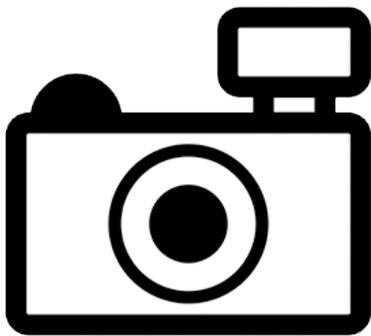


***Pseudostegophilus paulensis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016
Web Version, 4/5/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Eschmeyer et al. (2016):

“Upper Paraná River basin, Brazil.”

Status in the United States

This species has not been reported as introduced or established in the U.S.

From FFWCC (2016):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. [...]

[The list of prohibited nonnative species includes] *Parastegophilus paulensis*”

Means of Introductions in the United States

This species has not been reported as introduced or established in the U.S.

Remarks

From DoNascimento (2015):

“The genera *Parastegophilus* and *Pseudostegophilus* have lacked adequate phylogenetic definition, and the species originally described in *Homodiaetus* (e.g., *H. haemomyzon*) and *Pseudostegophilus* (e.g., *P. paulensis*) have been serendipitously moved between both genera, highlighting uncertain and different classification criteria throughout their taxonomic histories.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysii
Order Siluriformes
Family Trichomycteridae
Subfamily Stegophilinae
Genus *Parastegophilus*
Species *Parastegophilus paulensis* (Miranda Ribeiro, 1918)”

From Eschmeyer et al. (2016):

“Current status: Valid as *Pseudostegophilus paulensis* Miranda Ribeiro 1918. Trichomycteridae: Stegophilinae.”

Size, Weight, and Age Range

From Reis et al. (2003):

“Maximum length: 5.4 cm SL”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2016):

“Tropical”

Distribution Outside the United States

Native

From Eschmeyer et al. (2016):

“Upper Paraná River basin, Brazil.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From DoNascimento (2015):

“Autapomorphies [of *Pseudostegophilus*]: 1. Dorsal edge of quadrate convex or straight [...] 2. Anterior edge of hyomandibula notched and overlapped [...] 3. Fleshy membrane of posterior nostril continuous [...]”

Biology

From Zuanon and Sazima (2005):

“Additionally, we suggest that species of scale and mucus-eating stegophiline candirus of the genera *Stegophilus* and *Parastegophilus* (de Pinna & Wosiacki 2003) are likely candidates for hitch-hiking on their hosts. Our suggestion is supported by the ability of *Parastegophilus paulensis* to attach to a human leg (Guimarães 1935, IS pers. obs.), and clinging there shortly even out of water. The sucker-like oral apparatus, plus the band of tiny, villiform teeth would serve well these clinging needs.”

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

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

From FFWCC (2016):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. [...]

[The list of prohibited nonnative species includes] *Parastegophilus paulensis*”

4 Global Distribution

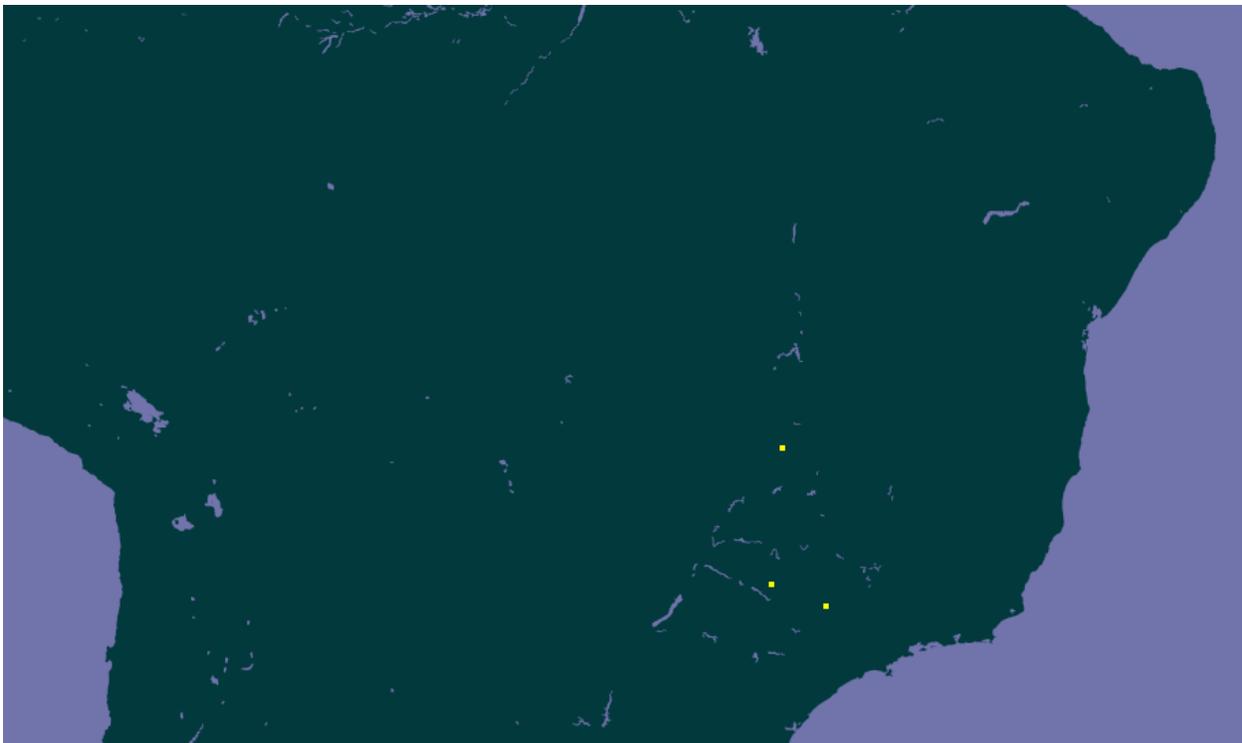


Figure 1. Reported distribution of *Parastegophilus paulensis* in Brazil. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported as introduced or established in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) is low throughout the United States, except in southwestern Florida, where it is high. Within Florida, highest match occurs in the vicinity of Everglades National Park and Naples. There is also a small band of medium climate match along the Gulf coast of Texas. Climate 6 proportion indicates that the contiguous U.S. is a medium climate match. The proportions indicating a medium climate match are those greater than 0.005 and less than 0.103; the Climate 6 proportion for *Pseudostegophilus paulensis* is 0.006.

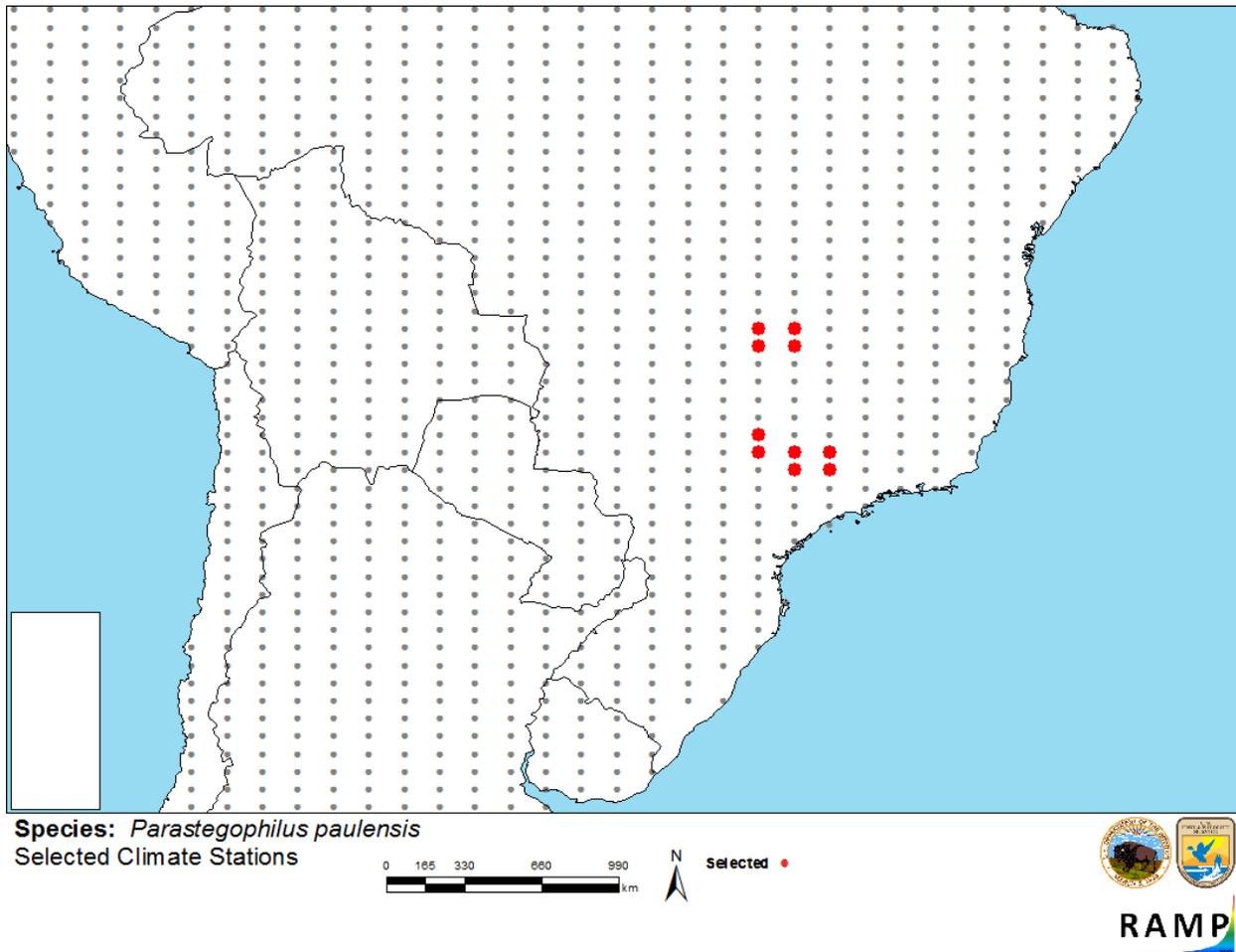


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Pseudostegophilus paulensis* climate matching. Source locations from GBIF (2016).

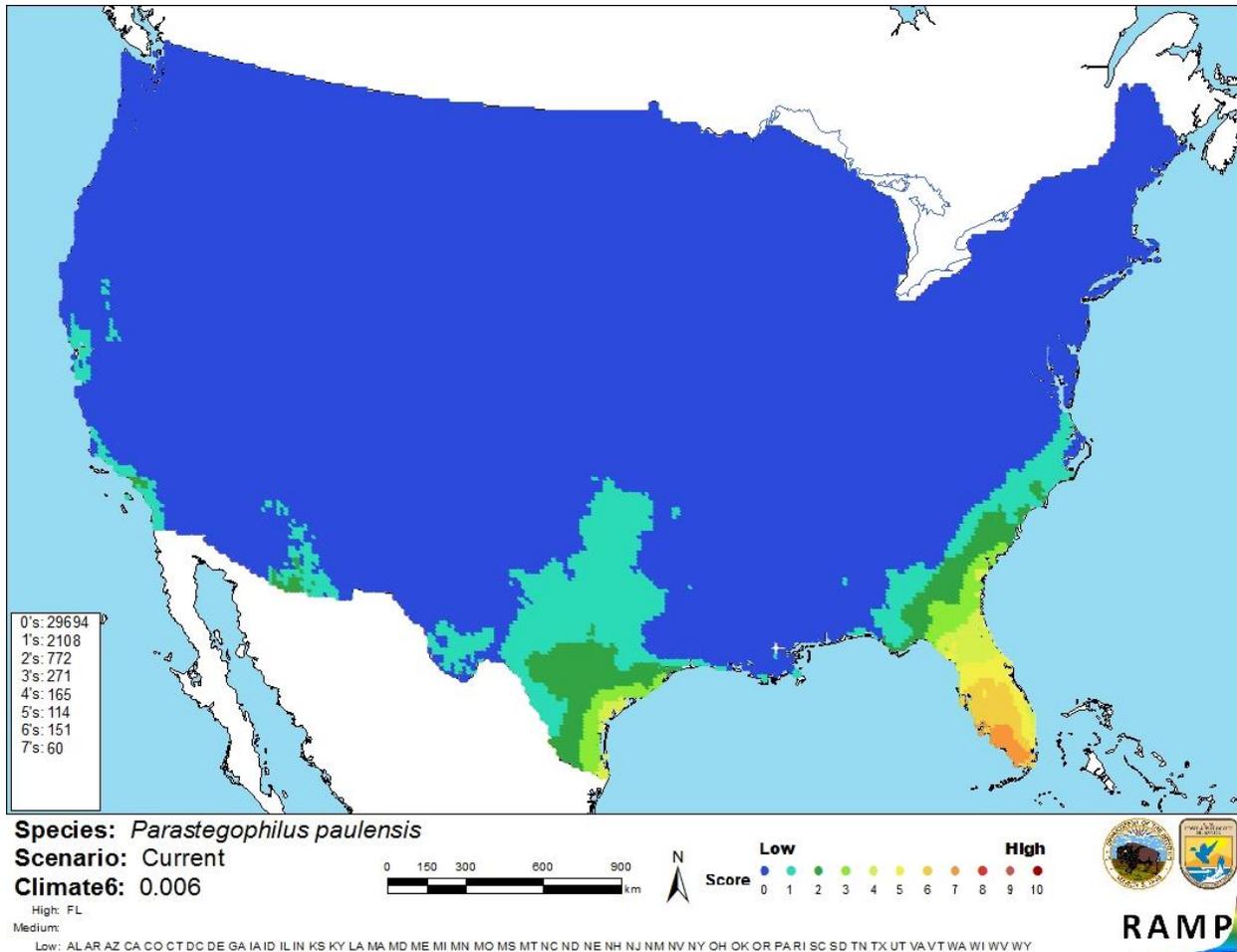


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Pseudostegophilus paulensis* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

There is some information available on the feeding behavior of *P. paulensis*, but little information on the general biology and the distribution. This species has no history of introduction outside its native range, so no impacts from introductions and spread of this species have been documented. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Pseudostegophilus paulensis is a small parasitic catfish native to South America. *P. paulensis* has a medium climate match with the U.S., with the highest match areas in Florida and Texas. This species has not been reported as introduced outside its native range. Further information is needed to adequately assess this species as having either high or low risk. Because of this, overall risk assessment category 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.

- DoNascimento, C. 2015. Morphological evidence for the monophyly of the subfamily of parasitic catfishes Stegophilinae (Siluriformes, Trichomycteridae) and phylogenetic diagnoses of its genera. *Copeia* 103(4):933-960.
- Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2016. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (December 2016).
- FFWCC (Florida Fish and Wildlife Conservation Commission). 2016. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo>. (December 2016).
- Froese, R., and D. Pauly, editors. 2016. *Parastegophilus paulensis* (Miranda Ribeiro, 1918). FishBase. Available: <http://www.fishbase.org/summary/parastegophilus-paulensis.html>. (November 2016, December 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Parastegophilus paulensis* Miranda Ribeiro, 1918. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343225>. (November 2016).
- ITIS (Integrated Taxonomic Information System). 2016. *Parastegophilus paulensis* (Miranda Ribeiro, 1918). Integrated Taxonomic Information System, Reston, Virginia. Available:

https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682147#null. (November 2016).

Reis, R. E., S. O. Kullander, and C. J. Ferraris. 2003. Check list of the freshwater fishes of South and Central America. Edipucrs, Brazil.

Sanders, S., C. Castiglione, and M. 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.

de Pínna, M. C. C., and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270-290 *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.