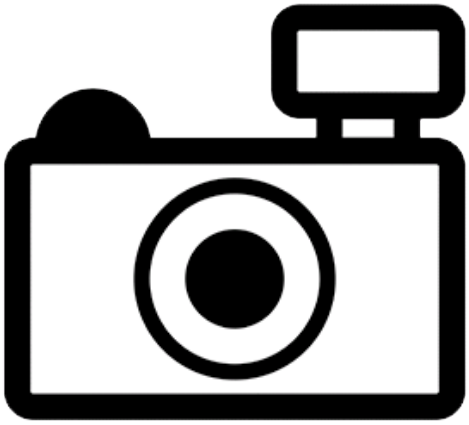
# *Hypostomus derbyi* (a catfish, no common name)

## Ecological Risk Screening Summary

**U.S. Fish & Wildlife Service, March 2013**
**Revised, August 2018**
**Web Version, 8/31/2018**



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# 1 Native Range and Status in the United States

## Native Range

From Froese and Pauly (2018):

"South America: Iguaçu River [Argentina, Brazil] and arroyo Uruga-í Creek basins [Argentina], Paraguayan tributaries of the Paraná River."

From Garavello et al. (2012):

"Distribution. Known from rio Iguaçu basin, Paraná and Santa Catarina States, Brazil. *Hypostomus derbyi* is the more widespread and abundant species of *Hypostomus* within the basin. Besides being abundant in the main channel of the rio Iguaçu it is also common in the small to medium streams of the basin. In some streams as the rio das Antas, rio das Pedras, rio dos Padres, and rio Pinhaozinho, among others, it was the sole *Hypostomus* captured."

## Status in the United States
No records of *Hypostomus derbyi* in trade or in the wild in the United States were found.

## Means of Introductions in the United States
No records of *Hypostomus derbyi* 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 derbyi* (Haseman 1911) is the current valid name of this species. *Hypostomus derbyi* was originally described as *Plecostomus derbyi* Haseman 1911.

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 derbyi* (Haseman, 1911)"

## Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 31.0 cm SL male/unsexed; [Gubiani and Horlando 2014]; max. published weight: 911.30 g [Gubiani and Horlando 2014]"

## 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: Iguaçu River [Argentina, Brazil] and arroyo Uruga-í Creek basins [Argentina], Paraguayan tributaries of the Paraná River."

From Garavello et al. (2012):

"Distribution. Known from rio Iguaçu basin, Paraná and Santa Catarina States, Brazil. *Hypostomus derbyi* is the more widespread and abundant species of *Hypostomus* within the basin. Besides being abundant in the main channel of the rio Iguaçu it is also common in the small to medium streams of the basin. In some streams as the rio das Antas, rio das Pedras, rio dos Padres, and rio Pinhaozinho, among others, it was the sole *Hypostomus* captured."

### Introduced
No records of introduction were found for *Hypostomus derbyi*.

## Means of Introduction Outside the United States
No records of introduction were found for *Hypostomus derbyi*.

## Short Description
From Garavello et al. (2012):

"Ground color uniformly brown with mid-sized and moderately densely distributed dark spots (approximately equal in size to eye diameter) on dorsal region of head, trunk, and fins. Usually one pre-dorsal plate bordering supraoccipital […] *Hypostomus derbyi*"

## Biology
From Loureiro-Crippa and Hahn (2006):

"The detritivorous group, one with highest biomass, represented almost exclusively by *H. derbyi*, is due to its previous abundance in the river, average size and body covered by plates."

## Human Uses
No information on human uses of *Hypostomus derbyi* was found.

## Diseases

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

Poelen et al. (2014) lists *Raphidascaris hypostomi* and *Sprentascari hypostomi* as parasites of *Hypostomus derbyi.*

## Threat to Humans

From Froese and Pauly (2018):

"Harmless"

# 3 Impacts of Introductions

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

# 4 Global Distribution


**Figure 1**. Known global distribution in South America of *Hypostomus derbyi*. Locations are in Paraguay and Brazil. Map from GBIF Secretariat (2018).

Georeferenced locations were not available for populations in Argentina.

# 5 Distribution Within the United States

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

# 6 Climate Matching

## Summary of Climate Matching Analysis

The climate match for *Hypostomus derbyi* was medium for the southeastern United States from New Jersey to Texas, with patches of high match along the southern Atlantic Coast and 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 0.023, medium. The range for a medium climate score is between 0.005 and 0.103. Alabama, Florida, Louisiana, and Mississippi all had high individual climate scores.

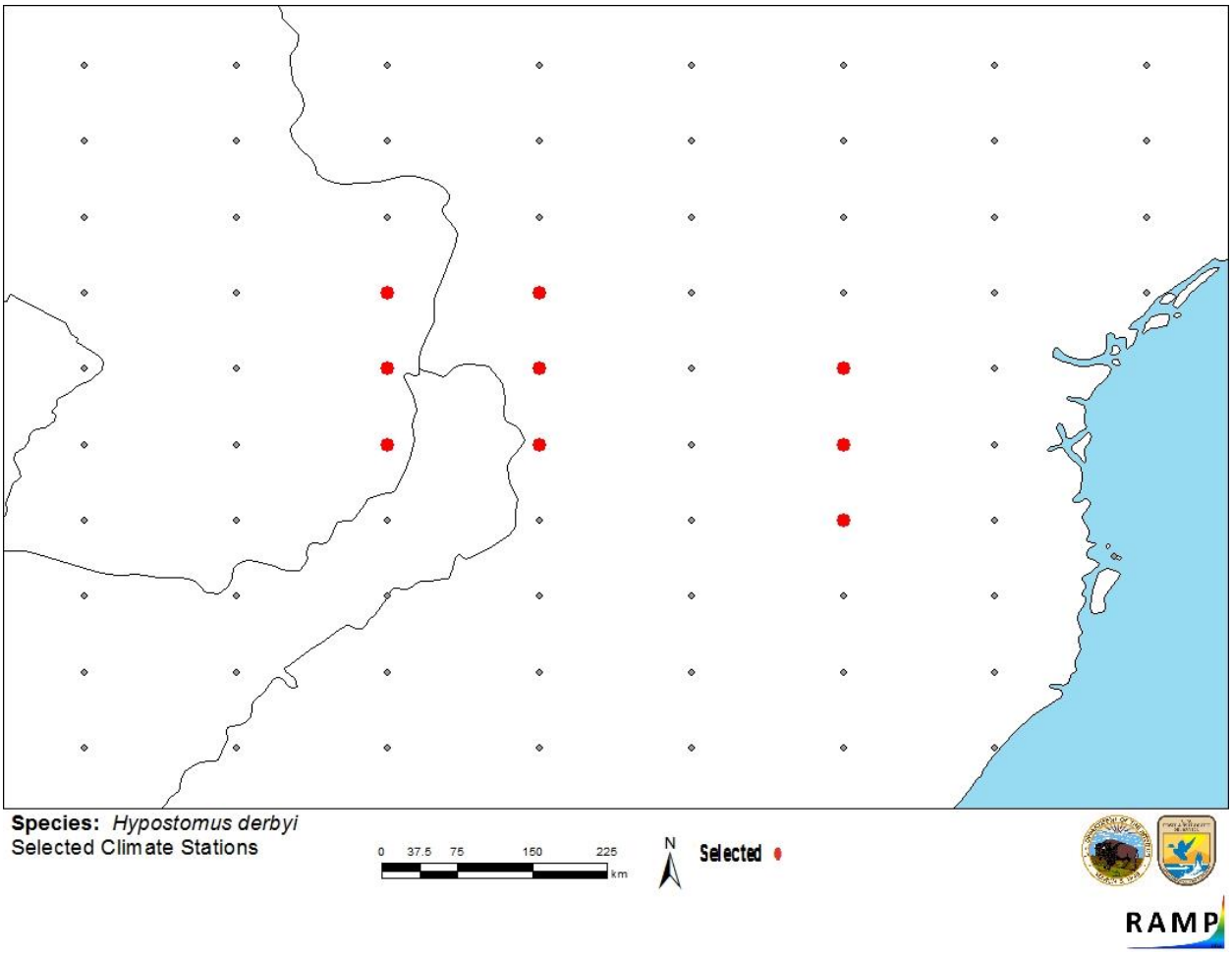


**Figure 2**. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Brazil, Paraguay) and non-source locations (gray) for *Hypostomus derbyi* climate matching. Source locations from GBIF Secretariat (2018).

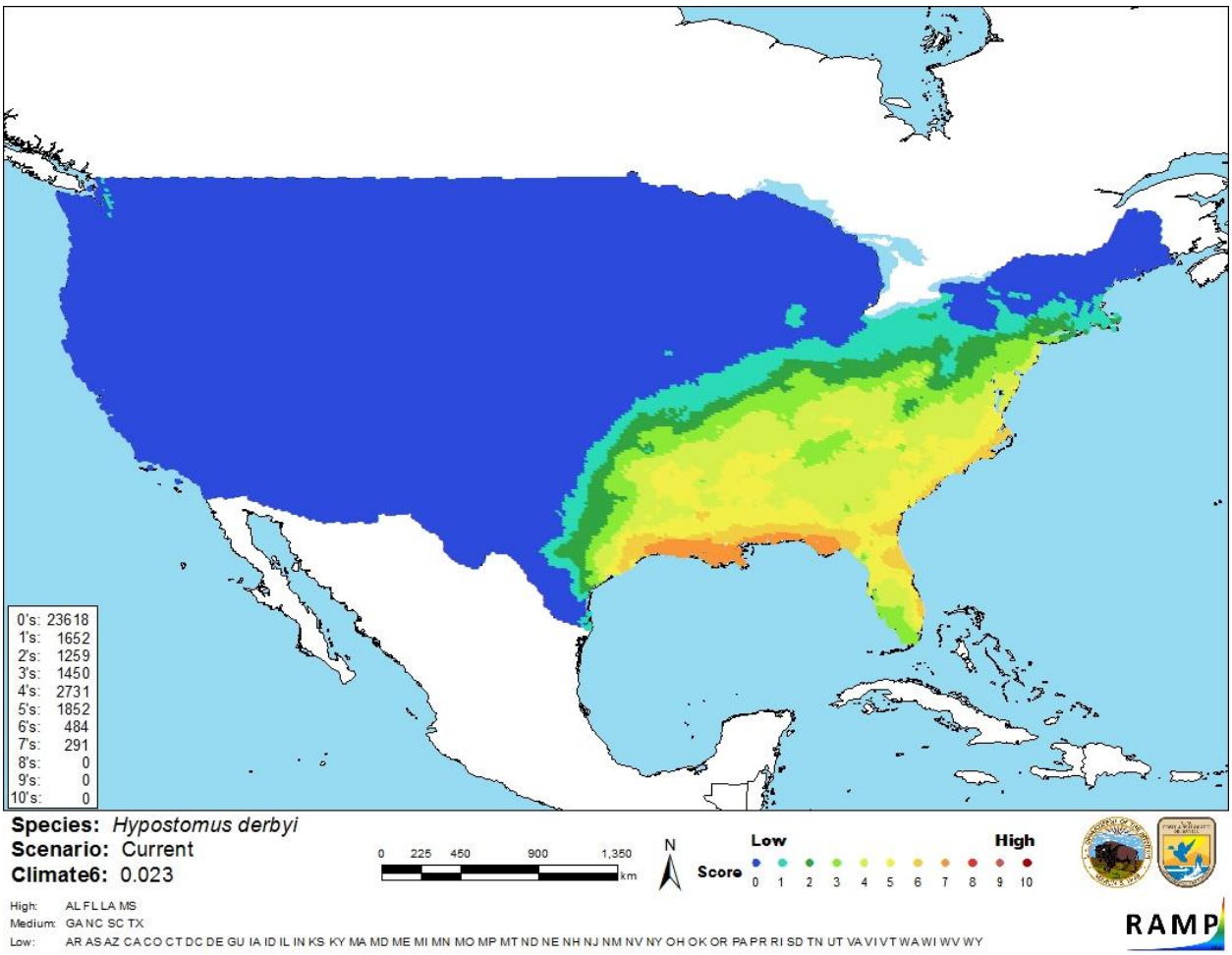


**Figure 3**. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus derbyi* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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≤X≤0.005 | Low |
| 0.005<X<0.103 | Medium |
| ≥0.103 | High |

# 7 Certainty of Assessment

The certainty of assessment is low. There was minimal biological information available for this species. There were no records of introductions found, so there was no information on impacts of introduction to evaluate.

# 8 Risk Assessment

## Summary of Risk to the Contiguous United States

*Hypostomus derbyi* is a member of the suckermouth armored catfish family (Loricariidae), native to South America. The history of invasiveness is uncertain. No records of introductions were found. The climate match was medium for the contiguous United States. Alabama, Florida, Louisiana, and Mississippi had high individual climate scores, with the highest match in coastal areas. 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.**


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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Garvello, J. C., H. A. Britski, and C. H. Zawadzki. 2012. The cascudos of the genus *Hypostomus* Lacépède (Ostariophysi: Loricariidae) from the rio Iguaçu basin. Neotropical Ichthyology 10(2):263–283.

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Hypostomus derbyi* (Haseman, 1911). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/5202173. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Hypostomus derbyi* (Haseman, 1911). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680162#null. (August 2018).

Loureiro-Crippa, V., and N. S. Hahn. 2006. Use of food resources by the fish fauna of a small reservoir (rio Jordão, Brazil) before and shortly after its filling. Neotropical Ichthyology 4(3):357–362.

Poelen, J. H., J. D. Simons, and C. J. Mungall. 2014. Global Biotic Interactions: an open infrastructure to share and analyze species-interaction datasets. Ecological Informatics 24:148–159.

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.**

Gubiani, E. A., and S. da S. Horlando. 2014. Length-weight and length-length relationships and length at first maturity for freshwater fish species of the Salto Santiago Reservoir, Iguaçu River Basin, Brazil. Journal of Applied Ichthyology 30:1087–1091.

Haseman, J. D. 1911. Some new species of fishes from the Rio Iguassú. Annals of the Carnegie Museum 7(19):374–387.