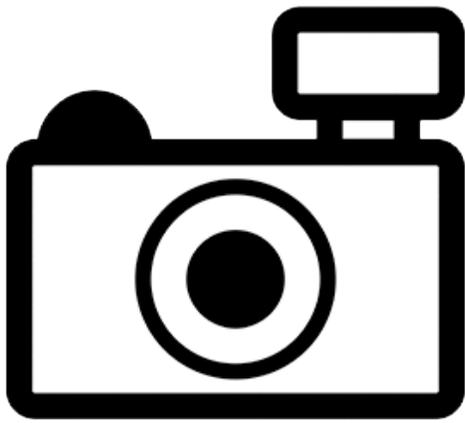


# ***Hypostomus soniae* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, March 2012  
Revised, November 2018  
Web Version, 8/13/2019



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

From Hollanda Carvalho and Weber (2005):

“*Hypostomus soniae* is only known from its type locality, in the Tapajós River, State of Pará, Brazil.”

### **Status in the United States**

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

### **Means of Introductions in the United States**

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

### **Remarks**

This species was first described to science in 2005 (Fricke et al. 2018).

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2018):

“**Current status:** Valid as *Hypostomus soniae* Hollanda Carvalho & Weber 2005.”

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* – Lacepède, 1803 – suckermouth catfishes

Species *Hypostomus soniae* Carvalho and Weber, 2005”

### Size, Weight, and Age Range

From Hollanda Carvalho and Weber (2005):

“Standard length of examined specimens 76.4 to 145.8 mm; [...]”

### Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

### Climate/Range

From Froese and Pauly (2018):

“Tropical”

## **Distribution Outside the United States**

### **Native**

From Hollanda Carvalho and Weber (2005):

“*Hypostomus soniae* is only known from its type locality, in the Tapajós River, State of Pará, Brazil.”

### **Introduced**

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

## **Means of Introduction Outside the United States**

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

## **Short Description**

From Hollanda Carvalho and Weber (2005):

“Head relatively rough, with overall shape lines very well marked, almost “geometric”, dorsally covered with dermal ossifications, except for small amorphous naked area on snout tip, as large as nostril. Profile straight to slightly convex; tip of occipital plate higher than first predorsal plate. Dorsal margin of orbit slightly elevated, weakly continuing in inconspicuous ridge on posttemporal plate and following plates. A pair of small parallel ridges between the nostrils, shorter than orbital diameter. A single plate bordering posterior margin of supraoccipital. Opercle supporting more than 10 odontodes. Outer face of upper lip covered with small odontodes, concentrated on middle and distal areas in smaller specimens. Barbells short. Numerous teeth (11 to 17) with a small outer cuspid.

Body relatively short and rough, covered with five rows of plates on each side, relatively smoother in younger specimens. Dorsal profile almost straight descending from dorsal-fin spine usually up to membrane of adipose fin. Caudal peduncle high and roughly ovoid in cross section, sometimes slightly laterally compressed. Predorsal and dorsal plates between end of dorsal fin and preadipose azygous plate flattened in their dorsal portion, those closer to the last dorsal fin rays usually not meeting at midline, leaving naked central area. Abdomen and ventral surface of head completely covered by small platelets, except areas around the urogenital opening, lower lip and fin insertions, and a small naked area in the middle of pectoral girdle; large naked areas around pelvic insertions in smaller specimens due to ontogeny.

Pectoral fin spines covered with odontodes, progressively larger as approaching distal extremity. Adipose-fin spine long and slightly curved [...]. Caudal fin concave to strongly concave. Medium sized outer rays; lower lobe longer than upper one. Dorsal fin when laid down usually reaching the preadipose plate.”

## **Biology**

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

## Human Uses

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

## Diseases

No information was found on diseases of *Hypostomus soniae*. **No records were found of OIE-reportable diseases (OIE 2019) for *H. soniae*.**

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

## 3 Impacts of Introductions

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

## 4 Global Distribution

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**Figure 1.** Map of South America showing locations where *Hypostomus soniae* has been reported. Locations are in Brazil. Map from GBIF Secretariat (2018).

## 5 Distribution Within the United States

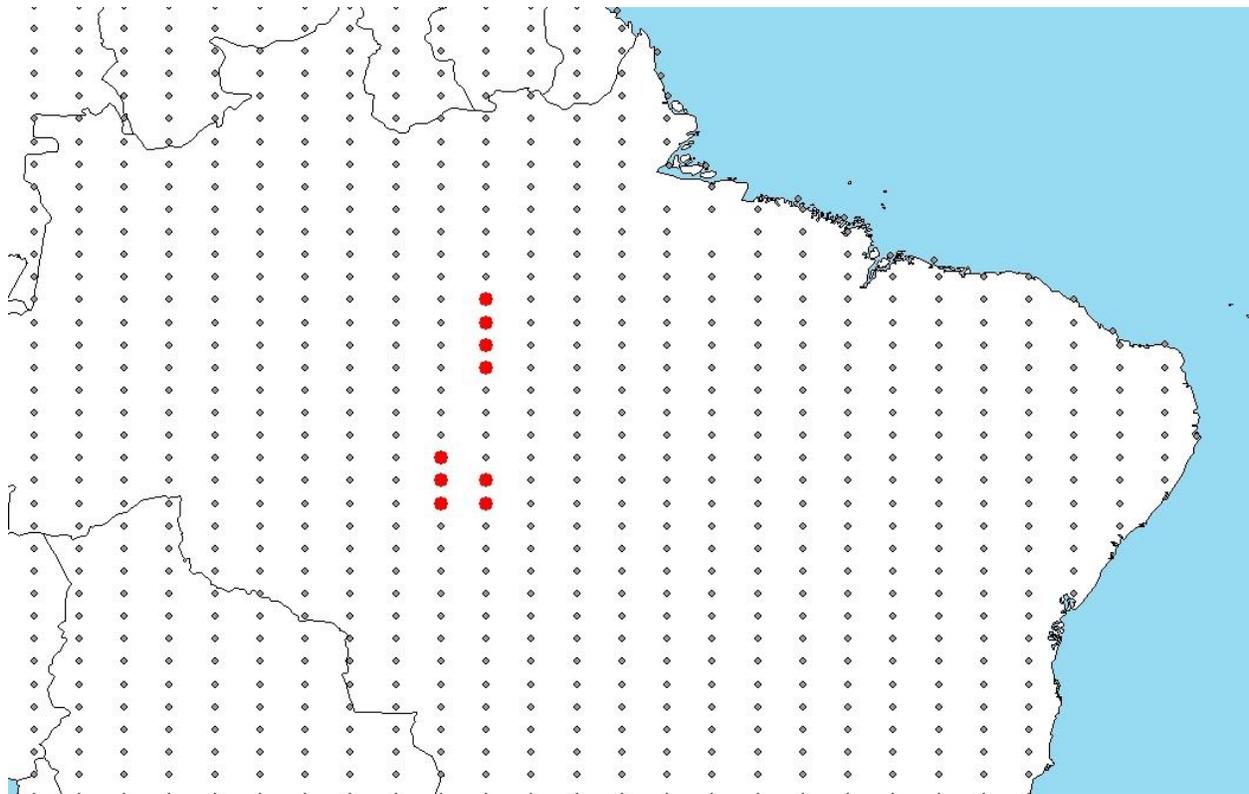
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This species has not been reported in the wild in the United States.

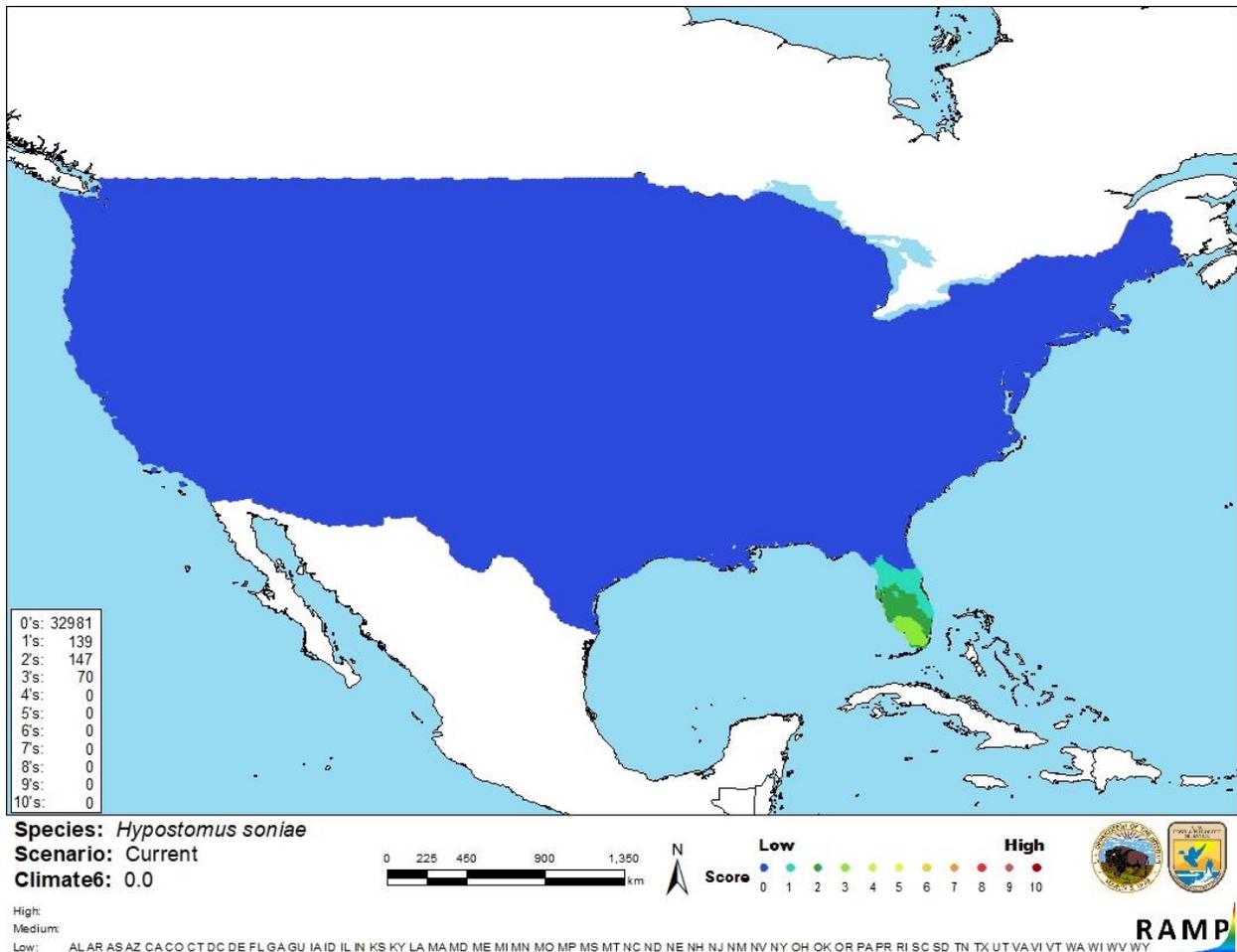
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Hypostomus soniae* was low for the entire contiguous United States. There were no areas of high or medium match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual Climate 6 scores.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Brazil) and non-source locations (gray) for *Hypostomus soniae* climate matching. Source locations are from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus soniae* in the contiguous United States based on source locations reported from 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
$\geq 0.103$	High

## 7 Certainty of Assessment

There is minimal information available for *Hypostomus soniae*. No information was found on introductions; therefore, there is no information on impacts of introduction. The certainty of assessment for *H. soniae* is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Hypostomus soniae* is a South American suckermouth catfish native to Brazil. It has not been reported as introduced or established anywhere in the world outside of its native range; therefore, there is no information on impact of introduction. The history of invasiveness is uncertain. The overall climate match for the contiguous United States was low. There were no areas of high or medium match. Due to lack of information, the certainty of assessment is low. The overall risk assessment category for *Hypostomus soniae* 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

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.**

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

Froese, R., and D. Pauly, editors. 2018. *Hypostomus soniae* Carvalho and Weber, 2005. FishBase. Available: <https://www.fishbase.de/summary/Hypostomus-soniae.html>. (November 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Hypostomus soniae* Carvalho and Weber, 2005. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5202176>. (November 2018).

Hollanda Carvalho, P., and C. Weber. 2005. Five new species of the *Hypostomus cochliodon* group (Siluriformes: Loricariidae) from the middle and lower Amazon System. *Revue Suisse de Zoologie* 111(4):953–978.

ITIS (Integrated Taxonomic Information System). 2018. *Hypostomus soniae* (Carvalho and Weber, 2005). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=680238#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680238#null). (November 2018).

OIE (World Organisation for Animal Health). 2019. OIE listed diseases, infections and infestations in Force In 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (August 2019).

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**

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**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.**

No references in this section.