

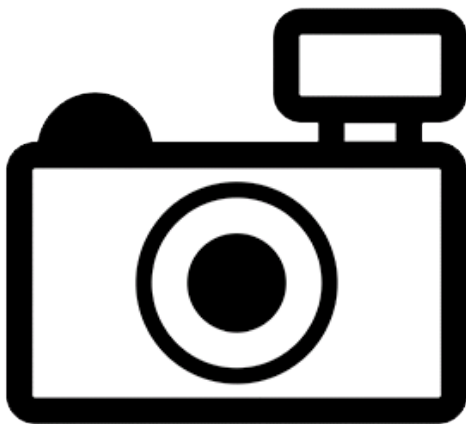
***Hypostomus auroguttatus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013

Revised, August 2018

Web Version, 8/31/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Paraíba do Sul River basin [Brazil, Uruguay].”

According to de Oliveria et al. (2003), *Hypostomus auroguttatus* is also found in the Brazilian tributaries of the Itaipu Reservoir which is on the border of Paraguay and Brazil.

According to Uehara et al. (2015), *H. auroguttatus* is also found in Pereira Passos Reservoir in southeastern Brazil.

Status in the United States

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

Means of Introductions in the United States

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

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Hypostomus auroguttatus* (Kner 1854) is the current valid and also the original name for this species.

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 auroguttatus* Kner, 1854”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 34.0 cm TL male/unsexed; [Albieri et al. 2014]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

From Uehara et al. (2015):

“[...] *Hypostomus auroguttatus* (Kner, 1858) in the Pereira Passos Reservoir can be associated with the highest conductivity (average = 108 $\mu\text{S cm}^{-1}$) and TDS (0.07 g L⁻¹) and lowest pH (5.8).”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Paraíba do Sul River basin [Brazil, Uruguay].”

According to de Oliveria et al. (2003), *Hypostomus auroguttatus* is also found in the Brazilian tributaries of the Itaipu Reservoir which is on the border of Paraguay and Brazil.

According to Uehara et al. (2015), *H. auroguttatus* is also found in Pereira Passos Reservoir in southeastern Brazil.

Introduced

No records of introduction were found for *Hypostomus auroguttatus*.

Means of Introduction Outside the United States

No records of introduction were found for *Hypostomus auroguttatus*.

Short Description

A short description of *Hypostomus auroguttatus* was not found.

Biology

From Froese and Pauly (2018):

“Found in big and rapid waters with rocky bottom.”

From Gomes et al. (2015):

“*Hypostomus auroguttatus* has an equilibrium strategy sensu Winemiller and Rose (1992) in Paraíba do Sul River characterized by a well balanced sex ratio, total spawning, low fecundity and large oocytes. According to Winemiller (1989, 2005), equilibrium-type life history strategies are associated with higher juvenile survivorship as result of greater parental investment in individual progeny.”

“GSI [gonado-somatic index] and frequency of maturity stages analyses for *H. auroguttatus* in this study suggests a spawning period from July to December.”

From de Oliveria et al. (2003):

“[...] *L. rostratus* and *H. auroguttatus* are detritivores; [...]”

Human Uses

Information on human uses of *Hypostomus auroguttatus* was not found.

Diseases

No records of OIE-reportable diseases were found for *Hypostomus auroguttatus*.

Poelen et al. (2014) lists *Gracilisentis variabilis* as a parasite of *Hypostomus auroguttatus*.

Duarte et al. (2014) lists *Pantoea* spp., *Photobacterium damsella*, *Pseudomonas aeruginosa*, *Edwardsiella tarda*, *Serratia odorifera*, *Pseudomonas fluorescens*, *Plesiomonas shigelloides*, *Aeromonas hydrophila*, and *Fusobacterium mortiferum* as intestinal bacteria of *H. auroguttatus*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution

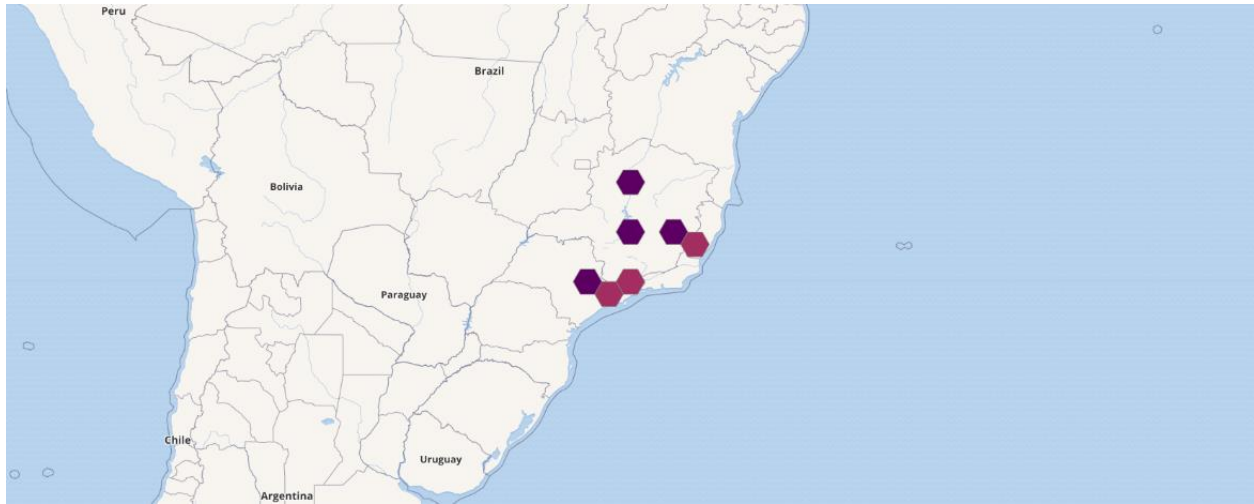


Figure 1. Known global distribution of *Hypostomus auroguttatus*. Locations are in eastern Brazil. Map from GBIF Secretariat (2018).

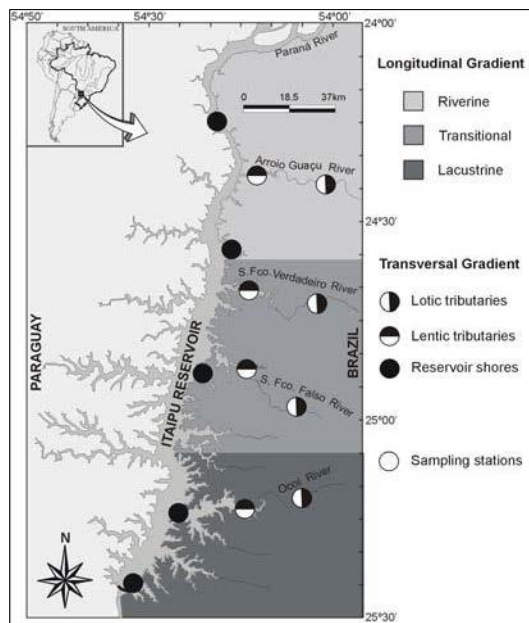


Figure 2. Additional locations in the Itaipu Reservoir and tributaries (on the border of Paraguay and Brazil). *Hypostomus auroguttatus* was collected in the lotic tributaries (circles with vertical split). Map from de Oliveria et al. (2003).

Additional known locations of *Hypostomus auroguttatus* are given in Sampaio et al. (2012), Araújo et al. (2013), Santos et al. (2013), Uehara et al. (2015), and Morado et al. (2017).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Hypostomus auroguttatus* was low for the majority of the contiguous United States. The Southeast coastal states from Virginia to Texas had a medium match with areas of high match in southern Florida and along the Gulf Coast. The remainder of the contiguous United States had a low match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.030, medium. The range for a medium climate match is between 0.005 and 0.103. The following states had high individual climate scores: Florida, Georgia, and Louisiana.

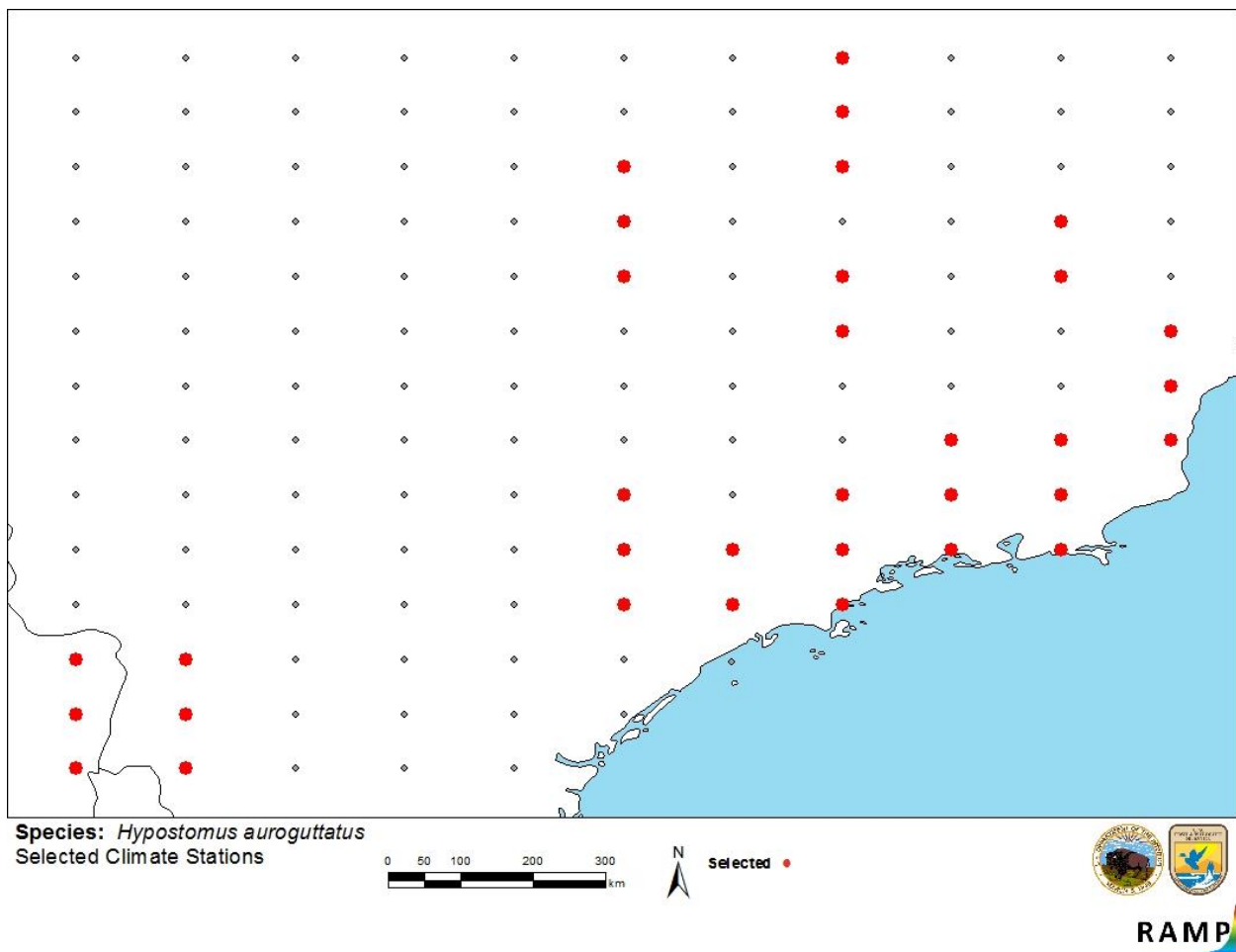


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil, Paraguay) and non-source locations (gray) for *Hypostomus auroguttatus* climate matching. Source locations from de Oliveria et al. (2003), Sampaio et al. (2012), Araújo

et al. (2013), Santos et al. (2013), Uehara et al. (2015), Morado et al. (2017), and GBIF Secretariat (2018).

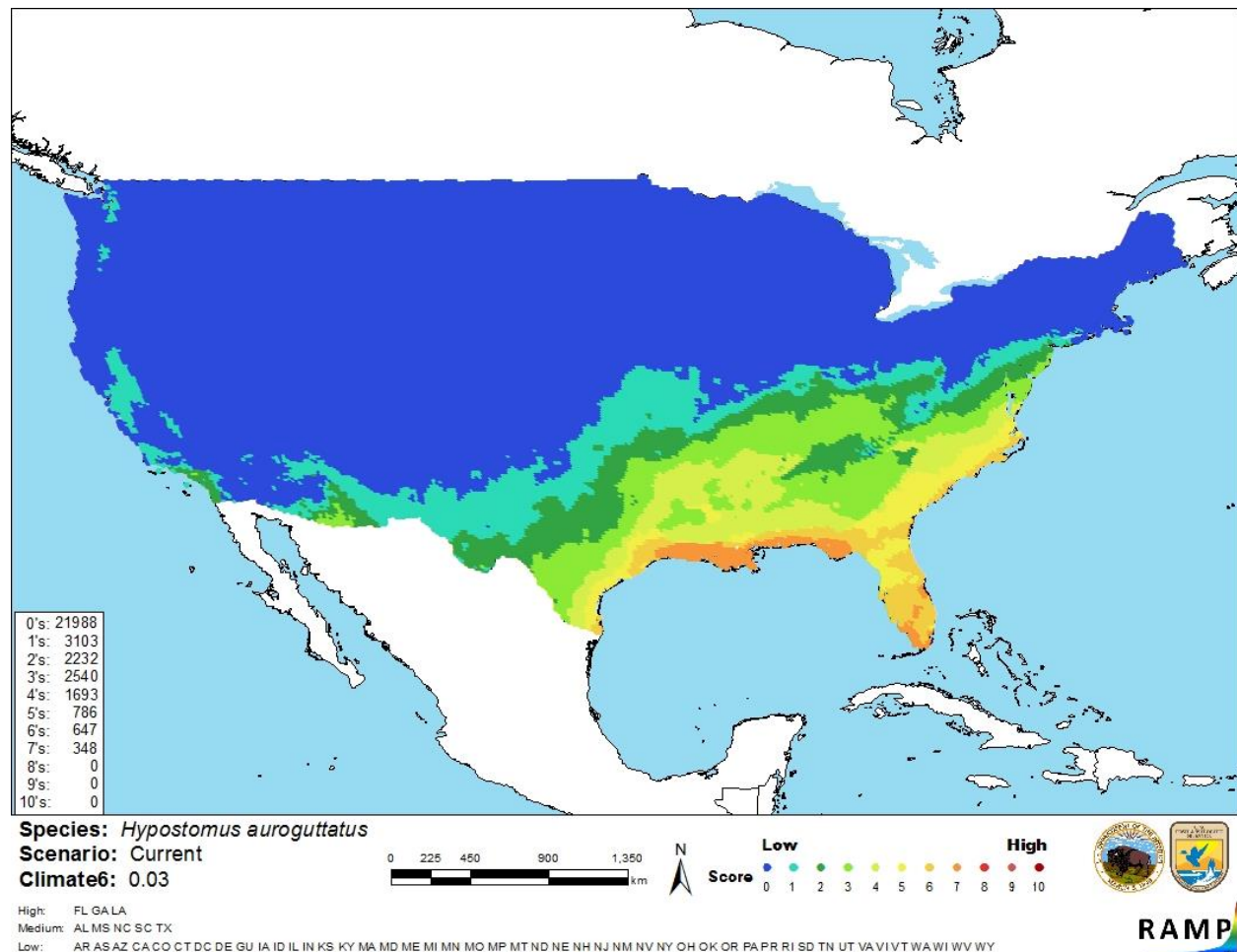


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus auroguttatus* in the contiguous United States based on source locations reported by de Oliveria et al. (2003), Sampaio et al. (2012), Araújo et al. (2013), Santos et al. (2013), Uehara et al. (2015), Morado et al. (2017), and 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 for *Hypostomus auroguttatus* is low. There is minimal information available concerning *H. auroguttatus*. No records of introductions were found, therefore there is no information on impacts of introductions.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus auroguttatus is an armored catfish native to southern Brazil. The history of invasiveness is uncertain. No records of introduction were found so there is no information on impacts of introductions. The climate match was medium. Parts of Florida and the Gulf Coast had high climate matches. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **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.

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- 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).

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- Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.
- Santos, A. B. I., R. J. Albieri, and F. G. Araújo. 2013. Seasonal response of fish assemblages to habitat fragmentation caused by an impoundment in a Neotropical river. *Environmental Biology of Fishes* 96:1377–1387.
- Uehara, W., R. J. Albieri, and F. G. Araújo. 2015. Structure of fish assemblages in seven tropical reservoirs in southern Brazil during the rainy season; what matters: physico-chemical or hydrological connectivity influences? *Journal of Applied Ichthyology* 31:1034–1042.

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.

Albieri, R. J., M. R. Costa, A. B. I. Santos, R. C. Albieri, and F. G. Araújo. 2014. Weight-length relationships of 22 fish species from the Paraíba do Sul River in Rio de Janeiro State, southeastern Brazil. *Journal of Applied Ichthyology* 30:431-433.

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