Ochmacanthus reinhardtii (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016
Revised, January 2017
Web Version, 3/27/2018

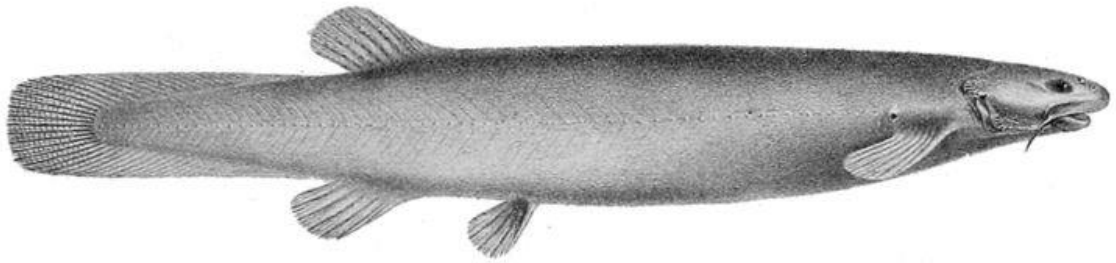


Image: Franz Steindachner, in Beiträge zur Kenntniss der Flussfische Südamerika's. Public domain. Available: https://commons.wikimedia.org/wiki/File:Ochmacanthus_reinhardtii.jpg. (December 2016).

1 Native Range and Status in the United States

Native Range

From Mol (2012):

"Amazon River basin and drainages in French Guiana: Brazil and French Guiana; in Suriname, only known from the Marowijne (Maroni) River (Keith *et al.*, 2000)"

Status in the United States

This species has not been reported as introduced or established in the United States.

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 […]
Freshwater Aquatic Species […]

Parasitic catfishes […]
Ochmacanthus reinhardtii"

Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

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 *Ochmacanthus*
Species *Ochmacanthus reinhardtii* (Steindachner, 1882)"

"Current Standing: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length: 5.0 cm TL male/unsexed; [Le Bail et al. 2000]"

Environment

From Froese and Pauly (2016):

"Freshwater; benthopelagic."

Climate/Range

From Froese and Pauly (2016):

"Tropical, preferred ?"

Distribution Outside the United States

Native

From Mol (2012):

"Amazon River basin and drainages in French Guiana: Brazil and French Guiana; in Suriname, only known from the Marowijne (Maroni) River (Keith *et al.*, 2000)"

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 Mol (2012):

"*Diagnostic characteristics*: mouth large; interopercle with numerous hooks; interorbital distance 30% larger than eye diameter; depth of caudal peduncle not different between posterior and anterior part; body yellowish with small spots"

Biology

From Sazima (1983):

"Mucus-eating may have been the ancestral feeding behavior of the scale- and even blood-feeding trichomycterids. *Ochmacanthus reinhardtii* was reported feeding on this nutritious secretion (Roberts 1972) […]"

From Roberts (1972):

"On one occasion I watched a fisherman return from spearing a pirarucú (*Arapaima gigas*, the largest scaled fish in Amazonas). In the bottom of his canoe were several specimens of a very dark stegophiline (identified in the field as *Ochmacanthus reinhardti*). The fisherman indicated that many such candirú had been clinging to the pirarucú as he hauled it into the canoe. Upon examining the gill chamber of the pirarucú, I could not detect any indication of damage to the tough gill filaments and strongly doubt that the *Ochmacanthus* obtained any blood from the gill filaments or elsewhere. Perhaps they were feeding on mucus, which is abundant on pirarucú. *Ochmacanthus* observed on sandy bottoms in relatively clear water were always light colored. I suspect they can change color to match the substrate, whether it be light sandy bottom or the dark body of a pirarucú."

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 […]
Freshwater Aquatic Species […]
Parasitic catfishes […]
Ochmacanthus reinhardtii"

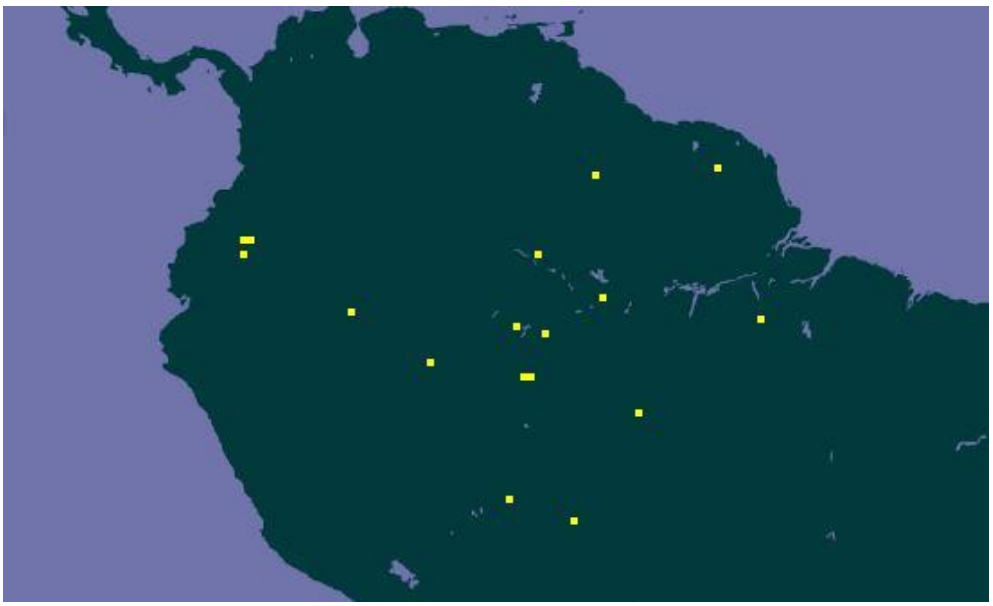
4 Global Distribution


Figure 1. Known global established locations of *Ochmacanthus reinhardtii*. Map from GBIF (2016). Points outside Brazil, French Guiana, and Suriname were not included in climate matching because they are not part of the described range of the species (see Distribution Outside the United States, above).

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low across most of the contiguous United States, with the exception of an area of medium match in southern Florida. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. The range for a low climate match is 0.000-0.005; the Climate 6 proportion of *Ochmacanthus reinhardtii* is 0.000.

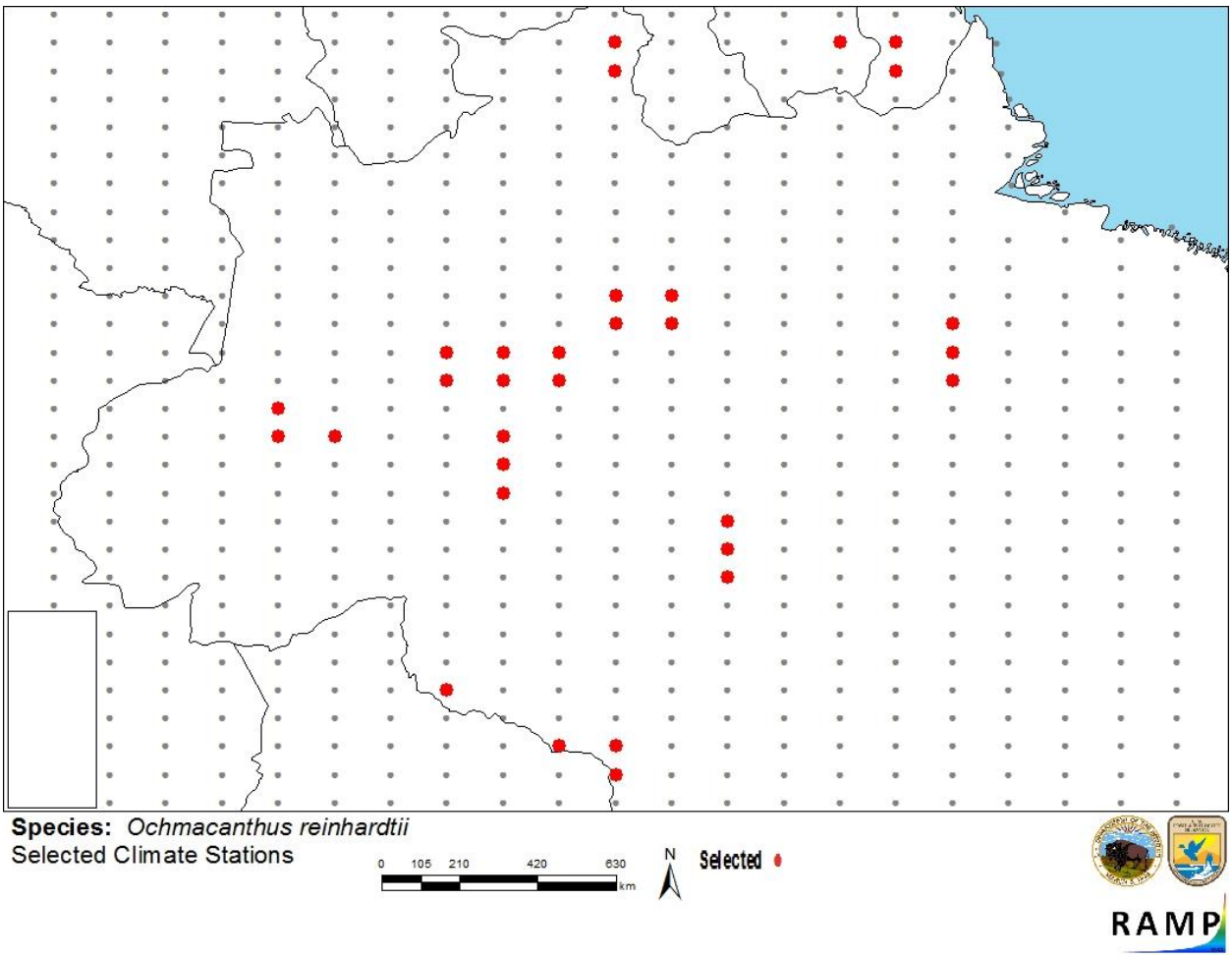


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Brazil, French Guiana, Suriname) and non-source locations (gray) for *Ochmacanthus reinhardtii* climate matching. Source locations from GBIF (2016).

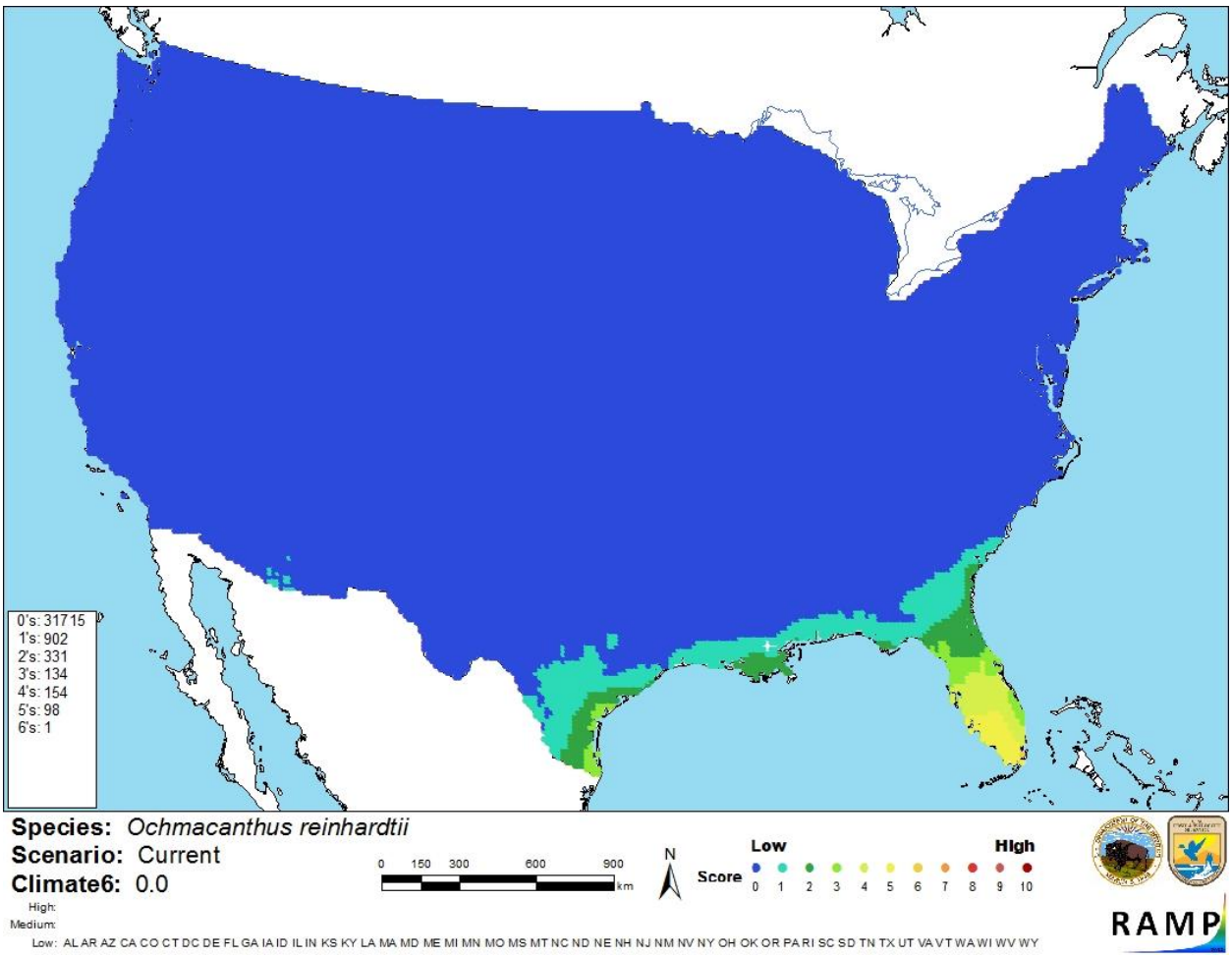


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Ochmacanthus reinhardtii* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 very little information available on the biology and ecology of *Ochmacanthus reinhardtii*. 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

Ochmacanthus reinhardtii is native to Brazil, French Guiana, and Suriname. It is a small, ectoparasitic catfish that likely feeds on mucus and scales of host fishes. No introductions of this species have been documented, so any potential impacts of introduction remain unknown. State authorities currently consider *O. reinhardtii* dangerous to the ecology or the health and welfare of the people of Florida, where personal possession or commercial use of this species is prohibited by law. *O. reinhardtii* has a low climate match with the contiguous United States. 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.

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/#Ochmacanthus. (January 2017).

Froese, R., and D. Pauly, editors. 2016. *Ochmacanthus reinhardtii* (Steindachner, 1882). FishBase. Available: http://www.fishbase.us/summary/48778. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Ochmacanthus reinhardtii* (Steindachner, 1882). Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2342885. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Ochmacanthus reinhardtii* (Steindachner, 1882). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682144#null. (December 2016).

Mol, J. H. A. 2012. The freshwater fishes of Suriname. Koninklijke Brill NV, Leiden, The Netherlands.

Roberts, T. R. 1972. Ecology of fishes in the Amazon and Congo basins. Bulletin of the Museum of Comparative Zoology 143(2):117-147.

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US Fish and Wildlife Service.

Sazima, I. 1983. Scale-eating in characoids and other fishes. Environmental Biology of Fishes 9(2):87-101.

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.

Keith, P., P. Y. Le Bail, and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, volume 2, installment 1. Publications scientifiques du Muséum national d'Histoire naturelle, Paris. Collection Patrimoines Naturels 43(I).

Le Bail, P. Y., P. Keith, and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane, volume 2, installment 2: Siluriformes. Publications scientifiques du Muséum national d'Histoire naturelle, Paris. Collection Patrimoines Naturels 43(2).