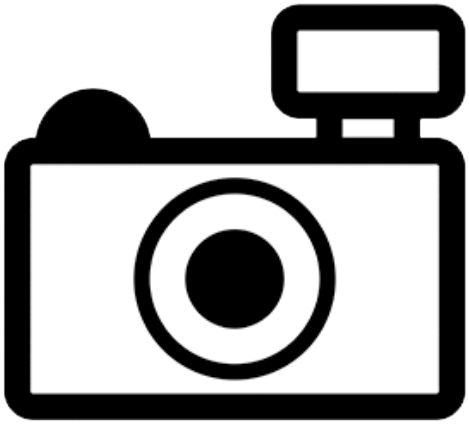
Hypostomus argus (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013
Revised, August 2018
Web Version, 9/11/2018



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2011):

"South America: Upper Meta River basin [Colombia, Venezuela]."

Status in the United States

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

Means of Introductions in the United States

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

Remarks

From Nico et al. (2013):

"Highlighting the serious need for additional taxonomic and systematic work, Armbruster (1997) concluded that it is currently impossible to identify most species in the genus. Several apparently

different *Hypostomus* species have been collected in the United States but not definitively identified to species level (Page and Burr 1991; Courtenay and Stauffer 1990)."

"Members of this genus have been introduced through a combination of fish farm escapes or releases, and aquarium releases (Courtenay and Stauffer 1990; Courtenay and Williams 1992). In Texas, the initial introduction occurred when *Hypostomus* entered local streams after escaping from pool and canal systems of the San Antonio Zoological Gardens in or before 1962 (Barron 1964)"

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Hypostomus argus* (Fowler 1943) is the current valid name for this species. *Hypostomus argus* was originally described as *Plecostomus argus* (Fowler 1943).

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 argus* (Fowler, 1943)"

Size, Weight, and Age Range

From Froese and Pauly (2011):

"Max length: 11.6 cm SL male/unsexed; [Weber 2003]"

Environment

From Froese and Pauly (2011):

"Freshwater; demersal."

Climate/Range
From Froese and Pauly (2011):

"Tropical"

Distribution Outside the United States
Native
From Froese and Pauly (2011):

"South America: Upper Meta River basin [Colombia, Venezuela]."

Introduced
No records of introduction anywhere in the world were found for *Hypostomus argus*.

Means of Introduction Outside the United States
No records of introduction anywhere in the world were found for *Hypostomus argus*.

Short Description
No information available.

Biology
From Santana et al. (2006):

"The following catfishes were also found […] hiding during the day in the piles of logs and branches: […] *Hypostomus argus* […]. The habitat was a near shore area full of submerged tree trunks and branches over a substrate of sand or clay covered with leaf litter […]. Water depth ranged from 0.5 to 1.5 m. The white water Rio Apure carries a heavy sediment load and had a current velocity of 0.1 $m \cdot s^{-1}$. During the collecting season, water temperature ranged from 27.5-29.0 °C, with an average of 28.8 ± 0.4 °C, dissolved oxygen averaged 7.4 ± 1.08 ppm (6.3-9.8), pH averaged 8.3 ± 0.3 (7.8-8.5), total hardness was 56.9 ± 12.5 ppm $CaCO_3$ (range 39.4-71.6), and Secchi disc transparency 29 ± 10 cm (range 15-40)."

From González et al. (2009):

"The presence of *H. argus* in RO [rocky outcrop], however, might be due to the lithophilous conduct of this species."

"While, for Los Cardonales *H. argus* and *H. malabaricus* [were most commonly found] in LZFT [littoral zone with fallen trunks]; […]"

Human Uses
No record of human uses of *Hypostomus argus* could be found.

Diseases
No records of diseases, pathogens or parasites of *Hypostomus argus* could be found.

Threat to Humans
From Froese and Pauly (2011):

"Harmless"

3 Impacts of Introductions

No records of introduction or impacts anywhere in the world were found for *Hypostomus argus*.

4 Global Distribution

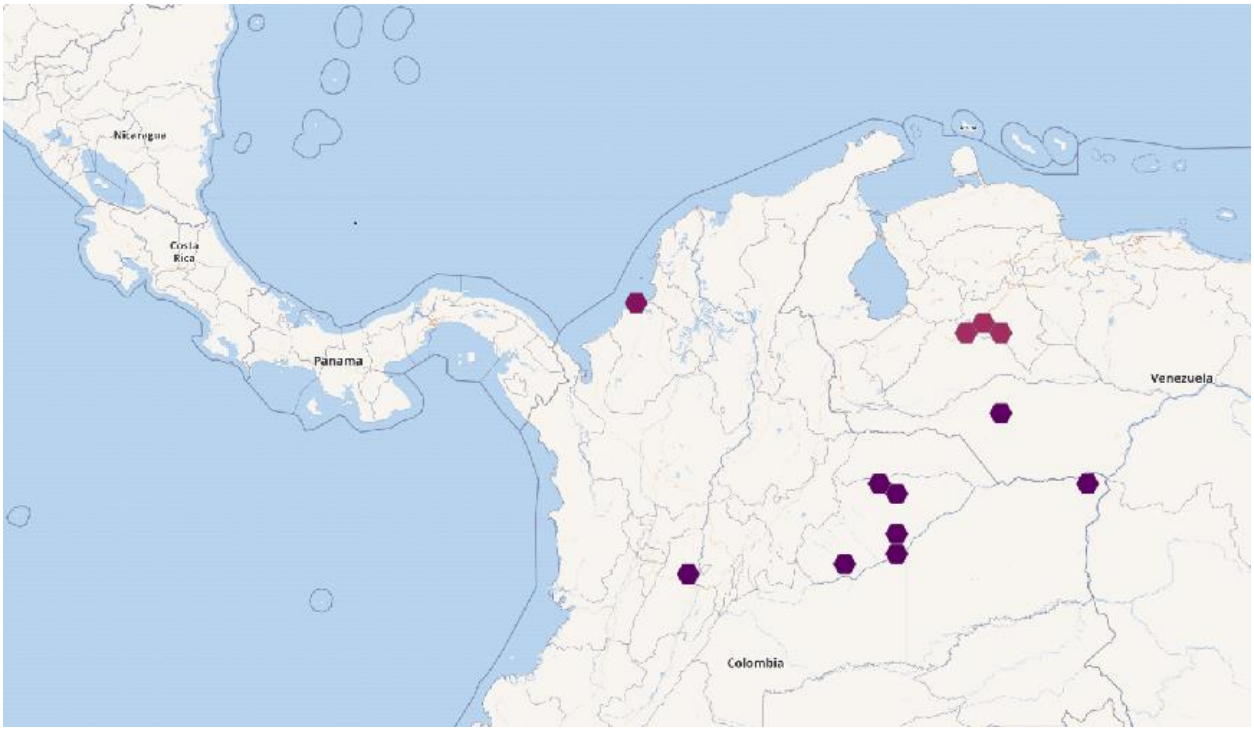


Figure 1. Known global distribution of *Hypostomus argus*. Locations are in Colombia and Venezuela. Map from GBIF Secretariat (2018).

The location on the coast of Colombia was not used as a source point for the climate match. The record indicates that the specimens were identified as *H. argus* (GBIF Secretariat 2018) but there is no information corroborating an established population of the species at this location which is outside of the Meta River basin.

5 Distribution Within the United States

No records of *Hypostomus argus* within the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for *Hypostomus argus* for the contiguous United States was 0.000, low. All States had low individual climate scores. States on the Gulf Coast and a small portion of the West Coast show a slightly higher climate match than the rest of the contiguous United States.

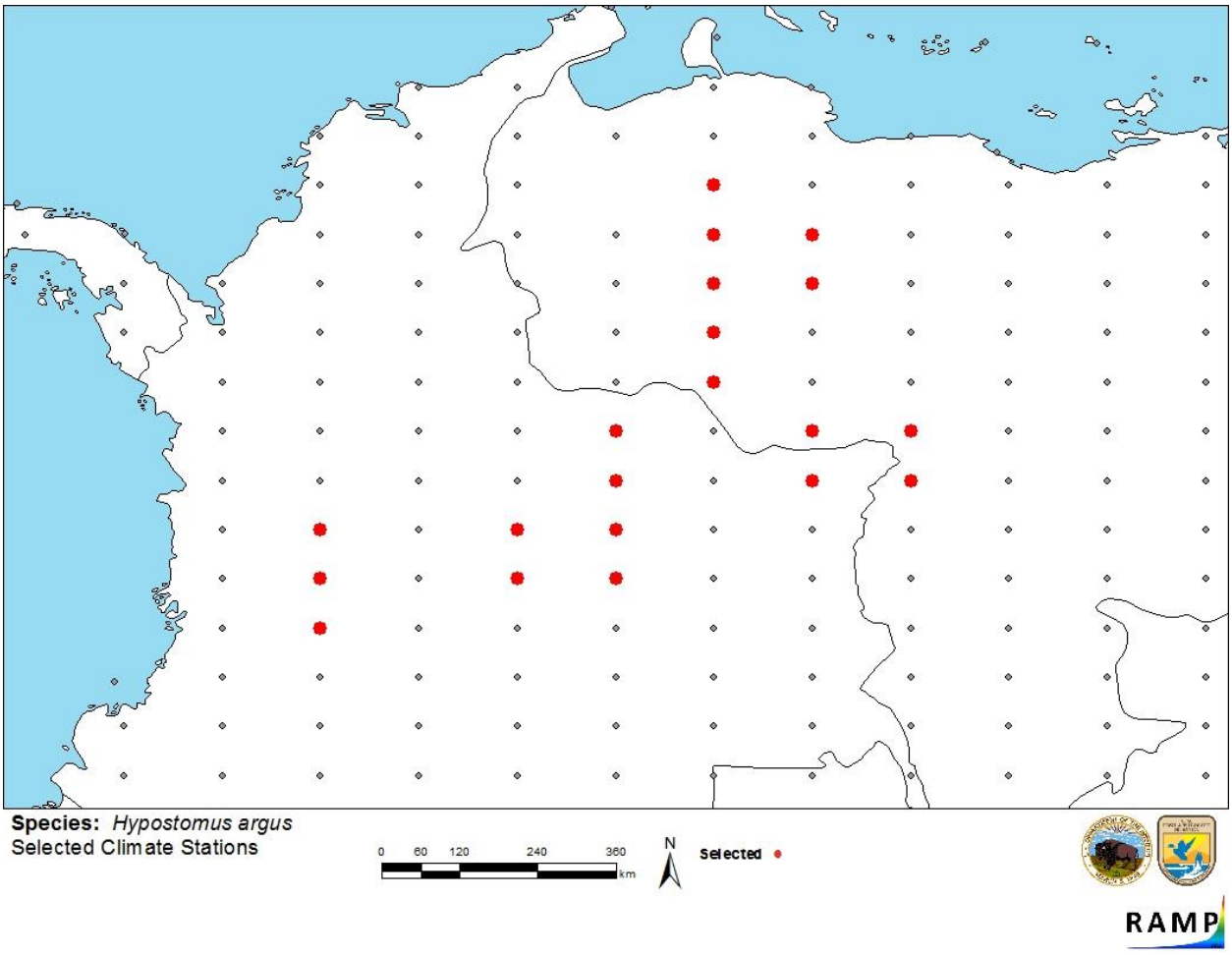


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Colombia and Venezuela selected as source locations (red) and non-source locations (gray) for *Hypostomus argus* climate matching. Source locations from GBIF Secretariat (2018).

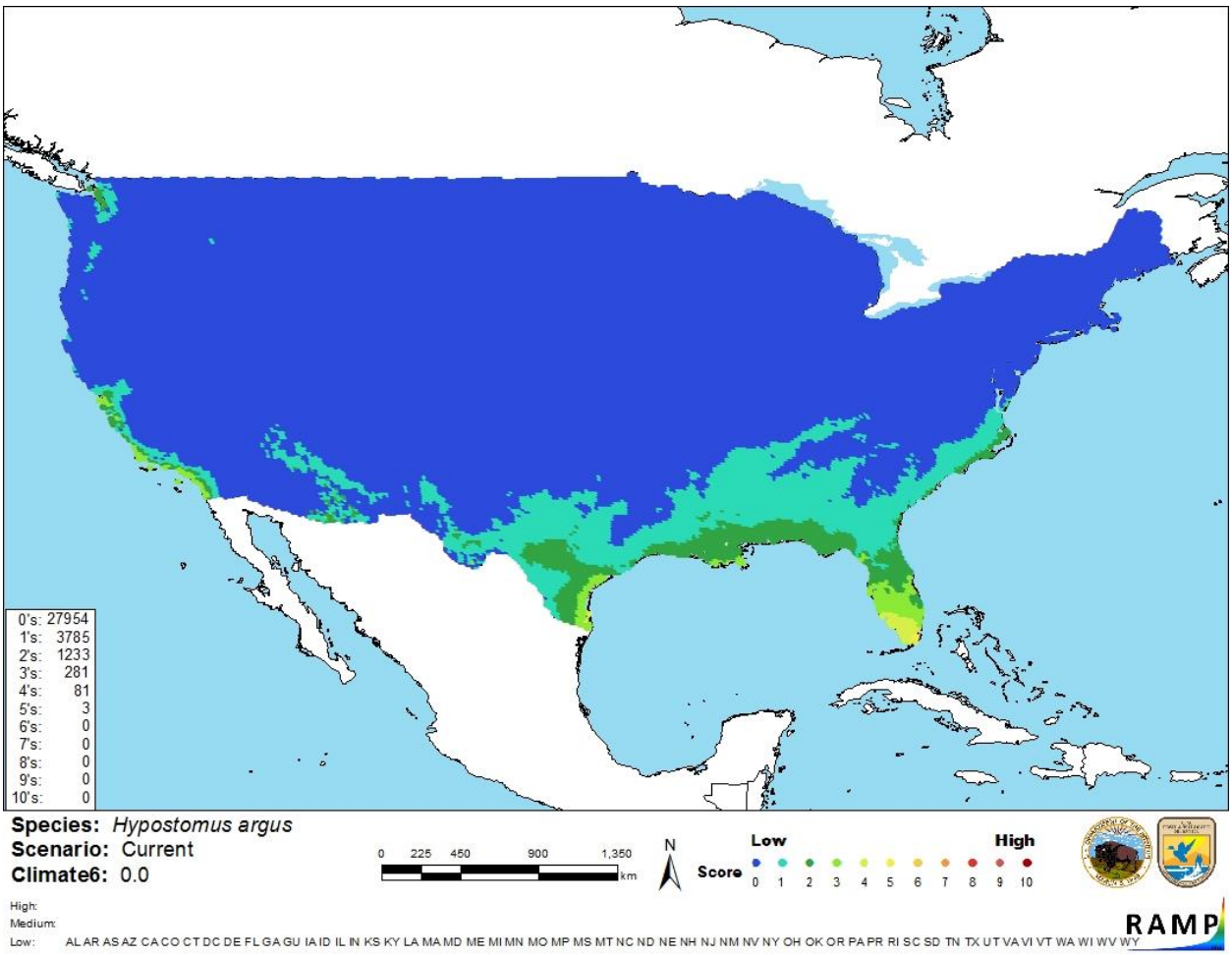


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus argus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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 this assessment is low. There is a lack of peer-reviewed literature and very little information is available for *Hypostomus argus.* More data is needed to properly assess the risk of this species.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus argus is an armored catfish native to river drainages in Colombia and Venezuela. No records could be found on the invasiveness of *H. argus*, so the history of invasiveness is uncertain. The climate match was low for *H. argus* across the contiguous United States. The certainty of assessment for *H. argus* is low due to the lack of available information. The overall risk assessment category for *H. argus* 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: None.**
- **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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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.

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López-Fernández, H., and K. O. Winemiller. 2005. Status of *Dionda diaboli* and report of established populations of exotic fish species in lower San Felipe Creek, Val Verde County, Texas. Southwestern Naturalist 50(2):246–251.

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