Henonemus intermedius (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016
Revised, January 2017
Web Version, 1/14/2018

Photo: President and Fellows of Harvard College. Licensed under CC BY-NC-SA. Available: http://eol.org/data_objects/26674802. (January 2017).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: Araguaia River basin in Brazil."

Status in the United States

This species has not been reported in the United States.

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. […]
Freshwater Aquatic Species […]
Parasitic catfishes […]
Henonemus intermedius"

Means of Introductions in the United States

This species has not been reported in the United States.

Remarks

From GBIF (2016):

"BASIONYM *Stegophilus intermedius* Eigenmann & Eigenmann, 1889"

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 Bleeker, 1858
Subfamily Stegophilinae
Genus *Henonemus*
Species *Henonemus intermedius* (Eigenmann and Eigenmann, 1889)"

"Current Standing: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 8.0 cm NG 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: Araguaia River basin in Brazil."

Introduced
No introductions of this species have been reported.

Means of Introduction Outside the United States
No introductions of this species have been reported.

Short Description
From Eigenmann and Eigenmann (1889):

"Elongate, compressed behind, depressed forward; head somewhat longer than broad; snout pointed. Eye large, 1 in snout, 3 ½ in head. Mouth large, upper lip with two series of teeth; intermaxillaries and mandible with four series of depressible teeth, those of the inner series enlarged at the tip. Lower lip not dilated, barbell shorter than the eye. Opercle with two spines; preopercle with 5 or 6 claw-like spines. Origin of dorsal about equidistant from tip of caudal and occiput; caudal emarginate; anal placed entirely behind the dorsal; origin of ventrals equidistant from bases of caudal and pectoral. Light brown; entire upper surface with rather large dark brown spots; a series of larger dark spots along the middle line of the sides, the spots largest and most conspicuous on the tail; caudal with a few faint dark spots."

Biology
From DoNascimiento and Provenzano (2006):

"Stegophilines are considered parasites or semi-parasites, because of their peculiar habit of feeding on scales, mucus, or skin of other fishes (Baskin et al., 1980; Winemiller and Yan, 1989; de Pinna and Britski, 1991)."

Human Uses
No information available.

Diseases
No information available.

Threat to Humans

From Froese and Pauly (2016):

"Harmless"

3 Impacts of Introductions

No introductions of this species have been reported.

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. […]
Freshwater Aquatic Species […]
Parasitic catfishes […]
Henonemus intermedius"

4 Global Distribution

Figure 1. Map of Araguaia River basin in Brazil, where *Henonemus intermedius* has been reported. Map by Karl Musser, licensed under CC BY-SA 2.5. Available: https://commons.wikimedia.org/w/index.php?curid=650718. (January 2017).

5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) is medium in southern Florida and in a small area near Brownsville, Texas. The climate match is low across the remainder of the contiguous U.S. Climate 6 proportion indicated a low climate match for the contiguous U.S. overall. The range of proportions indicating a low climate match is 0.000 to 0.005, inclusive; the Climate 6 proportion of *Henonemus intermedius* was 0.0. The climate match shown in this section is likely an overestimate of the true climate match of *H. intermedius* to the contiguous U.S. because the source locations are more general than locations of confirmed occurrences.

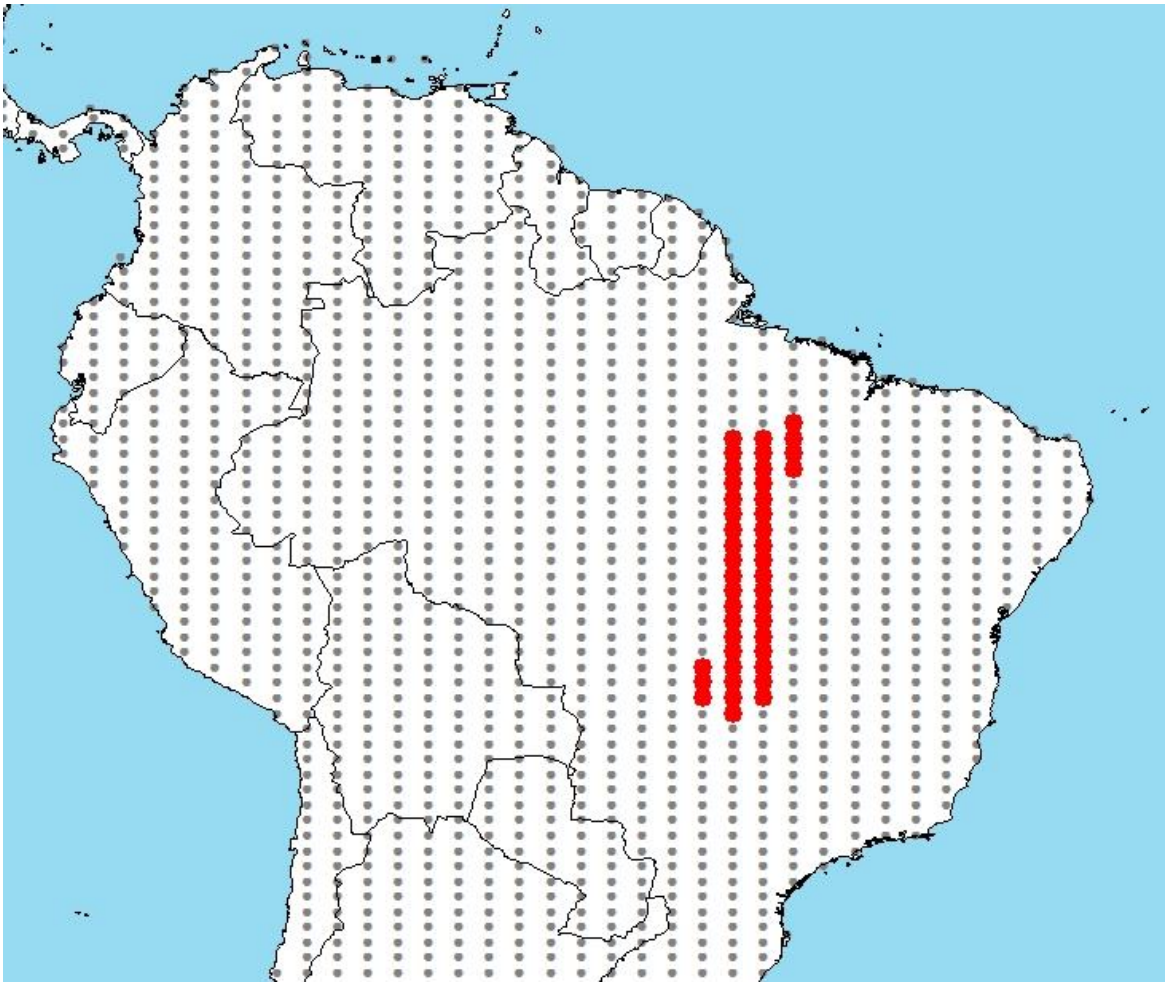

Figure 2. RAMP (Sanders et al. 2014) source map of northern South America showing weather stations selected as source locations (red) and non-source locations (gray) for *Henonemus intermedius* climate matching. Source locations represent the Araguaia River basin, from which *H. intermedius* has been recorded (see Global Distribution, above).

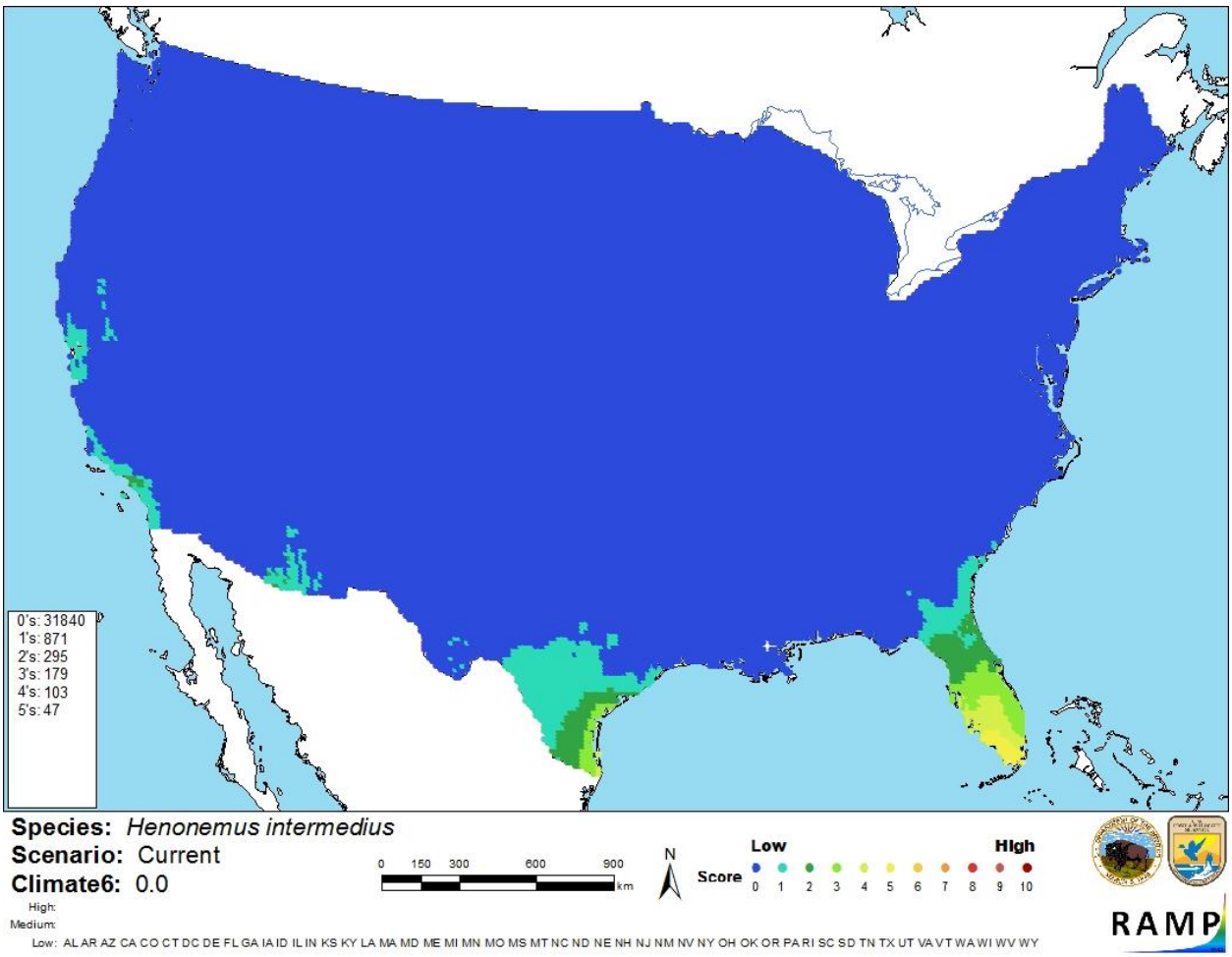

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Henonemus intermedius* in the contiguous United States based on the Araguaia River basin, from which *H. intermedius* has been reported (see Global Distribution, above). 0= Lowest match, 10=Highest match. Counts of climate match scores 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 very limited information available on the native range and biology of *Henonemus intermedius*. The species has not been reported as introduced outside its native range, so no information is available on impacts of introduction. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Henonemus intermedius is a trichomycterid catfish species native to Brazil. The species, along with other members of its family, is listed as a prohibited species in the state of Florida. Very little is known about the biology of *H. intermedius*, and it has not been reported as introduced outside its native range, so impacts of introduction are unknown. Climate match to the contiguous U.S. is low. Overall risk posed by *H. intermedius* 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., and F. Provenzano. 2006. The genus *Henonemus* (Siluriformes: Trichomycteridae) with a description of a new species from Venezuela. Copeia 2006(2):198-205.

Eigenmann, C. H., and R. S. Eigenmann. 1889. Preliminary notes on South American Nematognathi. II. Proceedings of the California Academy of Sciences 2(2):28-56.

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. *Henonemus intermedius* (Eigenmann & Eigenmann, 1889). FishBase. Available: http://www.fishbase.se/summary/Henonemus-intermedius.html. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Henonemus intermedius* (Eigenmann & Eigenmann, 1889). Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343247. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Henonemus intermedius* (Eigenmann & Eigenmann, 1889). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682108#null. (December 2016).

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

Baskin, J. N., T. M. Zaret, and F. Mago-Leccia. 1980. Feeding of reportedly parasitic catfishes (Trichomycteridae and Cetopsidae) in the Río Portuguesa basin, Venezuela. Biotropica 12:182-186.

de Pinna, M. C. C., and H. A. Britski. 1991. *Megalocentor*, a new genus of parasitic catfish from the Amazon basin: the sister group of *Apomatoceros* (Trichomycteridae: Stegophilinae). Ichthyological Exploration of Freshwaters 2:113-128.

de Pinna, 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.

Winemiller, K. O., and H. Y. Yan. 1989. Obligate mucus-feeding in a South American trichomycterid catfish (Pisces: Ostariophysi). Copeia 1989:511-514.