

***Hypostomus carinatus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013

Revised, August 2018

Web Version, 8/31/2018



Photo: Collins et al. (2015). Licensed under Creative Commons BY 4.0.

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Middle Amazon River basin [Brazil, Bolivia, Venezuela, Peru].”

Status in the United States

No records of *Hypostomus carinatus* in the wild or in trade in the United States were found.

Means of Introductions in the United States

No records of *Hypostomus carinatus* in the wild in the United States were found.

Remarks

Information searches were conducted using the names *Hypostomus carinatus* and the synonym *Watawata carinata*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Hypostomus carinatus* (Steindachner 1881) is the current valid name for this species. It was originally described as *Plecostomus carinatus* Steindachner 1881 and has been previously known as *Watawata carinata* (Steindachner 1881).

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Loricariidae
Subfamily Hypostominae
Genus *Hypostomus*
Species *Hypostomus carinatus* (Steindachner, 1881)”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 24.8 cm SL male/unsexed; [Weber 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Middle Amazon River basin [Brazil, Bolivia, Venezuela, Peru].”

Introduced

No records of introductions of *Hypostomus carinatus* were found.

Means of Introduction Outside the United States

No records of introductions of *Hypostomus carinatus* were found.

Short Description

From Collins et al. (2015):

“[...] greater than three (around eight to ten) predorsal plates limiting the posterior border of the supraoccipital; elongated caudal peduncle; caudal fin strongly emarginated; dark spots on lighter background; and lower lobe of caudal fin darker than upper lobe.”

Biology

No information on the biology of *Hypostomus carinatus* was found.

Human Uses

No information on human uses of *Hypostomus carinatus* was found.

Diseases

From Neves et al. (2016):

“[*Gorytocephalus*] *elongorchis* is an endoparasite described parasitizing Loricariidae species, such as *Hypostomus carinatus* from Amazon river system (Thatcher 1979), [...]”

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Hypostomus carinatus* were found, therefore there is no information on impacts of introductions.

4 Global Distribution

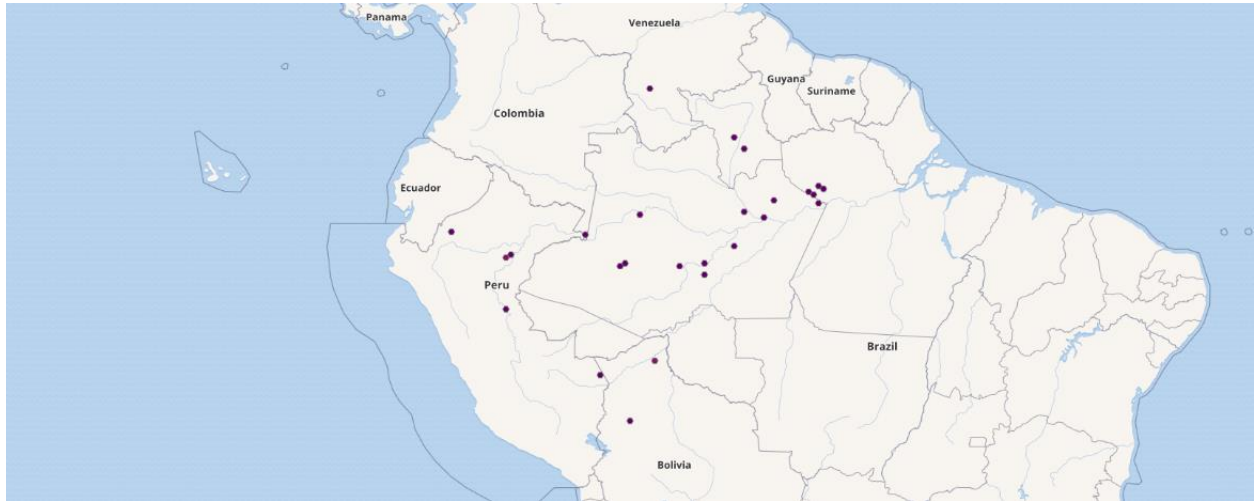


Figure 1. Known global distribution of *Hypostomus carinatus*. Locations are in Venezuela, Brazil, Peru, and Bolivia. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

No records of *Hypostomus carinatus* in the wild in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Hypostomus carinatus* was low for most of the contiguous United States. Peninsular Florida was mostly a medium match with a small area of high match in the southeast. There were also small areas of medium match along the Gulf Coast; the remainder of the contiguous United States was a low match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.004, low. The range for a low climate score is from 0.0 to 0.005, inclusive. However, Florida had a high individual Climate 6 score.

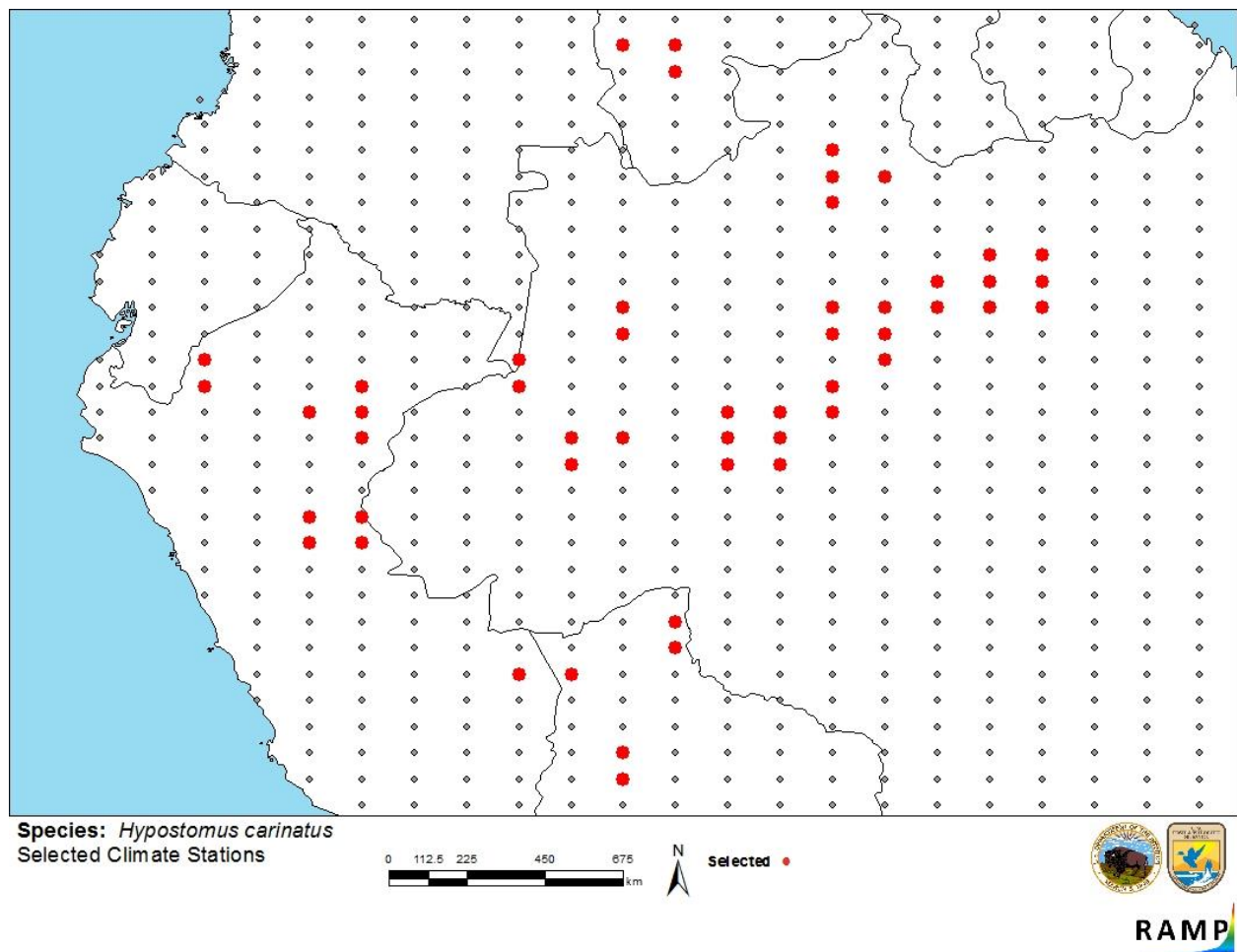


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Venezuela, Colombia, Brazil, Peru, Bolivia) and non-source locations (gray) for *Hypostomus carinatus* climate matching. Source locations from GBIF Secretariat (2018).

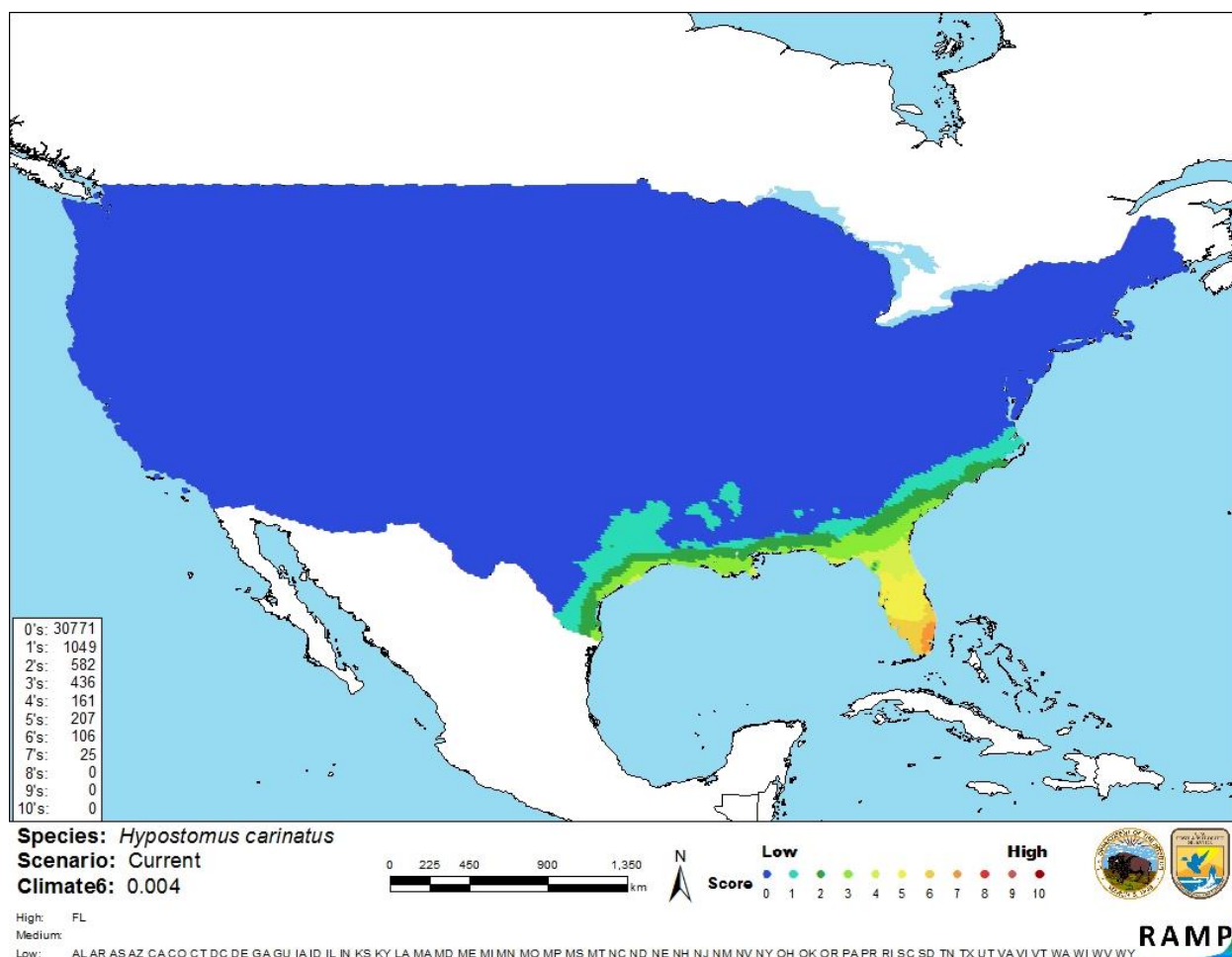


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus carinatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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

The certainty of assessment is low. There is a lack of general information about *Hypostomus carinatus*. No records of introduction were found, therefore there is no information on impacts of introduction.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus carinatus is an armored catfish native to the Amazon River basin in South America. The history of invasiveness is uncertain. No records of introductions were found, therefore there is no information on impacts of introductions to evaluate. The climate match was low, however, Florida did have a high individual climate match. The certainty of assessment is low. While the distribution of the species seems to be well documented there is very little other information available. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **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.

Collins, R. A., E. D. Ribeiro, V. N. Machado, T. Hrbek, and I. P. Farias. 2015. A preliminary inventory of the catfishes of the lower Rio Nhamundá, Brazil (Ostariophysi, Siluriformes). *Biodiversity Data Journal* 3:e4162.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. *Catalog of fishes: genera, species, references*. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (August 2018).

Froese, R., and D. Pauly, editors. 2018. *Hypostomus carinatus* (Steindachner, 1881). FishBase. Available: <http://www.fishbase.org/summary/Hypostomus-carinatus.html>. (August 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Hypostomus carinatus* (Steindachner, 1881). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5202267>. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Hypostomus carinatus* (Steindachner, 1881). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680153#null. (August 2018).

Neves, L. R., E. C. R. Braga, and M. Tavares-Dias. 2016. Diversity of parasites in *Curimata incompta* (Curimatidae), a host from Amazon River system in Brazil. *Journal of Parasitic Diseases* 40(4):1296–1300.

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. 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.

Thatcher, V. E. 1979. Uma nova espécie de *Gorytocephalus* Nickol e Thatcher, 1971 (Acanthocephala: Neoechinorhynchidae) do acari-bodo (Pisces: Loricariidae) da Amazônia, Brasil. *Acta Amazon* 9(1):199–202.

Weber, C. 2003. Loricariidae - Hypostominae (armored catfishes). Pages 351–372 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.