

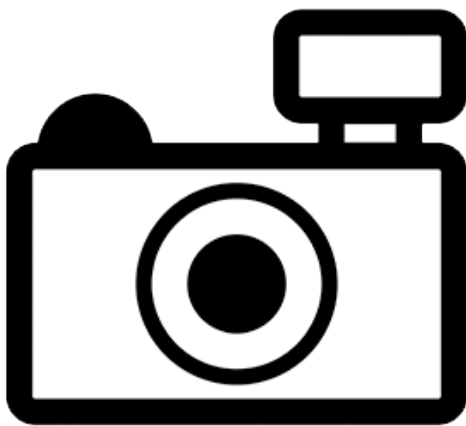
***Hypostomus boulengeri* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013

Revised, August 2018

Web Version, 9/13/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Paraguay River basin [Argentina, Brazil, Paraguay].”

From Alonso et al. (2016):

“*Hypostomus boulengeri* (Eigenmann and Kennedy, 1903) is a poorly known species recorded from the Paraguay and Paraná River basins. In this work we report the occurrence of this species in the Bermejo River basin [Argentina] for the first time, representing a distribution range extension of more than 600 km.”

Status in the United States

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

Means of Introductions in the United States

No records of *Hypostomus boulengeri* in trade or 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 boulengeri* (Eigenmann and Kennedy 1903) is the current valid name of this species. *Hypostomus boulengeri* was originally described as *Plecostomus boulengeri* Eigenmann and Kennedy 1903.

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 boulengeri* (Eigenmann and Kennedy, 1903)”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 24.5 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: Paraguay River basin [Argentina, Brazil, Paraguay].”

From Alonso et al. (2016):

“*Hypostomus boulengeri* (Eigenmann and Kennedy, 1903) is a poorly known species recorded from the Paraguay and Paraná River basins. In this work we report the occurrence of this species in the Bermejo River basin [Argentina] for the first time, representing a distribution range extension of more than 600 km.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Cardoso et al. (2016):

“*Hypostomus boulengeri* is distinguished from species of the *Hypostomus cochliodon* species group by having bicuspid teeth (vs. unicuspid spoon-shaped teeth). The color pattern of *H. boulengeri* (dark roundish dots on a lighter background) differentiates [*sic*] this species from species that have dorsum dark grey/brown covered by numerous rounded creamy dots. *Hypostomus boulengeri* is distinguished from the rest of its congeners, with the exception of *H. piratatu* and *H. formosae*, by the combination of high values for mandibular ramus length (9-16 % HL), orbital diameter (13-20 % HL), upper caudal-fin ray length (24.9-42.8 % SL) and lower values for caudal-fin ray length (26.1-46.4 % SL), and by having 25-26 plates in the median plates series. *Hypostomus boulengeri* can be distinguished from *H. piratatu* by the shape of teeth (short vs. long crown) and from *H. formosae* by having the snout tip with a naked zone (vs. completely covered with minute plates) [...] and more premaxillar and dentary teeth (16-33 vs. 13-28 and 15-33 vs. 10-25, respectively).”

“Dorsal profile slightly straight from snout tip to inter-orbital area. Dorsal plates between end of dorsal-fin and adipose-fin spine flattened. Body width at cleithral region greater than head depth. Head covered dorsally with plates, except for naked area on snout tip. Mouth rounded, lower lip not reaching transversal through gill openings, ventral surface covered with numerous small

papillae. Premaxillary teeth 17-32, dentary teeth 15-33. Median plates series 25-26. Number of plates along dorsal fin base 7-9, plates between adipose fin and caudal fin 4-6, plates between anal fin and caudal fin 13-15. Dorsal-fin: rays II,7; margin straight. Adipose-fin spine curved inward. Pectoral-fin: rays I,6; posterior border straight. Pectoral-fin spine slightly curved inward. Pelvic-fin: rays i,5; posterior border slightly curved. Pelvic-fin spine just surpassing anal-fin origin when depressed. Anal-fin: rays i,4; tip reaching seventh plate after its origin. Anal-fin rays progressively increasing in size, third branched ray usually longest. Caudal-fin rays i,14,i.”

Biology

From Cardoso et al. (2016):

“Ecological notes. Based on the collecting locality of sample MACN Ict 9723. These specimens were found in the margin of the large Paraguay River. The bottom of the river is made of sand and pebbles. The surface of the water was covered by vegetation. The specimens were found in well oxygenated waters ($4.97 \text{ mg}\cdot\text{l}^{-1}$) with slow current. Water turbidity was 193 N.T.U. Conductivity was $163.3 \text{ }\mu\text{S}\cdot\text{cm}^{-1}$. The pH was 6.9. We do not have ecological information for the others specimens.”

Human Uses

No information on the human uses of *Hypostomus boulengeri* were found.

Diseases

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

Poelen et al. (2014) lists *Crassicutis intermedius* as a parasite of *Hypostomus boulengeri*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution



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

Additional observation of *Hypostomus boulengeri* occurrences in Argentina are documented in Alonso et al. (2016).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Hypostomus boulengeri* with the contiguous United States was medium for majority of the Mid-Atlantic and Southeast from New Jersey to Texas and southern Arizona. However, there was a high match in most of Florida and along the Gulf Coast from Florida to Texas. The Northern States and most of the West had a low match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.077, medium. States in the west coast and northeast had low climate scores. Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas all had high individual climate scores.

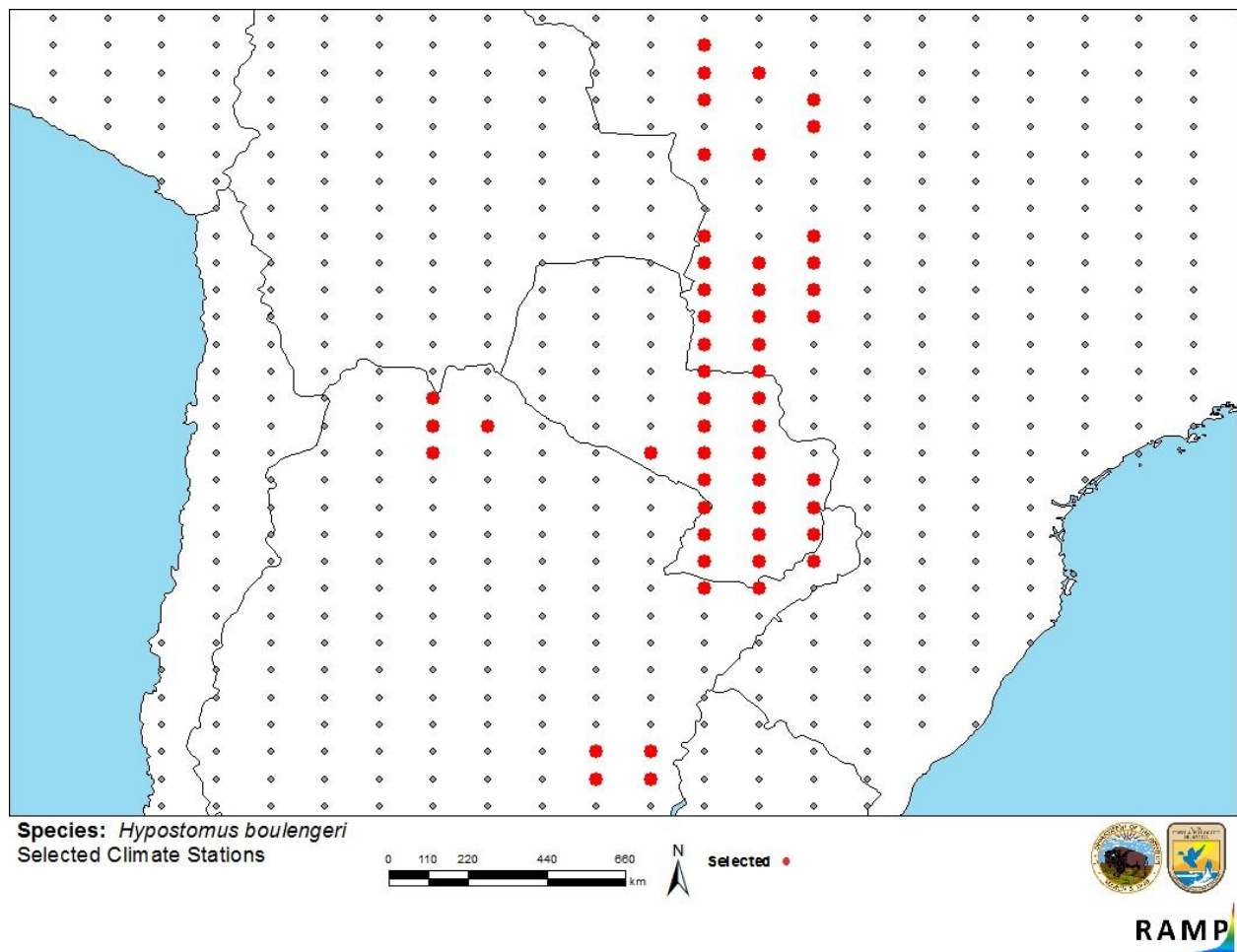


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in central South America selected as source locations (red; Brazil, Paraguay, Argentina) and non-source locations (gray) for *Hypostomus boulengeri* climate matching. Source locations from Alonso et al. (2016) and GBIF Secretariat (2018).

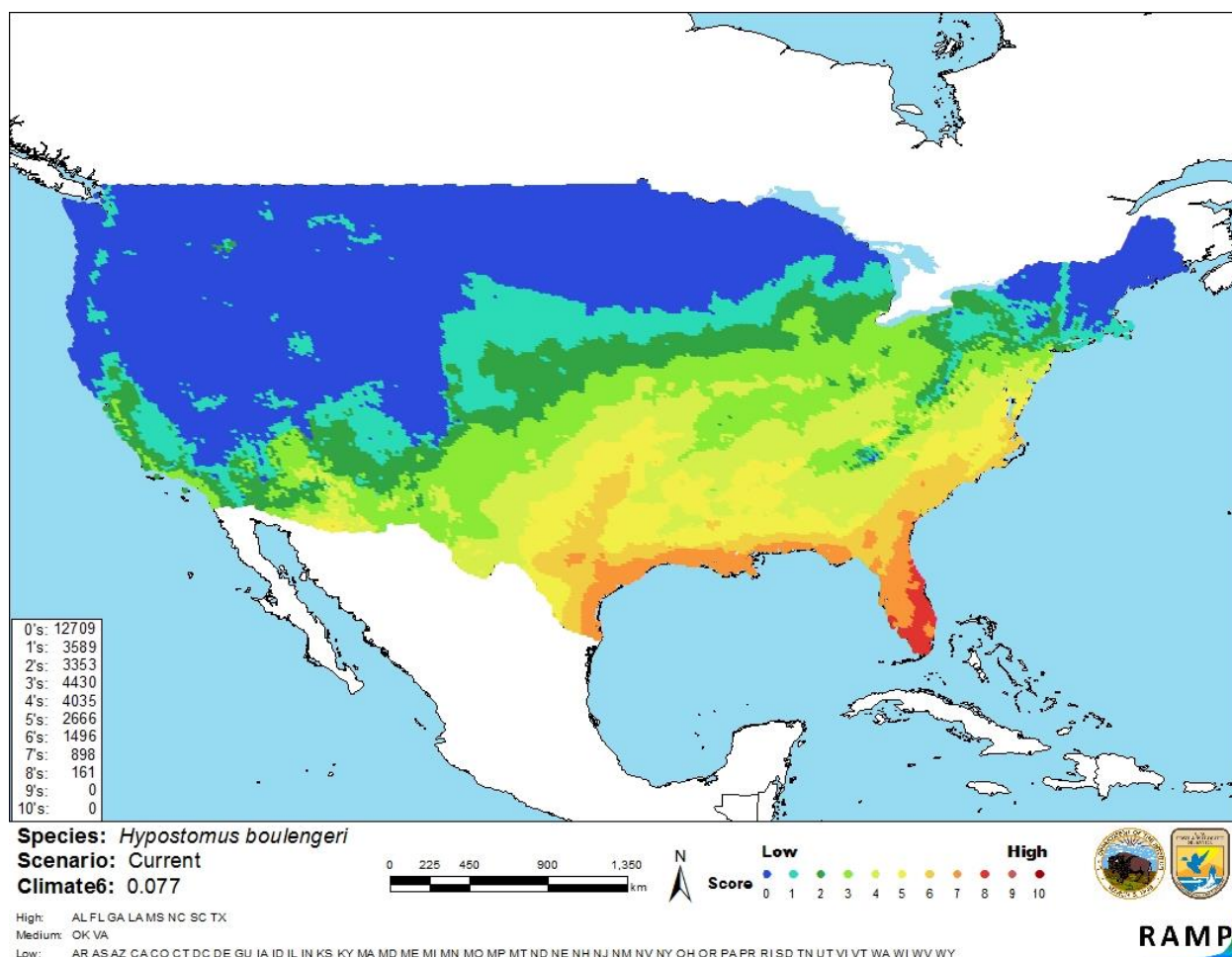


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus Boulengeri* in the contiguous United States based on source locations reported by Alonso et al. (2016) and GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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 is low. Limited life history and ecological information is available for *Hypostomus Boulengeri*. There were no records of introduction found so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus boulengeri is a suckermouth catfish native to the Paraguay, Paraná, and Bermejo Rivers in central South America. The history of invasiveness is uncertain because no records of introductions were found. Therefore, there is no information on impacts of introduction.

H. boulengeri had a medium climate match with the contiguous United States. There was a high match in Florida and along the Gulf Coast. 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.

Alonso, F., G. E. Teran, G. Aguilera, and J. M. Mirande. 2016. First record of *Hypostomus boulengeri* (Siluriformes: Loricariidae) from Bermejo River basin. *Revista del Museo Argentino de Ciencias Naturales* 18(1):85–88.

Cardoso, Y. P., F. Brancolini, A. Paracampo, M. Lizarralde, R. Covain, and J. I. Montoya-Burgos. 2016. *Hypostomus formosae*, a new catfish species from the Paraguay River Basin with redescription of *H. boulengeri* (Siluriformes: Loricariidae). *Ichthyological Explorations of Freshwaters* 27(1):9–23.

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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.

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Eigenmann, C. H., and C. H. Kennedy. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. *Proceedings of the Academy of Natural Sciences of Philadelphia* 55:497–537.

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.