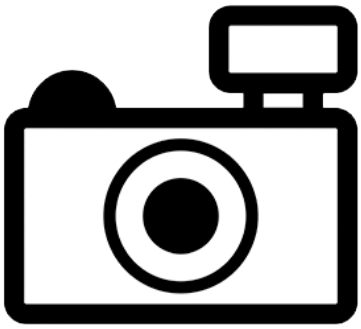
Pseudostegophilus haemomyzon (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016
Revised, February 2017
Web Version, 4/3/2018



No Photo Available

1 Native Range, and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: Orinoco River basin [Venezuela]."

Status in the United States

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

From FFWCC (2017):

"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. Very limited exceptions may be made by permit from the Executive Director for research or for public exhibition by facilities that meet biosecurity criteria […]
[The list of prohibited nonnative species includes] *Pseudostegophilus haemomyzon*"

Means of Introductions in the United States

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

Remarks

From GBIF (2016):

"BASIONYM
Homodiaetus haemomyzon Myers, 1942"

From DoNascimiento (2015):

"Koch's (2002) taxonomic revision of *Homodiaetus* proposed a diagnosis for the genus mainly based on external characters. This author moved *Homodiaetus haemomyzon* and *Parastegophilus maculatus* into the genus *Pseudostegophilus*, based on a weak phenetic argument."

"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 Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Stegophilinae
Genus *Pseudostegophilus*
Species *Pseudostegophilus haemomyzon* (Myers, 1942)"

"Current Standing: valid"

Size, Weight, and Age Range
From Froese and Pauly (2016):

"Max length : 5.7 cm SL male/unsexed; [de Pínna and Wosiacki 2003]"

Environment
From Froese and Pauly (2016):

"Freshwater; demersal."

Climate/Range
From Froese and Pauly (2016):

"Tropical, preferred ?"

Distribution Outside the United States
Native
From Froese and Pauly (2016):

"South America: Orinoco River basin [Venezuela]."

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 DoNascimiento (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 Reis and Lima (2009):

"A relatively common species."

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 (2017):

"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. Very limited exceptions may be made by permit from the Executive Director for research or for public exhibition by facilities that meet biosecurity criteria […]
[The list of prohibited nonnative species includes] *Pseudostegophilus haemomyzon*"

4 Global Distribution

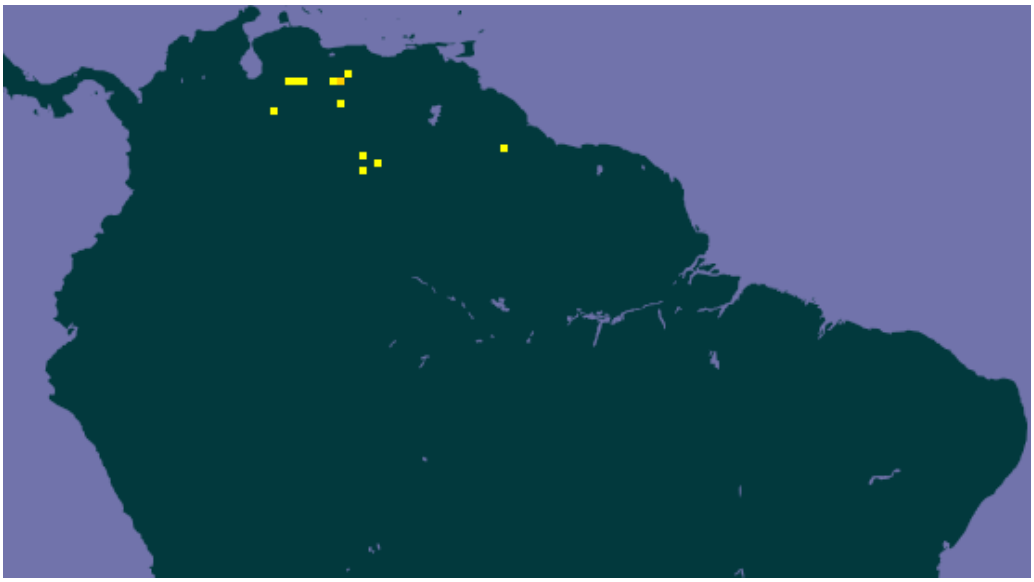


Figure 1. Known global established locations of *Pseudostegophilus haemomyzon* in Venezuela. Map from GBIF (2016). Points in Bolivia and Guyana reported by GBIF (2016) were excluded from this map and from the climate matching analysis because they are outside the known range of *P. haemomyzon*.

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) was medium in southern Florida and low throughout the remainder of the contiguous U.S. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. The range of proportions indicating a low climate match is 0.000-0.005; the Climate 6 proportion of *Pseudostegophilus haemomyzon* was 0.0.

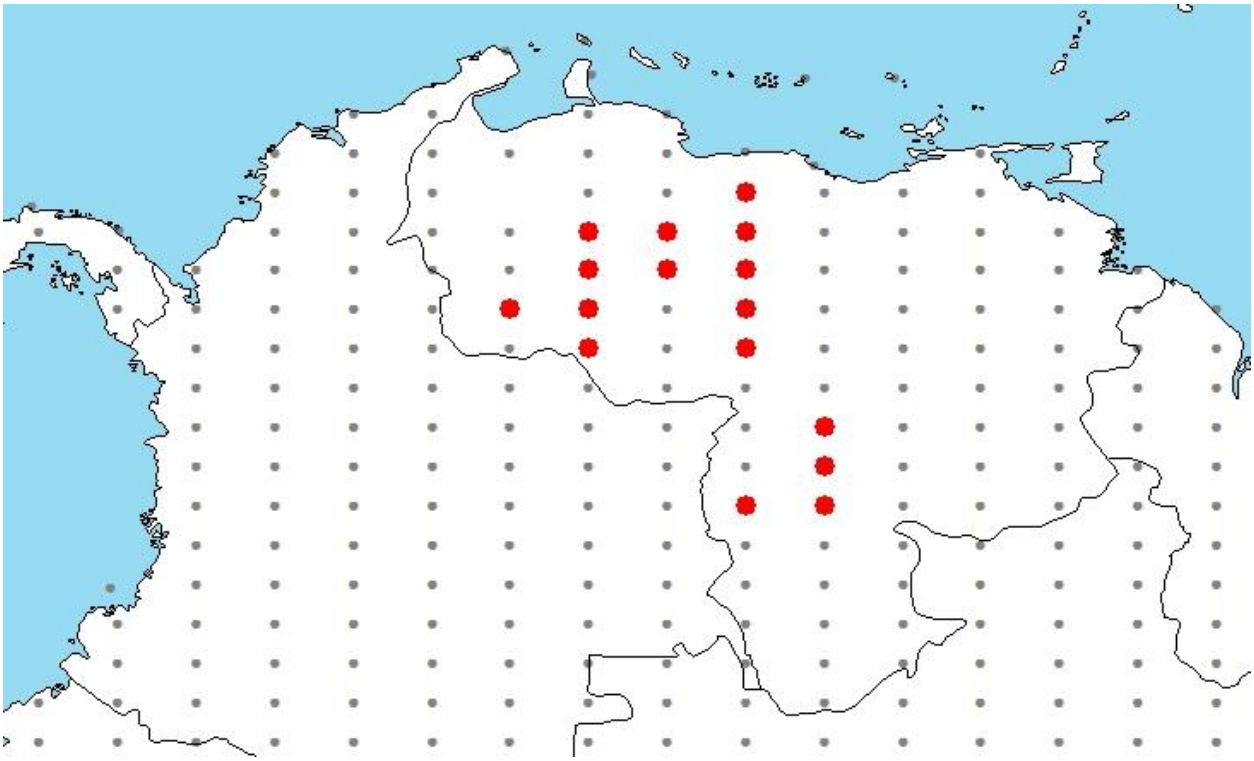


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Venezuela) and non-source locations (gray) for *Pseudostegophilus haemomyzon* climate matching. Source locations from GBIF (2016).

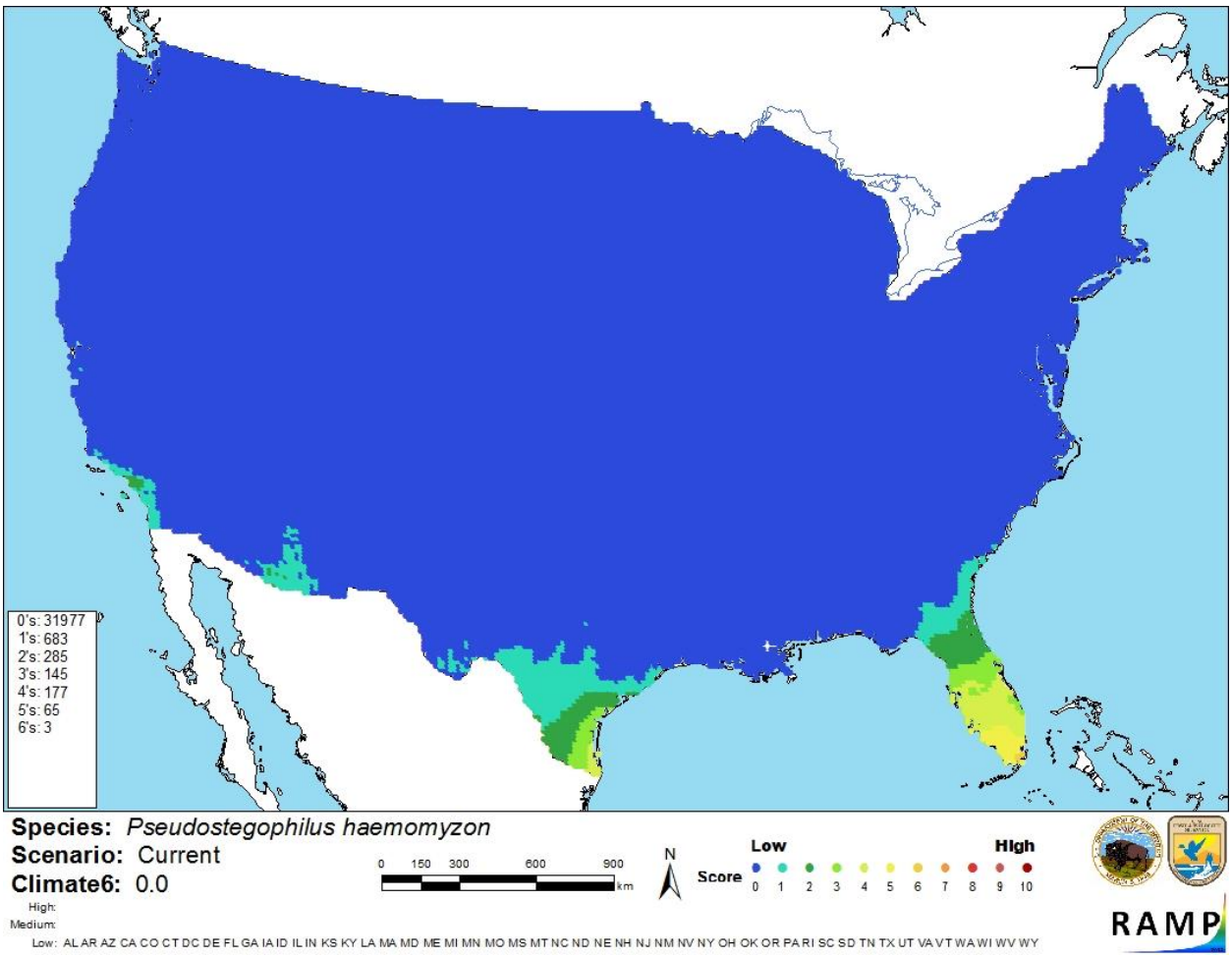


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Pseudostegophilus haemomyzon* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

There is almost no information available on the biology and ecology of *Pseudostegophilus haemomyzon*. Further information is needed to evaluate the potential for negative impacts from this species. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Pseudostegophilus haemomyzon is a small catfish native to the Orinoco River basin, Venezuela. There is very little information available on this species. *P. haemomyzon* has a low climate match with the United States and no documented history of introduction outside of its native range. Like other trichomycterids, the species is prohibited in the state of Florida. Overall risk assessment category 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.

DoNascimiento, 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.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/. (January 2017).

Froese, R., and D. Pauly, editors. 2016. *Pseudostegophilus haemomyzon* (Myers, 1942). FishBase. Available: http://www.fishbase.org/summary/48769. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Pseudostegophilus haemomyzon*, Myers, 1942. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343352. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Pseudostegophilus haemomyzon* (Myers, 1942). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682154#null. (November 2016).

Reis, R., and F. Lima. 2009. *Pseudostegophilus haemomyzon*. The IUCN Red List of Threatened Species 2009: e.T167763A6378630. Available: http://www.iucnredlist.org/details/167763/0. (December 2016).

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.

Koch, W. R. 2002. Revisão taxonômica do gênero *Homodiaetus* (Teleostei, Siluriformes, Trichomycteridae). Iheringia, Série Zoologia 92:33-46.