

Red Tail Barracuda (*Acestrorhynchus falcatus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2014

Revised, January 2018 and June 2018

Web Version, 6/7/2018



Photo: S. Brosse. Licensed under Creative Commons (CC BY-NC). Available:
<http://www.fishbase.org/photos/PicturesSummary.php?StartRow=0&ID=23498&what=species&TotRec=2> (January 2018).

1 Native Range, and Status in the United States

Native Range

From Froese and Pauly (2017):

“South America: Amazon and Orinoco River basins and rivers of Guyana, Suriname and French Guiana.”

Status in the United States

This species has not been reported as introduced or established in the United States. This species is in trade in the United States. For example:

From Pet Zone Tropical Fish (2018):

“Red Tail Barracuda [...]
Your Price: \$29.99 [...]
Product Description
Red Tail Barracuda (*Acestrorhynchus falcatus*)”

Pet Zone Tropical Fish is based in San Diego, California.

From Arizona Aquatic Gardens (2018):

“Yellow Tail Barracuda *Acestrorhynchus falcatus*
~~List: \$129.00 – \$149.00~~
\$68.00 – \$88.00”

Arizona Aquatic Gardens is based in Tucson, Arizona.

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 falcatus*"

"Taxonomic Status: valid"

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Attains a length of around 20 cm."

"[...] Max length : 27.2 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 Froese and Pauly (2017):

"South America: Amazon and Orinoco River basins and rivers of Guyana, Suriname and French Guiana."

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):

“Dorsal spines (total): 2; Dorsal soft rays (total): 9; Anal spines: 3-5; Anal soft rays: 21 - 27. Possesses a humeral spot shaped as an oval or inverted teardrop, occupying not less than a quarter of the height of the body; caudal peduncle with a black spot covering between one third and almost the totality of its depth [López-Fernández and Winemiller 2003].”

Biology

From Hoshino et al. (2016):

“*Acestrorhynchus falcatus* [...] are benthopelagic, sedentary and diurnal fish. They are piscivorous, but young individuals may also eat shrimps.”

From Froese and Pauly (2017):

“[...] As indicated by its dentition and body form, it is a formidable predator which feeds exclusively on fish. Ubiquitous species but is frequently found throughout the length of waters with moderate flow. Reproduction begins with the onset of the rainy season [Planquette and Le Bail 1996].”

Human Uses

From Froese and Pauly (2017):

“Fisheries: minor commercial”

This species is present in the aquarium trade in the United States. For example:

From Pet Zone Tropical Fish (2018):

“Red Tail Barracuda [...]”

Your Price: \$29.99 [...]”

Product Description

Red Tail Barracuda (*Acestrorhynchus falcatus*)”

Pet Zone Tropical Fish is based in San Diego, California.

From Arizona Aquatic Gardens (2018):

“Yellow Tail Barracuda *Acestrorhynchus falcatus*

List: ~~\$129.00 – \$149.00~~

\$68.00 – \$88.00”

Arizona Aquatic Gardens is based in Tucson, Arizona.

Diseases

According to Froese and Pauly (2017), *A. falcatus* is a host for Procamlanus Infection 10 and Paracapillaria Infestation 1, both of which are parasitic infestations.

From Azevedo and Matos (1995):

“A new species of myxosporean from the gill filaments of the freshwater teleost fish, *Acestrorhynchus falcatus* collected in the Amazon river [*sic*] is described from light and transmission electron microscope observations.”

From Kohn et al. (1985):

“Seven trematodes, 4 nematodes and one acanthocephalan are reported from various hosts. [...] A list of the host species, measurements and figures of most parasites are included with particular reference to the tegument of *Bellumcorpus major* recovered from *Acestrorhynchus falcatus*.”

According to Hoshino et al. (2016), the parasite species found on *Acestrorhynchus falcatus* were: *Ichthyophthirius multifiliis*, *Piscinoodinium pillulare*, *Diaphorocleidus* sp., Dactylogyridae gen. sp., *Clinostomum marginatum*, *Clinostomum marginatum*, Digenea gen. sp., *Contracaecum* sp., *Philometra* sp., *Procamlanus (Spirocamlanus) inopinatus*, *Neochinorhynchus pterodoridis*, *Braga patagonica*, and *Ergasilus turucuyus*.

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 falcatus*, reported from South America. The two most eastern points in Brazil as well as the point in Argentina are not known to represent established populations and therefore were excluded from the climate matching analysis. 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 high in southern Florida and medium in northern Florida, coastal Georgia, coastal Louisiana, and coastal Texas. The rest of the contiguous United States matched low. Climate 6 score indicated that the

contiguous United States has a medium climate match overall. The range for a medium climate match is between 0.005 and 0.103; Climate 6 score of *Acestrorhynchus falcatus* is 0.01.

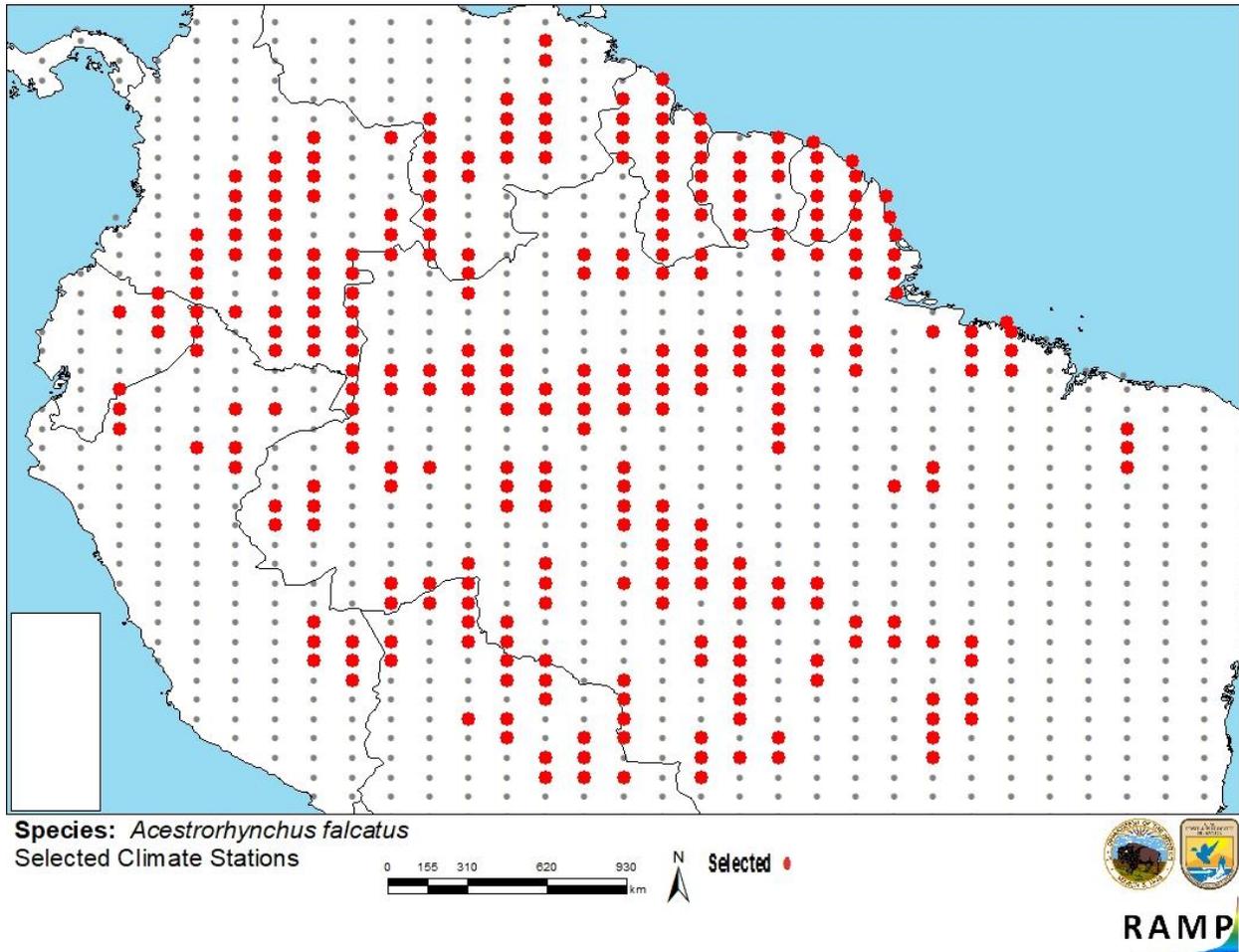


Figure 2. RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) source map showing weather stations in South America selected as source locations (red) and non-source locations (gray) for *Acestrorhynchus falcatus* climate matching. Source locations from GBIF Secretariat (2017).

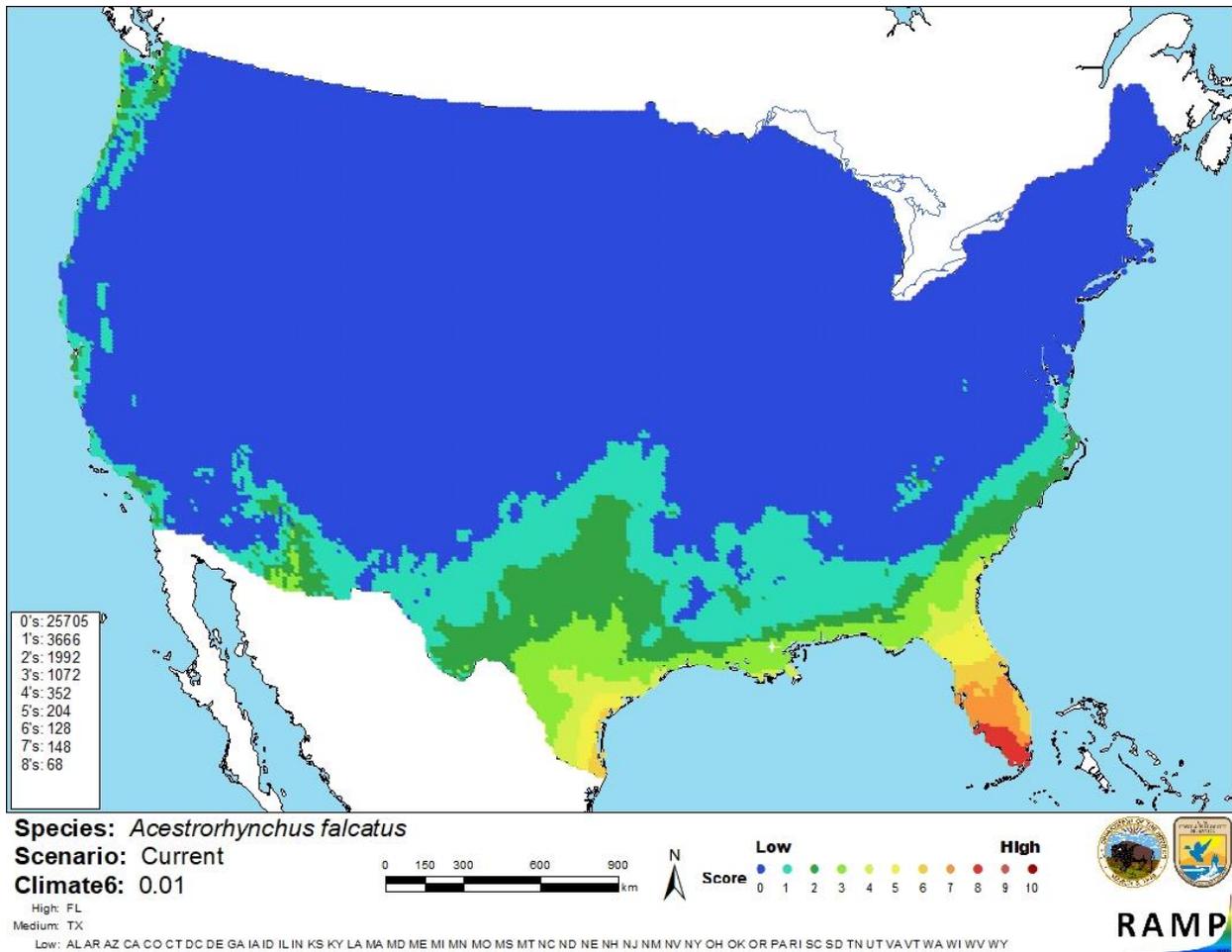


Figure 3. Map of RAMP (Sanders et al. 2014; 16 climate variables; Euclidean distance) climate matches for *Acestorhynchus falcatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Information on the biology and distribution of *A. falcatus* is available; however, scientific information on the impacts of introductions is lacking because it has not been reported outside its native range. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Red Tail Barracuda (*Acestrorhynchus falcatus*) is a freshwater fish native to South America. A minor commercial fishery has been reported for this species, and it is present in the aquarium trade in the United States. Climate match with the contiguous United States is medium overall, with a high match in southern Florida. Most of the contiguous United States matched low. No introductions for this species have been reported, so impacts of introduction are unknown. 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.

Arizona Aquatic Gardens. 2018. Yellow Tail Barracuda *Acestrorhynchus falcatus*. Available: <https://www.azgardens.com/product/rare-yellow-tail-barracuda-zoological-exhibit-fish-for-sale-at-azgardens/>. (June 2018).

Azevedo, C., and E. Matos. 1995. *Henneguya adherens* N. Sp. (Myxozoa, Myxosporea), parasite of the Amazonian fish, *Acestrorhynchus falcatus*. The Journal of Eukaryotic Microbiology 42(5):515-518.

Froese, R., and D. Pauly, editors. 2017. *Acestrorhynchus falcatus* (Bloch, 1794). FishBase. Available: <http://www.fishbase.us/summary/Acestrorhynchus-falcatus.html>. (January 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Acestrorhynchus falcatus* (Bloch 1794). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2355586> (January 2018).

Hoshino, M. D. F. G., L. G. Neves, and M. Tavares-Dias. 2016. Parasite communities of the predatory fish, *Acestrorhynchus falcatus* and *Acestrorhynchus falcirostris*, living in sympatry in Brazilian Amazon. Brazilian Journal of Veterinary Parasitology 25(2):207-216.

ITIS (Integrated Taxonomic Information System). 2018. *Acestrorhynchus falcatus* (Bloch 1794). Integrated Taxonomic Information System, Reston, Virginia. Available:

http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=6403
60 (January 2018).

Kohn, A., B. M. M. Fernandes, B. Macedo, and B. Abramson. 1985. Helminths parasites of freshwater fishes from Pirassununga, SP, Brazil. *Memórias do Instituto Oswaldo Cruz* 80(3):327-336.

Pet Zone Tropical Fish. 2018. Freshwater tropical fish: Red Tail Barracuda - *Acestrorhynchus falcatus*. Pet Zone Tropical Fish, San Diego, California. Available: <http://www.petzoned.com/red-tail-barracuda/>. (June 2018).

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.

López-Fernández, 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.

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

Planquette, P., P. Keith, and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane, volume 1. Collection Patrimoines Naturels 22: 429. Publications scientifiques du Muséum national d'Histoire naturelle, Paris.