

Whitebarred Catfish (*Agamyxis pectinifrons*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, February 2011

Revised, May 2018

Web Version, 6/20/2018



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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Amazon River basin.”

From Scotcat (2018):

“**South America:** Amazon River basin: Bolivia, Brazil, Colombia, Ecuador, Peru.”

Status in the United States

From Fuller (2018):

“Found at a waste water treatment plant in Mercedes, Texas, in April 2008. [...] Status Failed”

From Animal-World (2015):

“The Spotted Raphael Catfish, also commonly called the Spotted Talking Catfish, is readily available at pet stores and online, and is reasonable in price.”

Means of Introductions in the United States

From Fuller (2018):

“Aquarium release.”

Remarks

The aquarium industry may use the names Spotted Raphael Catfish and Spotted Talking Catfish for this species (Animal-World 2015).

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 Siluriformes
Family Doradidae
Genus *Agamyxis*
Species *Agamyxis pectinifrons* (Cope, 1870)”

“Taxonomic current standing: Valid.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 15.0 cm SL male/unsexed; [Sabaj and Ferraris 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal; pH range: 5.8 - 7.5; dH range: 0 – 20. [...] 20°C - 26°C [Riehl and Baensch; presumed to be aquarium temperature]”

Climate/Range

From Froese and Pauly (2018):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Amazon River basin.”

From Scotcat (2018):

“**South America:** Amazon River basin: Bolivia, Brazil, Colombia, Ecuador, Peru.”

Introduced

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

Means of Introduction Outside the United States

No reports found of introductions.

Short Description

From Scotcat (2018):

“Dorsal spine toothed on both anterior and posterior surfaces. Spinous scutes confined to the posterior half of the body. 3 pairs of barbels. Caudal shape, truncate. [...] Dark brown to blue-black, with numerous pale blotches/spots on the head and body. Underside somewhat paler, similarly marked. Fins dark, with pale stripes and spots which may run together to form transverse bars. Old individuals are almost uniformly dark brown with white blotches on the belly.”

Biology

From Scotcat (2018):

“[...] very nocturnal. May eat very small fish or fry on night time forages.”

Human Uses

From Froese and Pauly (2018):

“Fisheries: of no interest; aquarium: commercial.”

Diseases

From Animal-World (2015):

“The Spotted Raphael Catfish are fairly hardy when mature, but are subject to the same diseases as other tropical fish.”

No OIE reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

From Fuller (2018):

“**Impact of Introduction:** Unknown.”

4 Global Distribution



Figure 1. Known global distribution of *Agamyxis pectinifrons*, reported in northern South America. Map from GBIF Secretariat (2017). The point in southeastern Brazil is located on a road within Rio de Janeiro and does not represent an established population of *A. pectinifrons*, so it was not used in the climate matching analysis.

5 Distribution Within the United States

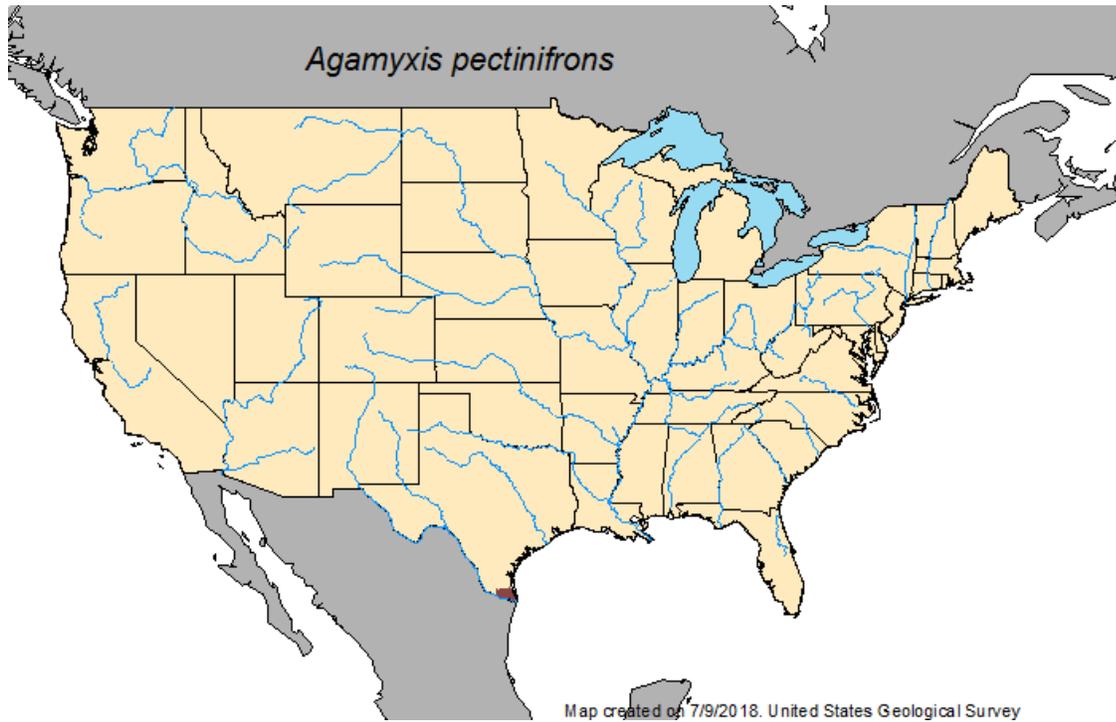


Figure 2. Known distribution of *Agamysis pectinifrons* in the United States. Map from Fuller (2018). *A. pectinifrons* has not been seen or recorded since 2008.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean Distance) was low throughout the contiguous U.S., except in Florida, reflected in a Climate 6 proportion of 0.004. The range for Climate 6 proportions indicating a low climate match is 0.000 to 0.005, inclusive. The highest climate match score was 7 out of 10 which was located along the southern coast of Florida. Florida had the highest match with a large portion of the United States recording 0 out of 10. Southern Florida had a high climate match, while the rest of Florida had a medium climate match.

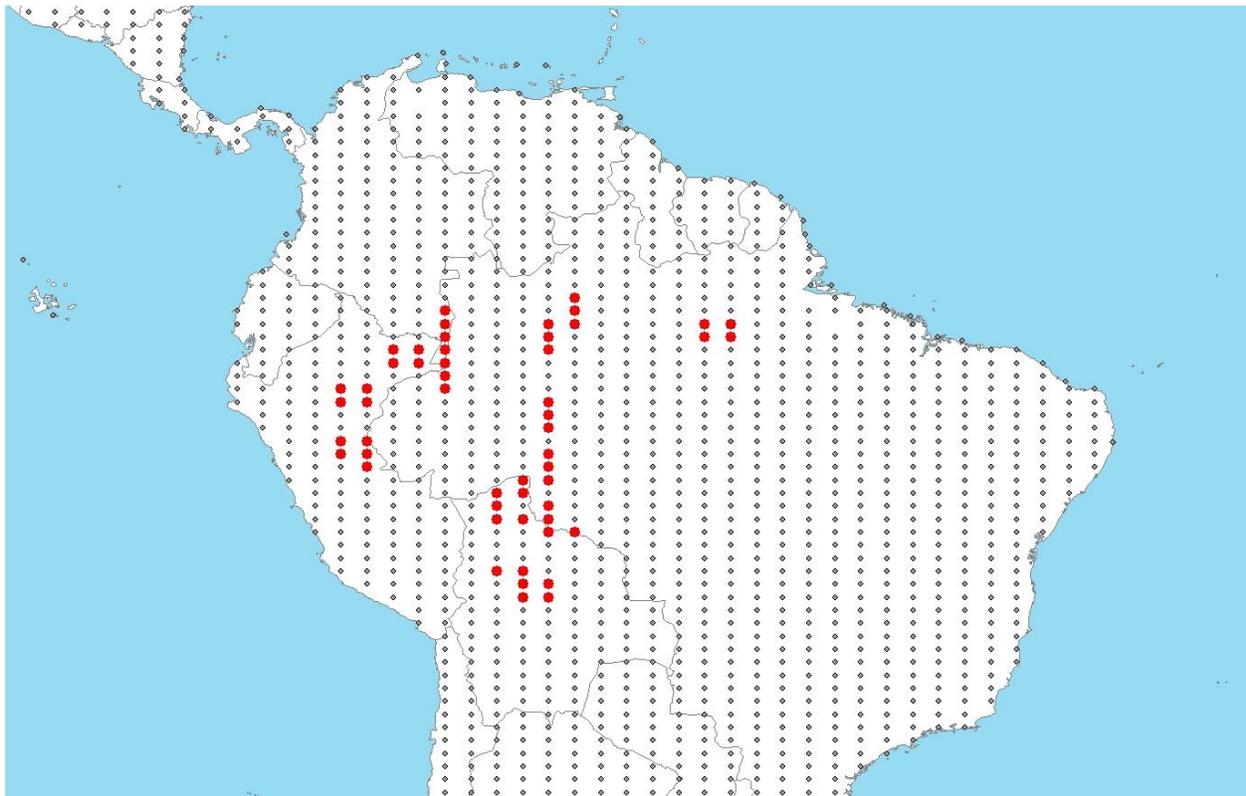


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil, Peru, Colombia, and Bolivia) and non-source locations (gray) for *A. pectinifrons* climate matching. Source locations from GBIF Secretariat (2017). *A. pectinifrons* has also been reported from Ecuador, but no georeferenced occurrences were available.

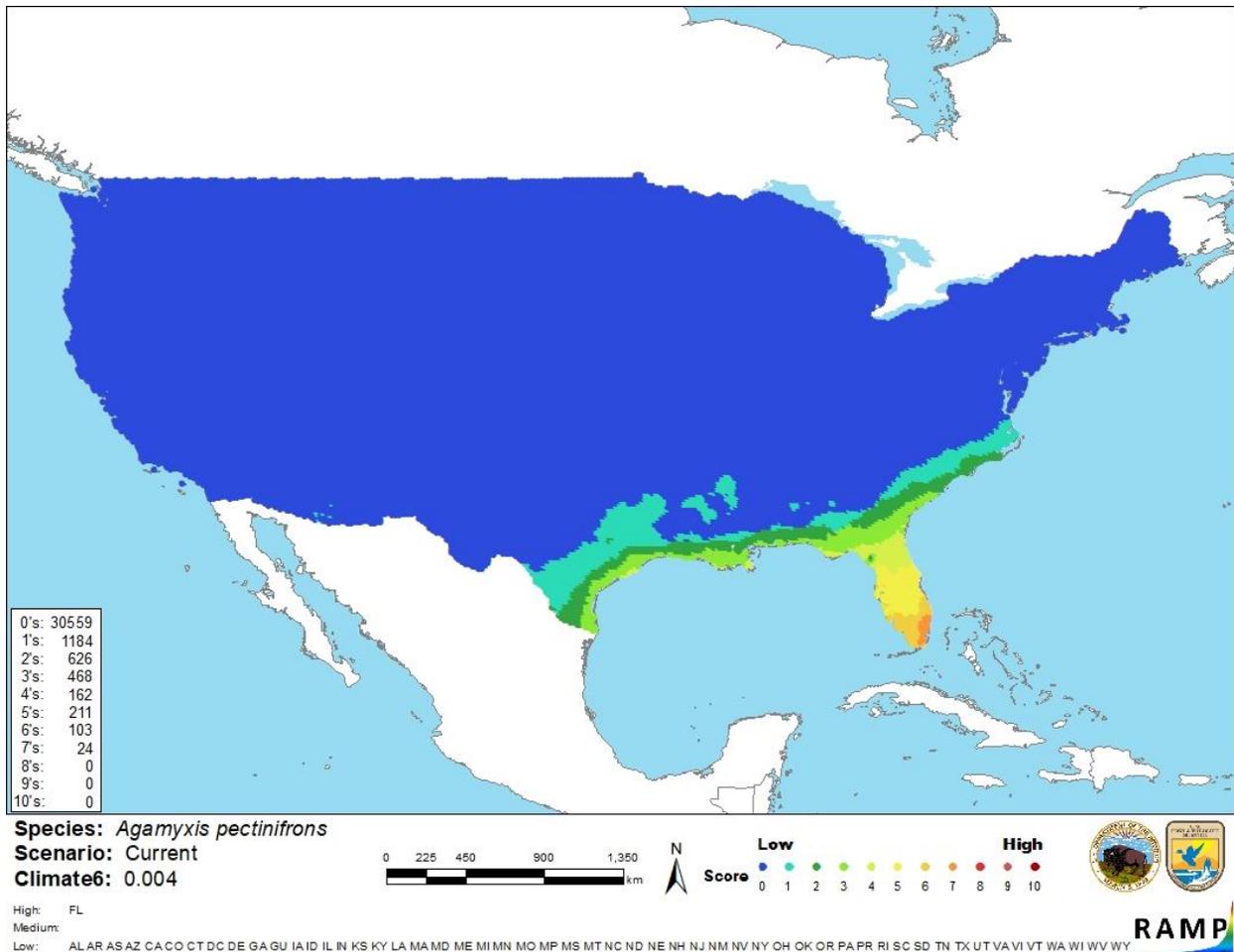


Figure 4. RAMP (Sanders et al. 2018) climate matches for *A. pectinifrons* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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 is known about the biology and ecology of *Agamyxis pectinifrons*. *A. pectinifrons* was reported from a sewage treatment facility in Texas. There are no other records of this fish species occurring in the United States and no known adverse impacts from this introduction. There have been no other reports of introductions outside of its native range. 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

The Whitebarred Catfish (*Agamyxis pectinifrons*) is a South American thorny catfish that is native to the Amazon River basin in Brazil, Peru, Colombia, Ecuador and Bolivia. It was recorded in the United States in Southern Texas in 2008 at a water treatment plant but no other records have been found since. No adverse impacts have been reported from this introduction and no other introductions have been reported across the globe. This fish is in the aquarium trade. Certainty of assessment is low. The climate match for *A. pectinifrons* with the contiguous United States is low. The highest match was recorded in southern Florida (a climate match score of 7 out of 10). The majority of the United States recorded scores of 0 out of 10. Due to the lack of information about potential introductions and a low climate match with the United States, the overall risk of 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.

Animal-World. 2015. Spotted Raphael Catfish, *Agamyxis pectinifrons*, Spotted Talking Catfish. Available: <http://animal-world.com/encyclo/fresh/catfish/talkingcat.php>. (June 2018).

Froese, R., and D. Pauly, editors. 2018. *Agamyxis pectinifrons* (Cope, 1870). FishBase. Available: <https://www.fishbase.de/summary/Agamyxis-pectinifrons.html>. (May 2018).

Fuller, P. 2018. *Agamyxis pectinifrons* (Cope, 1870): U.S. Geological Survey, Nonindigenous Aquatic Species Database, Gainesville, FL. Available: <https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=2786>. (May 2018)

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Agamyxis pectinifrons* (Cope, 1870). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2343984>. (May 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Agamyxis pectinifrons* (Cope, 1870). Integrated Taxonomic Information System, Reston, Virginia. Available: https://itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=640006#null. (May 2018).

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

Scotcat. 2018. *Agamyxis pectinifrons*. Available:
http://www.scotcat.com/doradidae/agamyxis_pectinifrons.htm. (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.

Riehl, R., and H. A. Baensch. 1991. Aquarien Atlas, volume 1. Mergus, Verlag für Natur-und Heimtierkunde, Melle, Germany.

Sabaj, M. H., and C. J. Ferraris, Jr. 2003. Doradidae (thorny catfishes). *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.