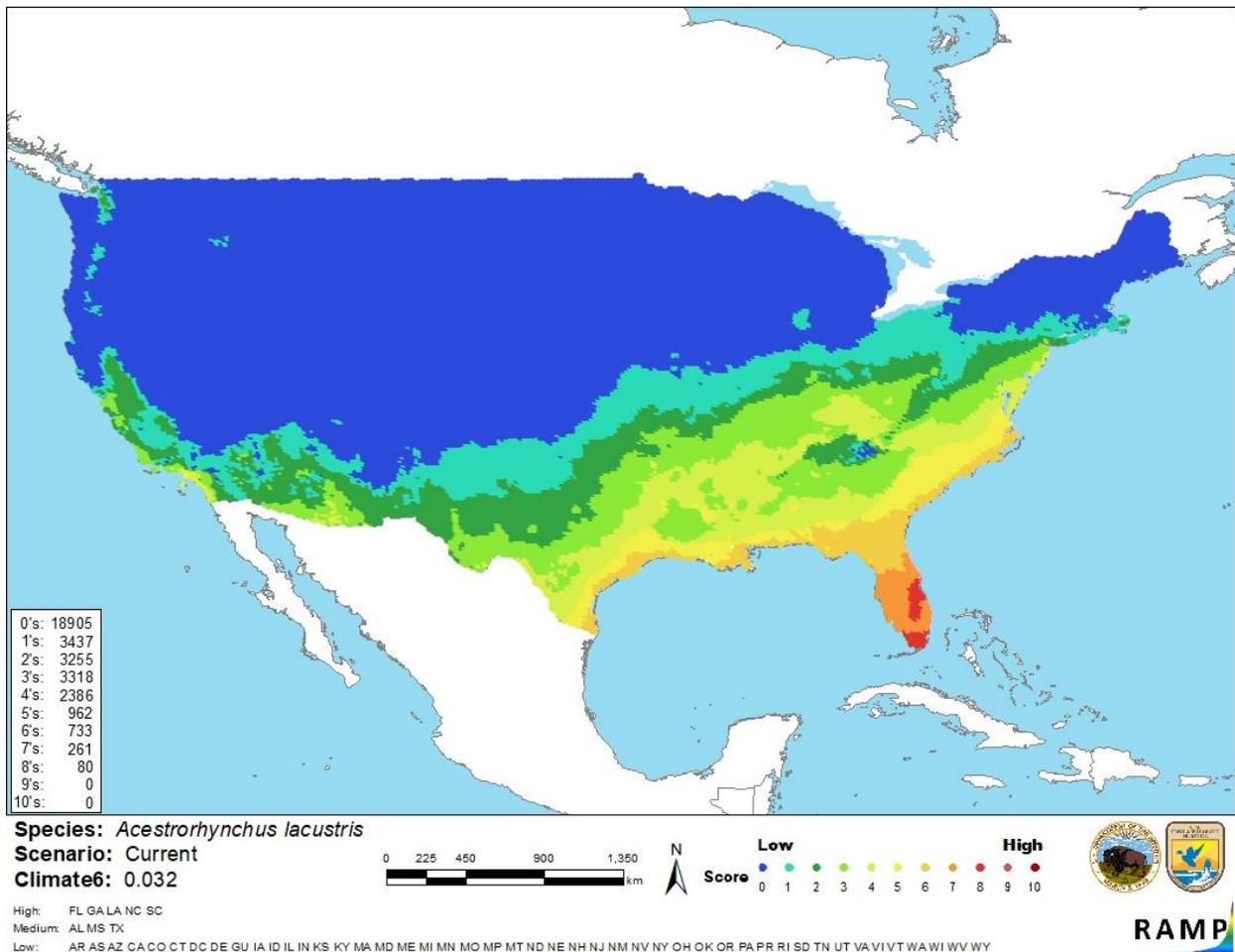


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Acestorhynchus lacustris* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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. lacustris* 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 lacustris is a freshwater fish species native to the South America. No introductions of this species outside of its native range have been reported. *A. lacustris* is reported as a host for the following parasitic infestations: Procamallanus Infection 35, Travassosnema Infection 1, Travassosnema Infection 2 and Philonema Infection. Climate match with the contiguous United States is medium. Data on impacts of introductions are lacking; absence of this information makes the certainty of this assessment low. 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.

- Bazzoli, N., and H. P. Godinho. 1991. Reproductive biology of the *Acestrorhynchus lacustris* (Reinhardt, 1874) (Pisces: Characidae) from Três Marias Reservoir, Brazil. *Zoologischer Anzeiger* 226:285-297.
- Carvalho, S., G. S. Guidelli, R. M. Takemoto, and G. C. Pavanelli. 2003. Ecological aspects of endoparasite fauna of *Acestrorhynchus lacustris* (Lutken 1875) (Characiformes, Acestrorhynchidae) on the Upper Paraná River floodplain, Brazil. *Maringá* 25(2):479-283.
- 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 lacustris* (Lütken, 1875). FishBase. Available: <http://www.fishbase.us/summary/Acestrorhynchus-lacustris.html>. (January 2018).
- GBIF Secretariat. 2017. GBIF backbone taxonomy: *Acestrorhynchus lacustris* (Lütken, 1875). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2355581> (January 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Acestrorhynchus lacustris* (Lütken, 1875). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=640365#null (January 2018).

Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

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.

Dogiel, V. A. 1970. Ecology of the parasites of freshwater fishes. Pages 1-47 in V. A. Dogiel et al., editors. Parasitology of fishes. Oliver and Boyd, London.

Hahn, N. S., I. F. Andrian, R. Fugi, and V. L. L. Almeida. 1997. A planície de inundação do alto rio Paraná: aspectos físicos, biológicos e socioeconômicos. Maringá: EDUEM: 209-228.

Menezes, N. A. 1969. Systematics and evolution of the tribe Acestrorhynchini (Pisces, Characidae). Arquivos de Zoologia 18(1-2):1-150.