

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

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016

Revised, February 2017

Web Version, 4/4/2018



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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Amazon River basin.”

From Eschmeyer et al. (2018):

“Amazon and Orinoco river basins: Brazil, Ecuador, Colombia, Bolivia and Peru.”

Status in the United States

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

Means of Introductions in the United States

This species has not been documented 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 species includes] *Pseudostegophilus nemurus*”

Remarks

From GBIF (2016):

“BASIONYM

Stegophilus nemurus Günther, 1869”

From DoNascimento (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 nemurus* (Günther, 1869)”

“Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 15.0 cm TL male/unsexed; [Baensch and Riehl 1995]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal; pH range: 6.0 - 7.1; dH range: ? - 10.”

“[...] 26°C - 28°C [Baensch and Riehl 1995; assumed to represent recommended aquarium water temperatures]”

Climate/Range

From Froese and Pauly (2016):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Amazon River basin.”

From Eschmeyer et al. (2018):

“Amazon and Orinoco river basins: Brazil, Ecuador, Colombia, Bolivia and Peru.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Günther (1869):

“Caudal fin deeply forked, the upper lobe produced into a filament. The distance of the origin of the dorsal fin from the root of the caudal is contained once and two-thirds in its distance from the end of the snout. Dorsal fin midway between the root of the ventral and origin of the anal. Anterior part of the back spotted with brown. Tail with obscure, broad, dark cross bands.”

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 Froese and Pauly (2016):

“Is said to become attached to the gills, anal region and fins of dead, dying, or disabled fishes [Burgess 1989].”

From Baskin et al. (1980):

“Fish scales are reported from the stomachs of *Apomatoceros alleni* (Eigenmann and Allen 1942) and *Pseudostegophilus nemurus* (pers. obs.).”

Human Uses

From Evers and Seidel (2005):

“*Pseudostegophilus nemurus* has sporadically appeared in the trade as a bycatch [...] this is not an aquarium fish!”

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 documented 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 species includes] *Pseudostegophilus nemurus*”

4 Global Distribution

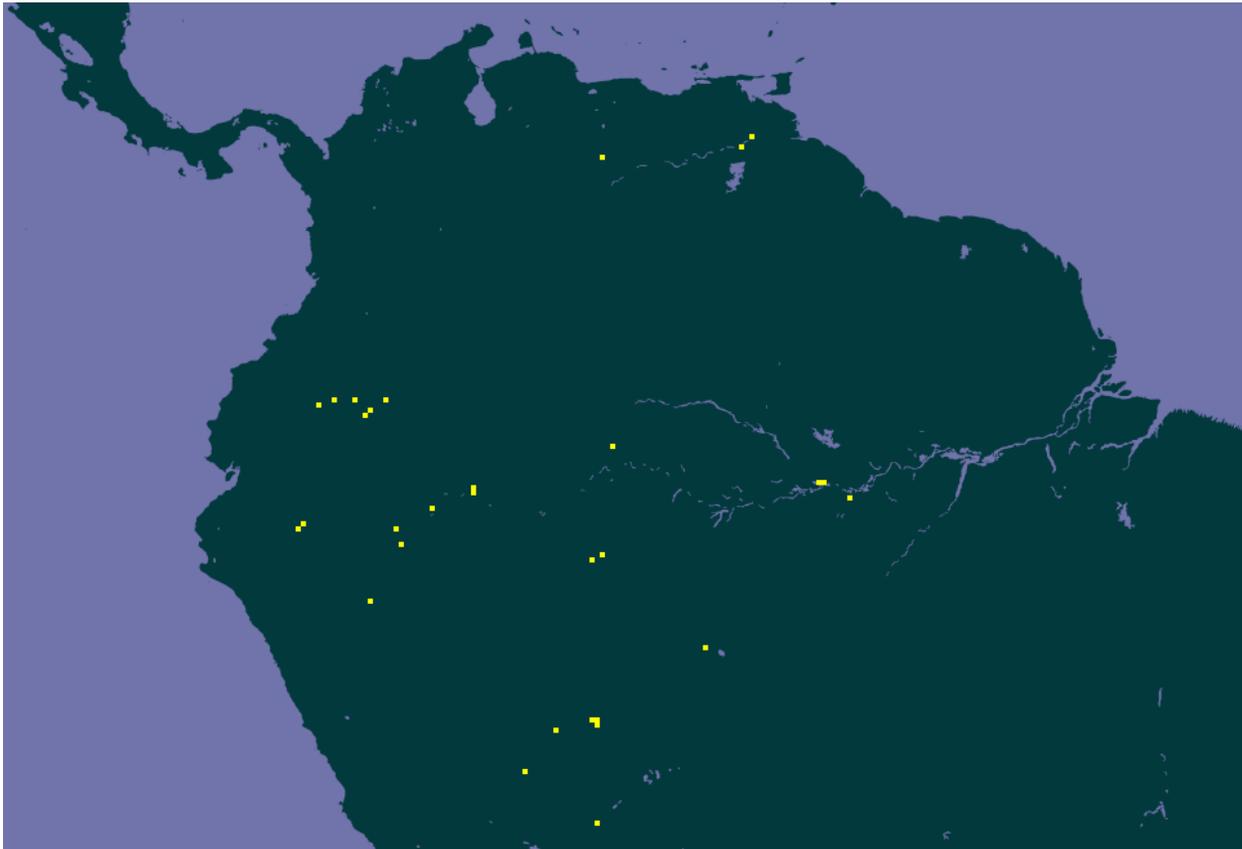


Figure 1. Known global established locations of *Pseudostegophilus nemurus*. Map from GBIF (2016). Points in Venezuela were excluded from climate matching because they are outside the Amazon River basin (see Distribution Outside the United States).

5 Distribution Within the United States

This species has not been documented 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 peninsular Florida and low elsewhere in the contiguous U.S. The Climate 6 proportion indicated that the contiguous U.S. has a low climate match overall. The range of proportions that indicate a low climate match is 0.000-0.005; the Climate 6 proportion of *Pseudostegophilus nemurus* is 0.004.

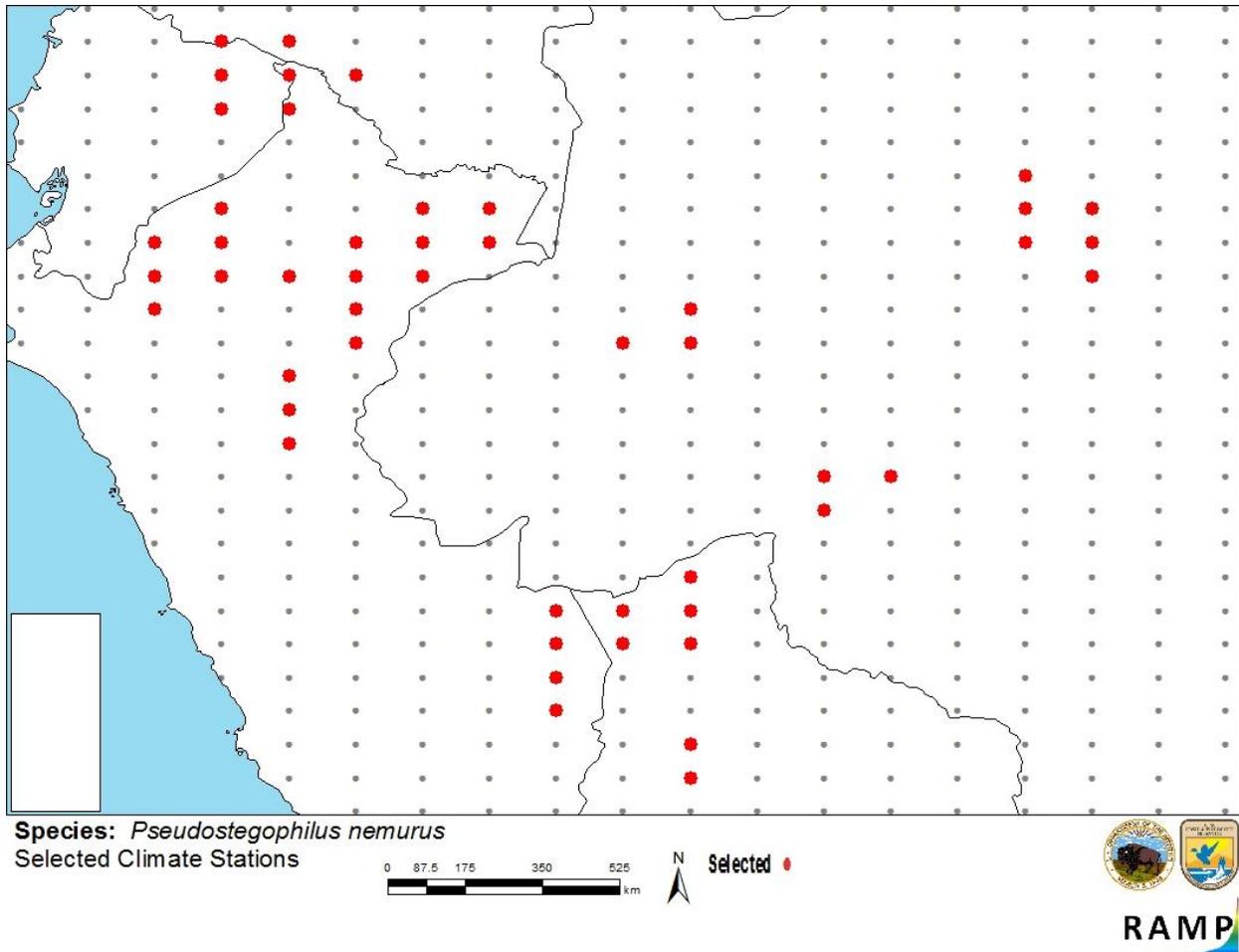


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in western South America selected as source locations (red; Colombia, Ecuador, Peru, Brazil, Bolivia) and non-source locations (gray) for *Pseudostegophilus nemurus* climate matching. Source locations from GBIF (2016).

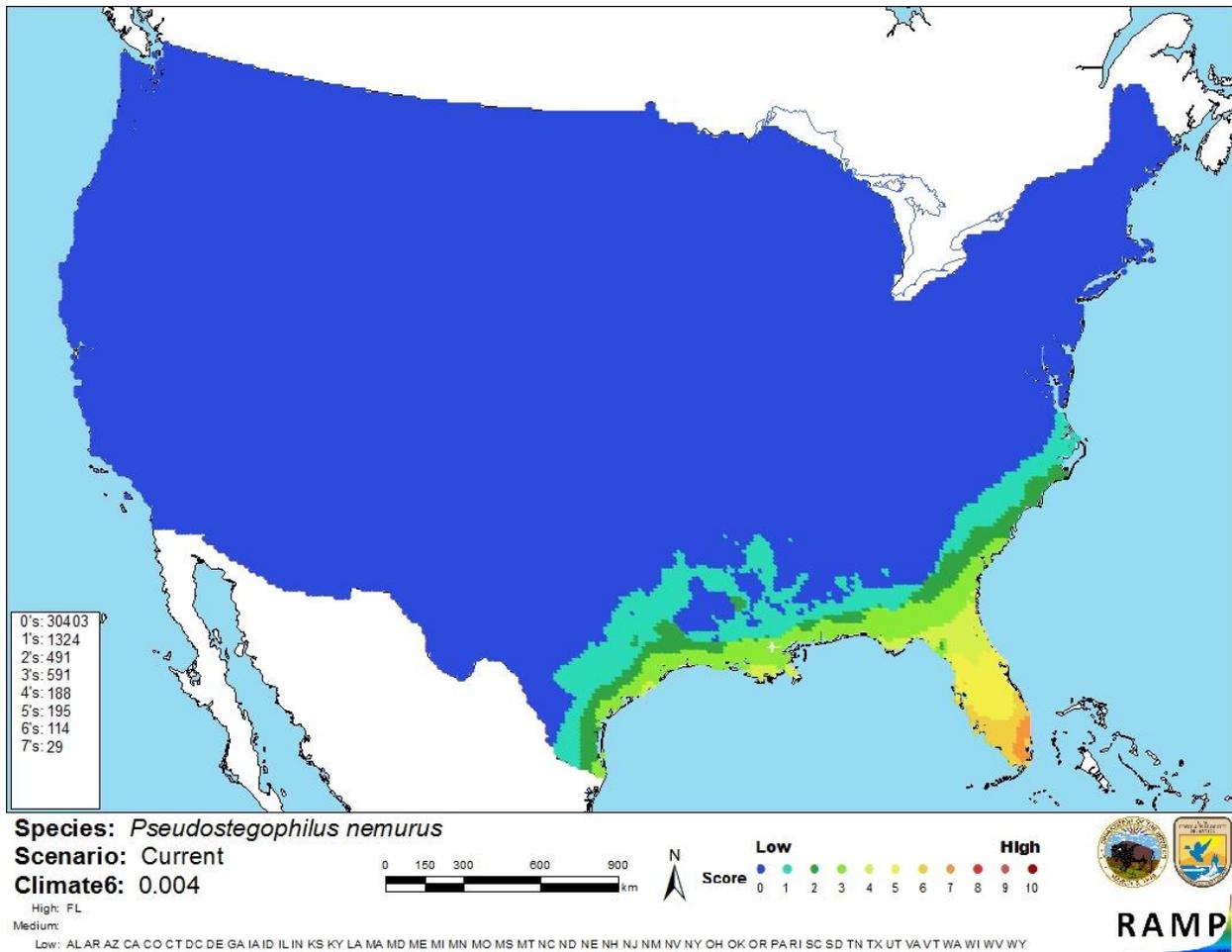


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Pseudostegophilus nemurus* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 biology, habitat preference, and feeding habits of *P. nemurus*. There are no documented introductions of this species outside of its native range, so potential impacts of introduction are unknown. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Pseudostegophilus nemurus is a small parasitic catfish native to the Amazon River basin. *P. nemurus* has a low climate match with the United States and no documented history of introduction outside its native range. As with other trichomycterids, possession of *P. nemurus* 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.

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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.

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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.

Baensch, H. A., and R. Riehl. 1995. *Aquarien atlas*, volume 4. Mergus Verlag GmbH, Verlag für Natur-und Heimtierkunde, Melle, Germany.

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Eigenmann, C. H., and W. R. Allen. 1942. *Fishes of western South America*. University of Kentucky, Lexington, Kentucky.

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