# *Acnodon senai* (a fish, no common name)

## Ecological Risk Screening Summary

**U.S. Fish and Wildlife Service, August 2012**
**Revised, September 2018**
**Web Version, 1/29/2018**

Photo: José Birindelli. Licensed under CC BY-NC 3.0. Available: http://eol.org/pages/216144/overview. (September 2018).

# 1 Native Range and Status in the United States

## Native Range

From Froese and Pauly (2018):

"South America: Jari River basin in Brazil."

## Status in the United States

This species has not been reported as introduced or established in the United States. A search of U.S.-based online aquarium retailers found no *A. senai* for purchase.

## 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 Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Characiformes
Family Characidae
Genus *Acnodon*
Species *Acnodon senai* Jégu and dos Santos, 1990"

From Fricke et al. (2019):

"**Current status:** Valid as *Acnodon senai* Jégu & Santos 1990. Serrasalmidae."

## Size, Weight, and Age Range

From Froese and Pauly (2018):

"Max length : 13.2 cm SL male/unsexed; [Jégu 2003]"

## Environment

From Froese and Pauly (2018):

"Freshwater; benthopelagic."

## Climate/Range

From Froese and Pauly (2018):

"Tropical"

## Distribution Outside the United States

Native
From Froese and Pauly (2018):

"South America: Jari River basin in Brazil."

Introduced
No known introductions.

## Means of Introduction Outside the United States
No known introductions.

## Short Description
From Seriously Fish (2019):

"There are currently three species in the genus *Acnodon*, among which *A. oligacanthus* is easily-distinguished since it lacks vertical bars on the body, has a more-or-less terminal (vs. subterminal in congeners) mouth, and is not an Amazonian species. The third member, *A. setnai*, is known only from the rio Jari, a left bank tributary which enters the Amazon slightly downstream of the rio Xingu. It is distinguished from *A. normani* by possessing a more slender body, enlarged lips on the lower jaw, and flexible gill rakers surrounded by a lobulated membrane (vs. rigid gill rakers surrounded by a smooth membrane in *A. normani*). In terms of external appearance these two appear very similar, although given their respective distributions any fish seen in aquaria are likely to be *A. normani*."

## Biology
Horn et al. (2011) report *A. senai* among the fish species from the Neotropical region that consume fruits and seeds.

## Human Uses
No information available.

## Diseases
No information available. No OIE-reportable diseases have been documented in this species.

## Threat to Humans
From Froese and Pauly (2018):

"Harmless"

# 3 Impacts of Introductions
No information available.

# 4 Global Distribution

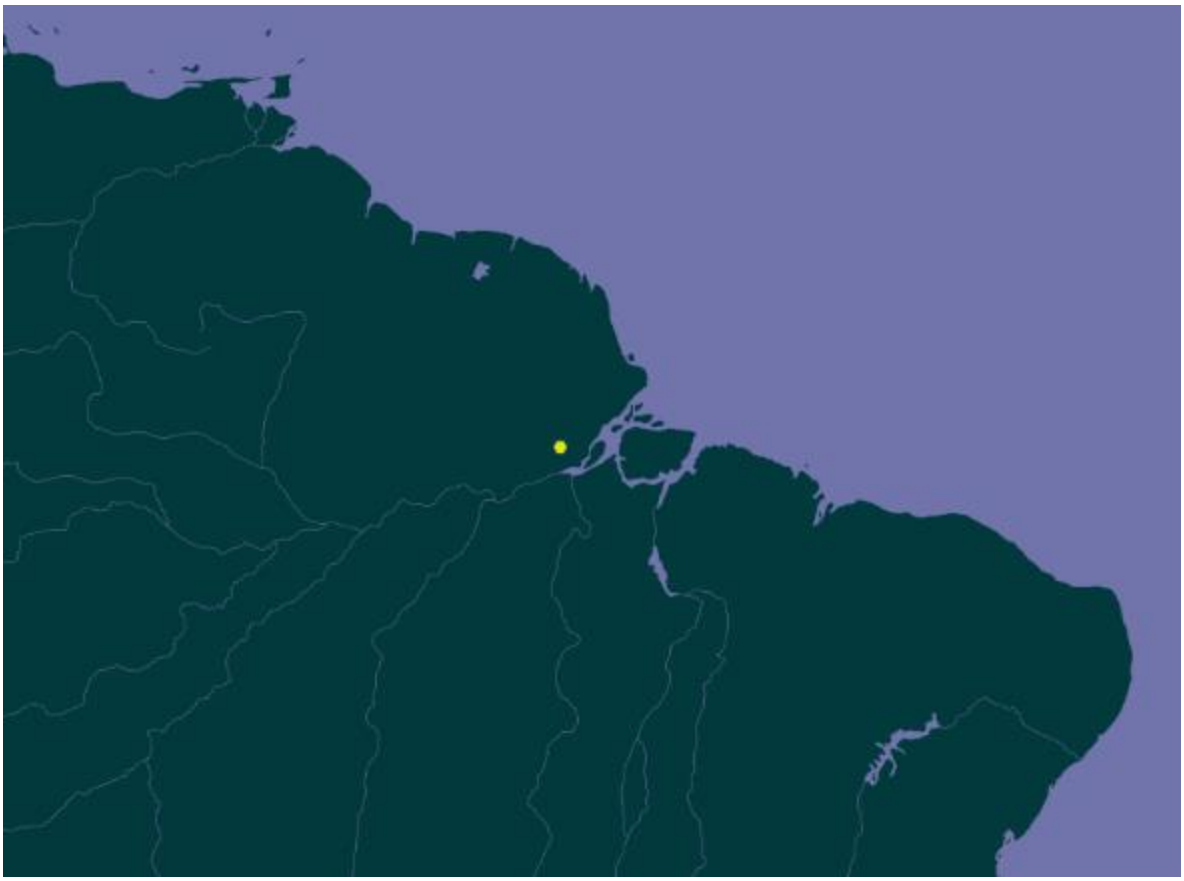

**Figure 1**. Known global distribution of *Acnodon senai*, reported from the Jari river basin of Brazil. Map from GBIF Secretariat (2017).

# 5 Distribution Within the United States

No known occurrences.

# 6 Climate Matching

## Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.00, which is a low score. The range for a low climate match is from 0 to 0.005, inclusive. The entire contiguous United States had a low match. Every state recorded a low individual climate score.

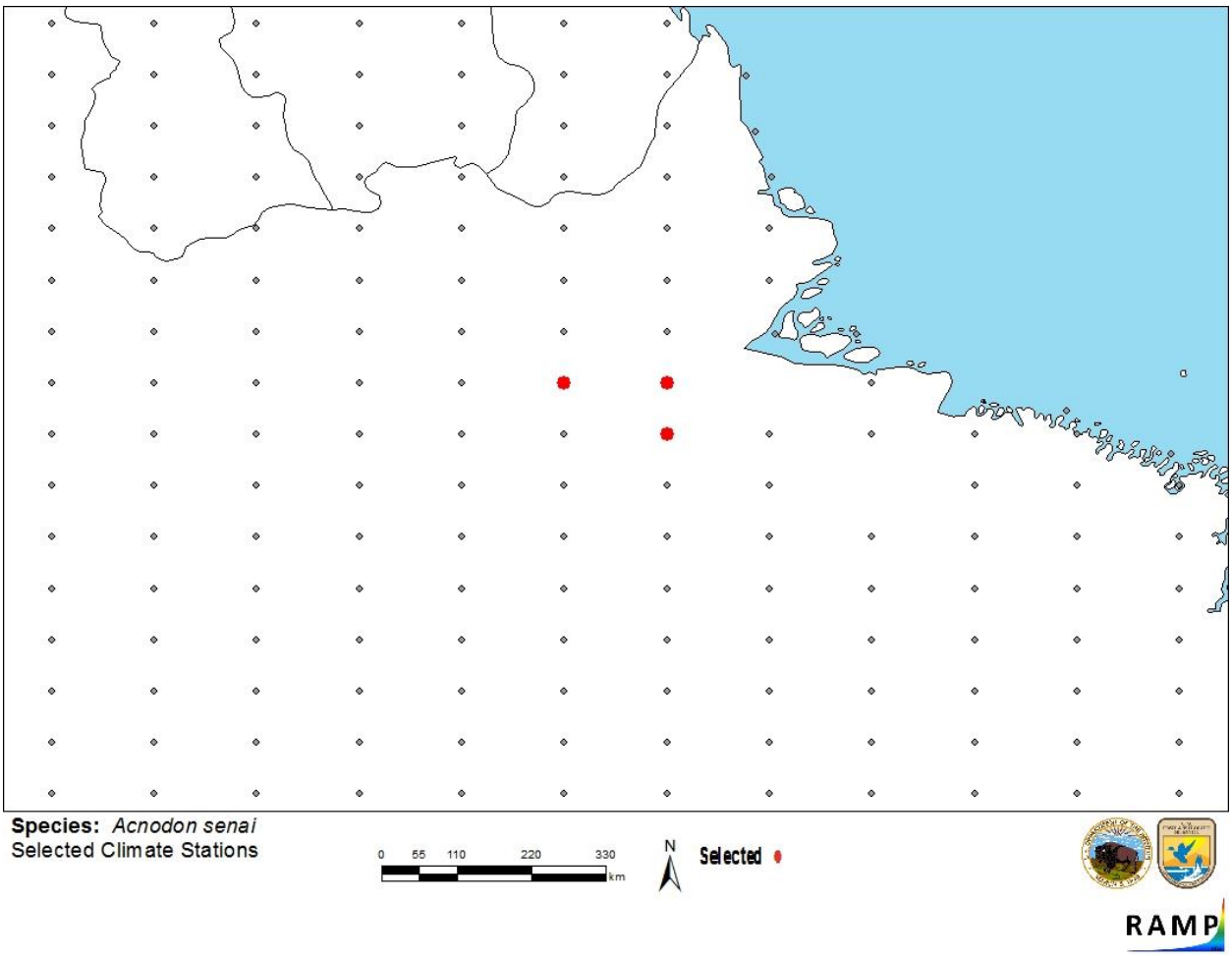


**Figure 2**. RAMP (Sanders et al. 2018) source map showing weather stations in northeastern South America selected as source locations (red; Jari River basin in Brazil) and non-source locations (gray) for *Acnodon senai* climate matching. Source locations from GBIF Secretariat (2017).

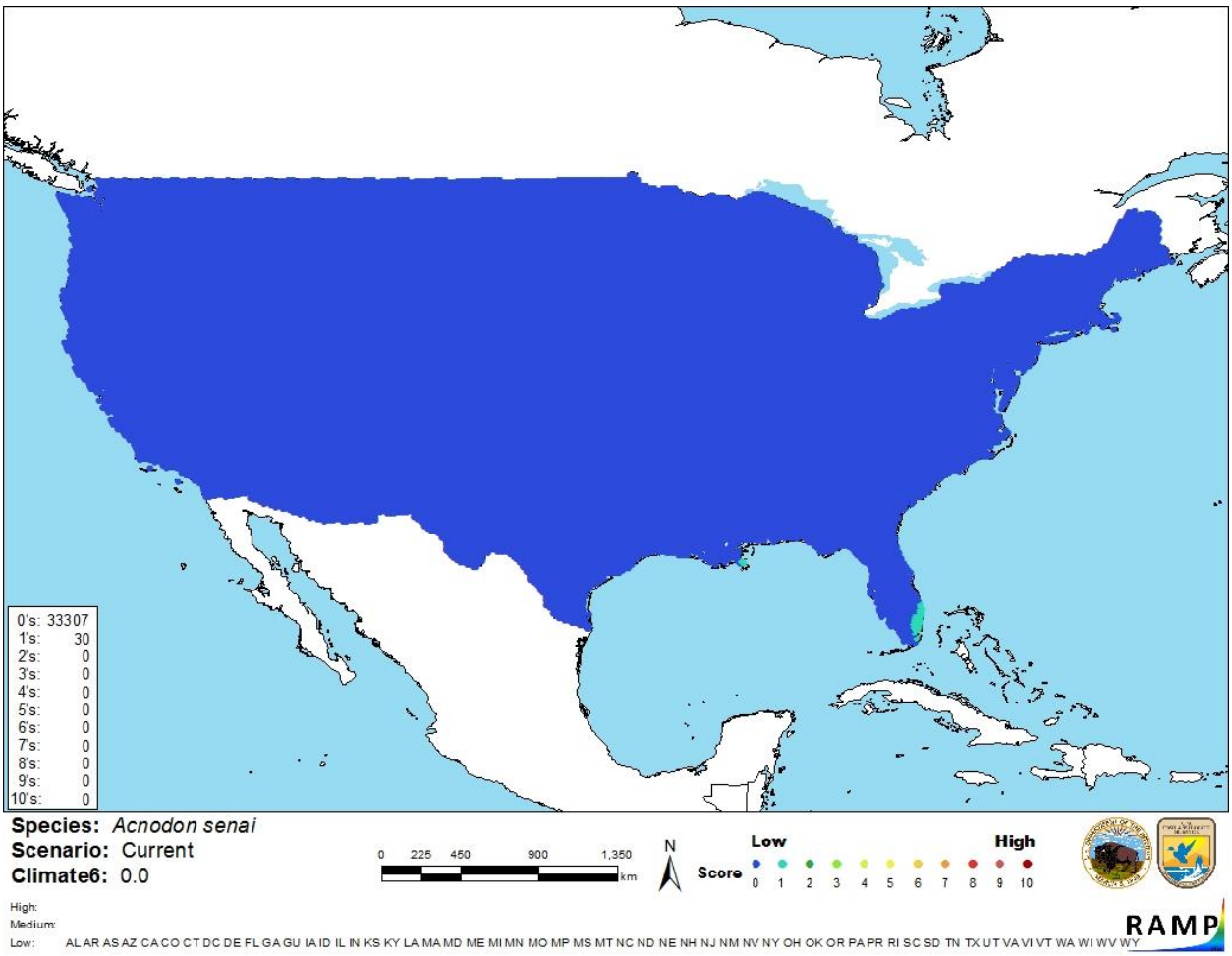


**Figure 3**. Map of RAMP (Sanders et al. 2018) climate matches for *Acnodon senai* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match.

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

Little information is known on the biology and ecology of *Acnodon senai*. Only one occurrence record informed the climate matching analysis, increasing uncertainty. However, the known range is one river basin so effect on uncertainty may not be large. This fish has not been reported as introduced and no information is available on potential impacts if this species is introduced. Due to lack of information, the certainty of assessment is low. More information is needed to increase certainty.

# 8 Risk Assessment

## Summary of Risk to the Contiguous United States

*Acnodon senai* is a fish native to the Jari River basin in northeastern Brazil. It has not been reported as introduced outside of its native range. Therefore, history of invasiveness is uncertain. Climate match with the contiguous United States is low. All states recorded a low match. Due to lack of information, certainty of assessment is low. The overall risk for 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.**


Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2019. Catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (January 2019).

Froese, R., and D. Pauly, editors. 2018. *Acnodon senai* Jégu & Santos, 1990. FishBase. Available: https://www.fishbase.de/summary/Acnodon-senai.html. (September 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Acnodon senai* (Jégu & Santos, 1990). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/2353603. (September 2018).

Horn, M. H., S. Bibiana Correa, P. Parolin, B. J. A. Pollux, J. T. Anderson, C. Lucas, P. Widmann, A. Tjiu, M. Galetti, and M. Goulding. 2011. Seed dispersal by fishes in tropical and temperate fresh waters: the growing evidence. Acta Oecologica 37:561-577.

ITIS (Integrated Taxonomic Information System). 2018. *Acnodon senai* (Jégu & Santos, 1990). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=640373#null. (September 2018).

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

Seriously Fish. 2019. *Acnodon normani* – Sheep Pacu. Available: http://www.seriouslyfish.com/species/acnodon-normani/. (January 2019).

# 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.**

Jégu, M. 2003. Serrasalminae (pacus and piranhas). Pages 182-196 *in* R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.