

Pike Characin (*Acestrorhynchus microlepis*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2014

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1 Native Range, and Status in the United States

Native Range

From Froese and Pauly (2017):

“South America: Amazon [Brazil, Colombia, Ecuador, Peru, Bolivia] and Orinoco River [Venezuela, Colombia] basins and rivers of Guyana, Suriname and French Guiana.”

Status in the United States

This species has not been reported in the United States. There was no evidence found to suggest 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

According to Eschmeyer et al. (2018), *Acestrorhynchus apurensis*, *Acestrorhynchus cachorro*, and *Acestrorhynchus guianensis* are synonyms of *Acestrorhynchus microlepis*.

From López-Fernández and Winemiller (2003):

“*Acestrorhynchus microlepis* is the most ecologically general and widespread member of the genus in Venezuela [...], being the only *Acestrorhynchus* species associated with white-water ecosystems, and the only one that reaches the Andean piedmont in Venezuela. Until recently (Taphorn et al., 1997), *A. grandoculis* had been misidentified as *A. microlepis* in most collections, and for this reason its broad distribution was overlooked for several decades.”

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 microlepis* (Schomburgk, 1841)”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Nico and Taphorn (1985):

“It [*Acestrorhynchus microlepis*] is generally smaller than 25 cm standard length [...].”

From Froese and Pauly (2017):

“Maturity: Lm ? range ? - ? cm

Max length : 34.0 cm TL male/unsexed [Giarrizzo et al. 2015]; max published weight: 230.00 g [Giarrizzo et al. 2015]”

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic; pH range: 5.5 - 6.5.”

“[...] 18°C - 28°C [Baensch and Riehl 1997; assumed to be recommended aquarium water temperature]”

Climate/Range

From Froese and Pauly (2017):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“South America: Amazon [Brazil, Colombia, Ecuador, Peru, Bolivia] and Orinoco River [Venezuela, Colombia] basins and rivers of Guyana, Suriname and French Guiana.”

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

From Froese and Pauly (2017):

“Dorsal spines (total): 2; Dorsal soft rays (total): 8-10; Anal spines: 3-5; Anal soft rays: 22 - 30. Possesses a minute spot behind the opercle; lateral line scales 91-131; small eye 17.9-34.1% head length; snout length 32.5-50.0% head length [López-Fernández and Winemiller 2003].”

Biology

From Froese and Pauly (2017):

“Common in black and clear water streams and rivers, as well as lagoons and other off-channel habitats associated with whitewater rivers [López-Fernández and Winemiller 2003]. Prefers slow currents and a silty or sandy bottom. Like other species of the genus, it is a formidable predator [Planquette et al. 1996]. Strict piscivore; however, it consumes insects during the dry periods of the year [Boujard et al. 1997].”

From Nico and Taphorn (1985):

“[...] the gut of *A. microlepis* is very short and digestion proceeds rapidly [...].”

“*A. microlepis* is piscivorous at a very small size. The smallest young feed on invertebrates and gradually change to a piscivorous diet at approximately 35 mm SL. The breeding cycle of *A. microlepis* is such that young are present at that size or larger when most juvenile characins are available.”

Human Uses

From Froese and Pauly (2017):

“Aquarium: commercial”

Diseases

From Jesus et al. (2017):

“In Brazil, these parasites were reported on the following hosts: *B. amapaensis* in the mouth of *Acestrorhynchus microlepis* from Amapá (Thatcher, 1996; Eiras, Takemoto, & Pavanelli, 2010) [...].”

From Gallas et al. (2015):

“*Procamallanus (Spirocamallanus) hilarii* parasitizes several fish species [...].”

“In Brazil, *P. (S.) hilarii* was recorded in [...] Rio Grande do Sul in *Acestrorhynchus microlepis* (Schomburgk, 1841) [...].”

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

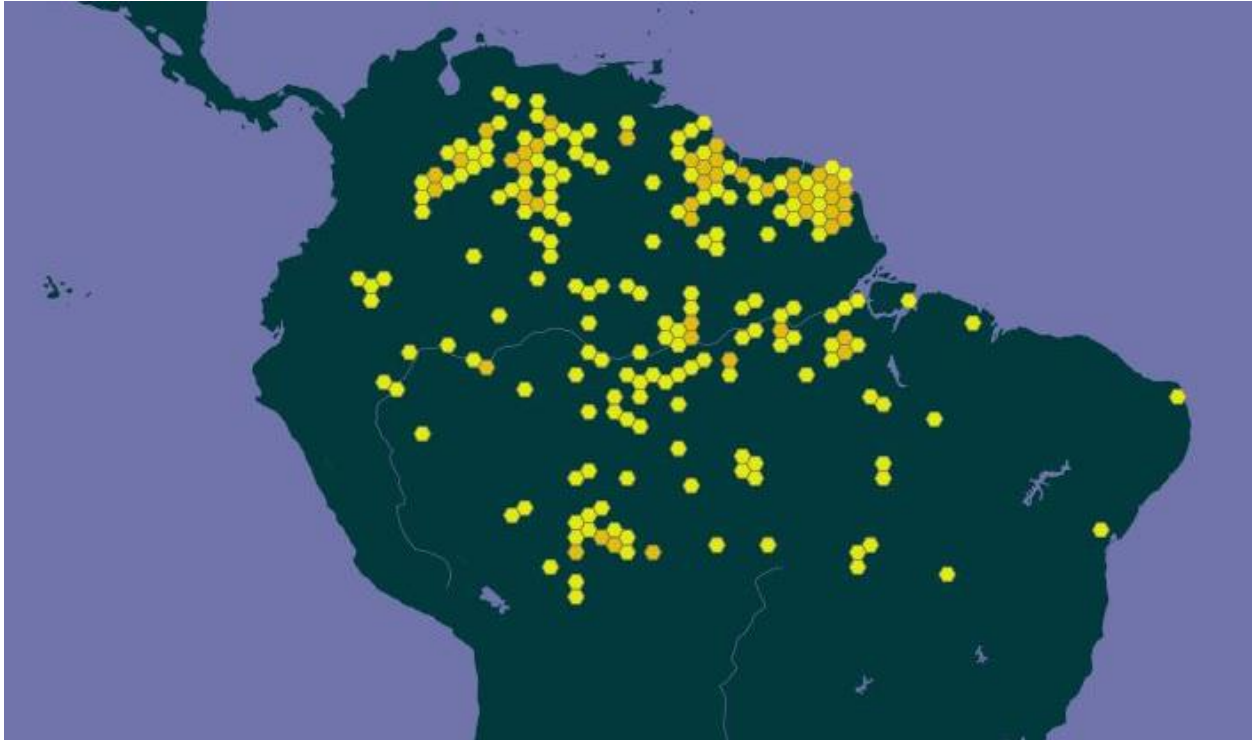


Figure 1. Map of known global distribution of *Acestrorhynchus microlepis*, reported from South America. Map from GBIF Secretariat (2017).

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 (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in Florida and portions of southeast Texas. Low matches occurred in the rest of the 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 microlepis* is 0.005.

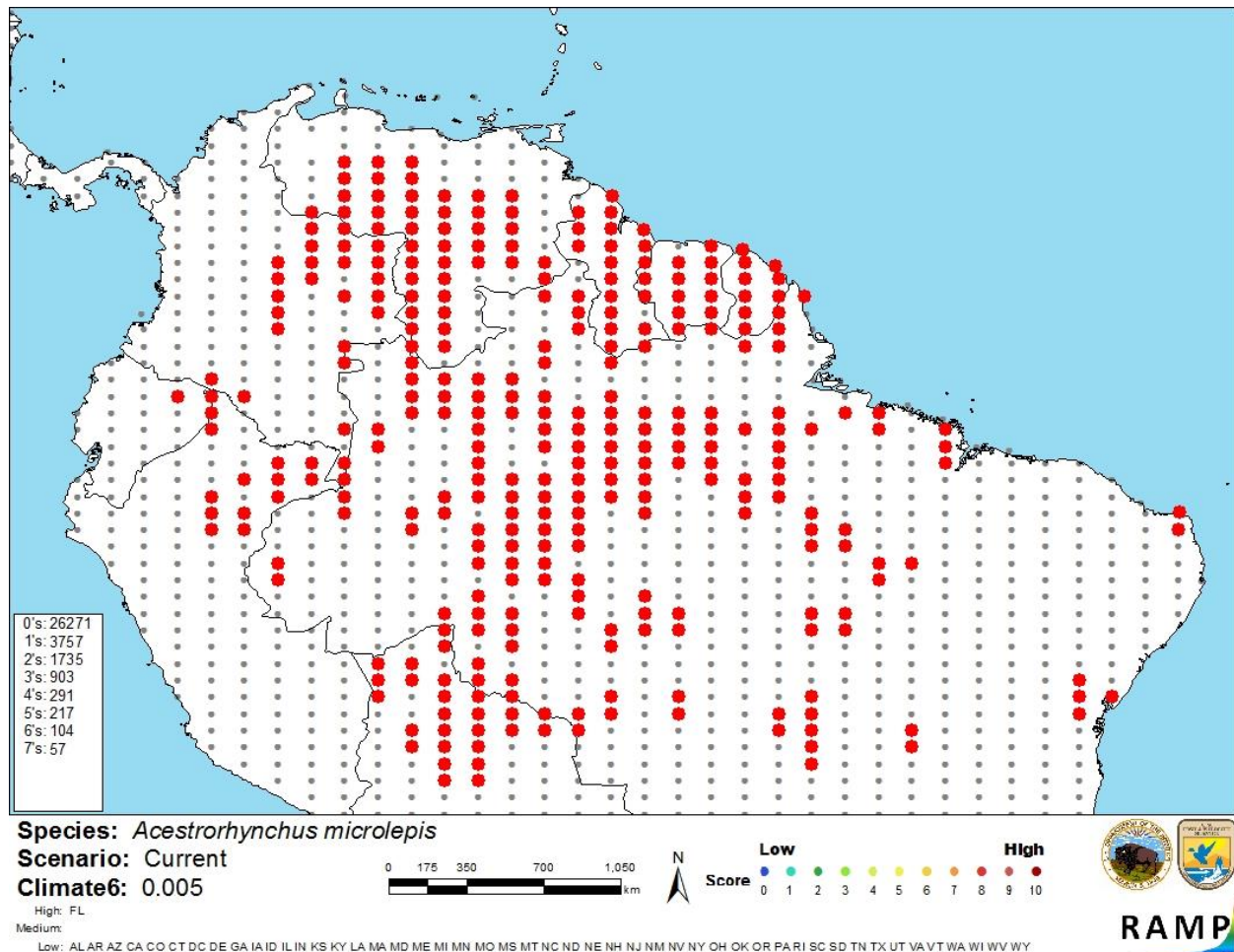


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; Brazil, French Guiana, Suriname, Guyana, Venezuela, Colombia, Ecuador, Peru, and Bolivia) and non-source locations (gray) for *Acestrorhynchus microlepis* climate matching. Source locations from GBIF Secretariat (2017).

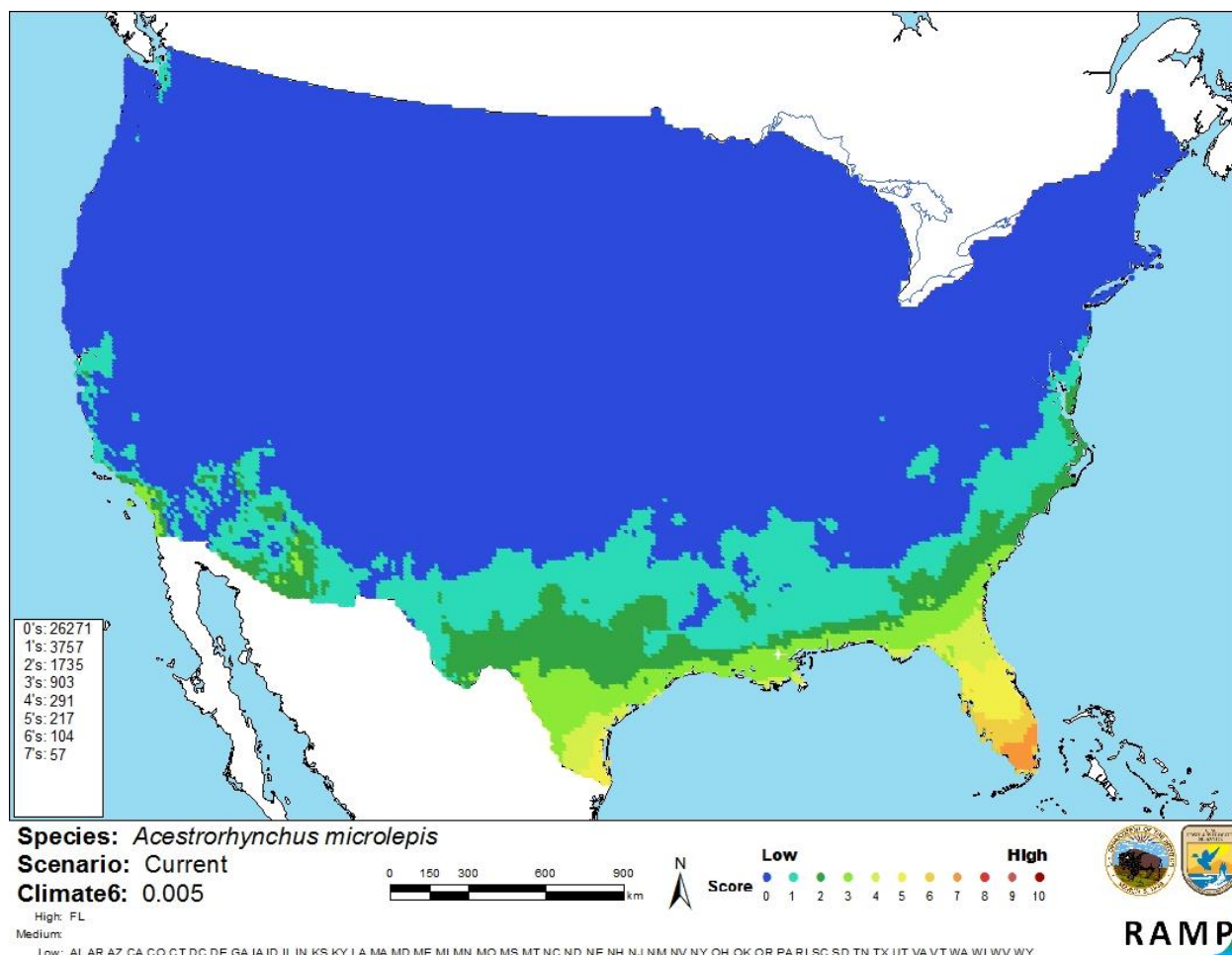


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Acestrorhynchus microlepis* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Information on the biology and distribution of *A. microlepis* 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 microlepis is a freshwater fish species native to the South America. It is sold as an aquarium fish. Climate match with the contiguous United States is low. No introductions of this species have been reported. More information is needed to understand the impacts from introductions of this species; 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): Low**
- **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.

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

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