

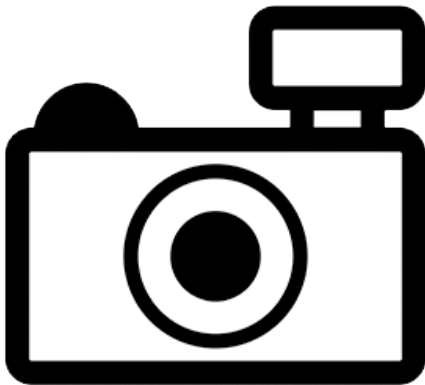
***Hypostomus plecostomoides* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, January 2013

Revised, October 2018

Web Version, 7/17/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Fricke et al. (2018):

“Amazon and Orinoco river basins: Colombia and Venezuela [...]”

Status in the United States

This species has not been reported as introduced or established in the United States. However, unidentified members of the genus are established in the United States.

From Nico et al. (2018):

“Several morphologically distinct but unidentified *Hypostomus* species have been recorded as established in the United States: these included populations in Indian Springs in Nevada; Hillsborough County in Florida; and the San Antonio River and San Felipe Creek in Texas (Courtenay and Deacon 1982; Courtenay et al. 1984, 1986; Courtenay and Stauffer 1990; Page and Burr 1991; López-Fernández and Winemiller 2005). A population of an unidentified

Hypostomus species is firmly established in Hawaii (Devick 1991a, b). Reported from Arizona, Colorado, Connecticut, Louisiana, and Pennsylvania. Failed in Connecticut, Massachusetts, and Pennsylvania.”

This species was not found for sale from U.S.-based online aquarium retailers and it does not appear to be in trade in the United States.

Means of Introductions in the United States

This species has not been reported as introduced or established in the United States. However, unidentified members of the genus are established in the United States.

From Nico et al. (2018):

“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); the Comal County introduction was probably due to an aquarium release (Whiteside and Berkhouse 1992).”

Remarks

From Nico et al. (2018):

“The genus *Hypostomus* contains about 116 species (Burgess 1989). 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). Distinguishing characteristics of the genus and a key to loricariid genera were provided by Burgess (1989) and Armbruster (1997). Photographs appeared in Burgess (1989) and Ferraris (1991). *Hypostomus* has officially replaced the generic name *Plecostomus*. The genus was included in the key to Texas fishes of Hubbs et al. (1991) and several identifying traits were also given by Page and Burr (1991).”

According to Fricke et al. (2018), the original name of this species was *Cochliodon plecostomoides*. Information searches for this report were conducted using both the original name and the currently accepted scientific name.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

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 plecostomoides* (Eigenmann, 1922)”

“Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 25.6 cm TL male/unsexed; [Weber 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Fricke et al. (2018):

“Amazon and Orinoco river basins: Colombia and Venezuela [...]”

Introduced

Fricke et al. (2018) write that *H. plecostomoides* has been “introduced elsewhere,” but they provide no further details. No other information on introductions was available.

Means of Introduction Outside the United States

No information available.

Short Description

From Armbruster (2003):

“*Hypostomus plecostomoides* is the most difficult species of the *H. cochliodon* group to identify as it is without any known synapomorphies.”

“*Hypostomus plecostomoides* is variable in coloration. Typically, body almost entirely dark brown with medium to large spots usually present. [...] Abdomen colored as sides, sometimes slightly lighter; adults almost always with welldeveloped spots on abdomen. Color in juveniles as in adults, but spots comparatively larger and abdomen generally white and unspotted.”

“Dorsal fin short, rarely reaching preadipose plate when depressed. Depressed pectoral fin spine ventral to pelvic fin reaches 2-3 plates beyond pelvic-fin rays (only one specimen reached just to posterior edge of pelvic fin). Tip of pectoral-fin spine of nuptial males with stout, recurved, hypertrophied odontodes.”

“Keels weak to moderately developed. Orbits forming moderate ridge slightly raised above medial surface of head; ridges of dorsal and lateral aspect of head fairly well-developed. Longitudinal ridge on pterotic-supracleithrum beginning at posterodorsal corner of eye formed from raised bone and slightly larger odontodes absent. Opercle always supporting much more than ten odontodes. Nuptial body odontodes absent [...]. Plates in skin anterior to dorsal-fin spine absent or few [...].”

“Each jaw with 5-16 teeth (mode = 9), teeth large and spoon-shaped.”

Biology

From Armbruster (2003):

“Loricariids are typically algivorous or detritivorous, but the *Hypostomus cochliodon* group (formerly the genus *Cochliodon* Kner) and Panaque Eigenmann are unique among fishes in that they consume wood (Schaefer & Stewart 1993; Nelson et al. 1999).”

Human Uses

Prang (2007) reports that *H. plecostomoides* has been approved for export from Colombia as an ornamental fish.

Diseases

No information available. No OIE-reportable diseases have been documented in this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No introductions of *H. plecostomoides* have been reported as introduced outside its native range so no impacts of introduction are known. However, unidentified members of the genus are established in the United States.

From Nico et al. (2018):

“The effects of these loricariid catfish is largely unknown. In Texas, Hubbs et al. (1978) reported possible local displacement of algae-feeding native fishes such as *Campostoma anomalum* by *Hypostomus*, and López-Fernández and Winemiller (2005) suggest that reductions in *Dionda diaboli* abundance in portions of San Felipe Creek are due to population increases of *Hypostomus*. Because of their abundance in Hawaii, introduced *Hypostomus*, *Pterygoplichthys*, and *Ancistrus* may compete for food and space with native stream species (Devick 1989; Sabaj and Englund 1999).”

4 Global Distribution

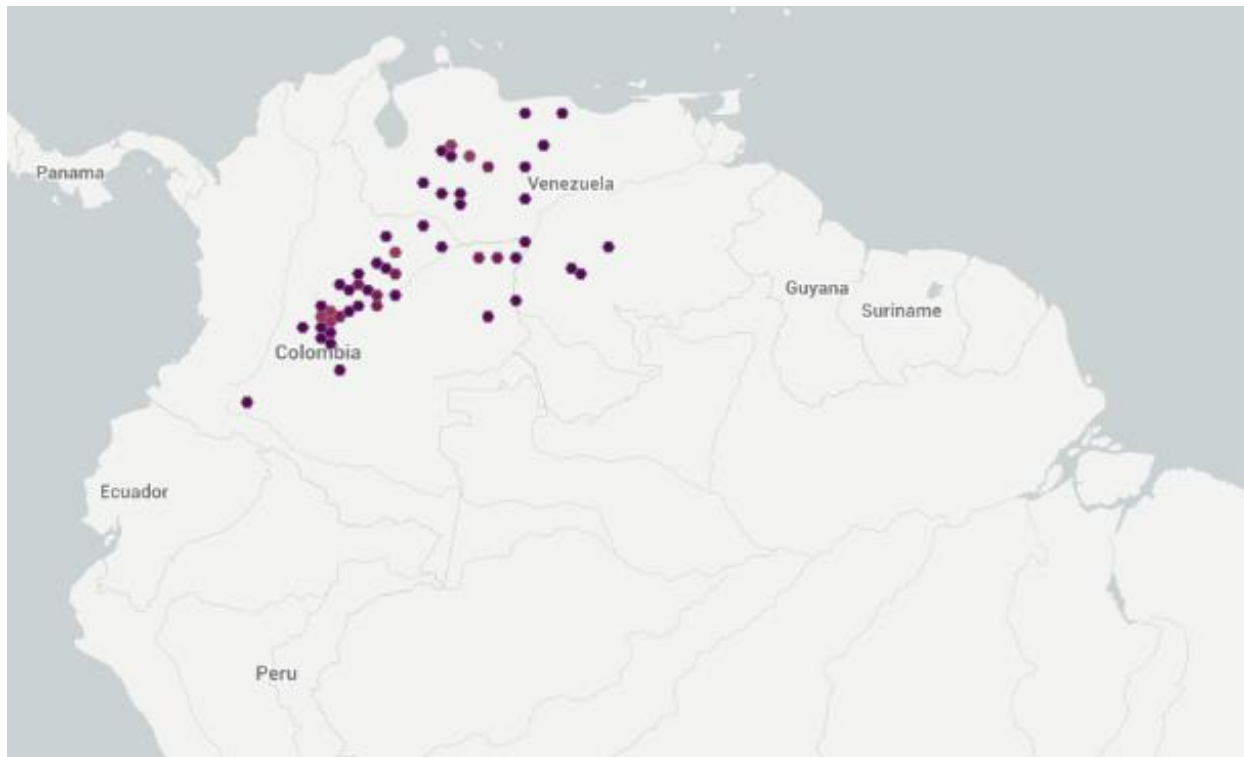


Figure 1. Known global distribution of *H. plecostomoides*, reported from Colombia and Venezuela in South America. Map from GBIF Secretariat (2017).

5 Distribution within the United States

There is currently no known distribution of *Hypostomus plecostomoides* within the United States; however, unidentified species of *Hypostomus* are established in Nevada, Florida, Texas, and Hawaii.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean Distance) was medium in southern Florida, southern Texas, and scattered locations along the Pacific Coast (Fig. 3). The remainder of the contiguous United States had a low climate match. Climate 6 score indicated that the contiguous United States has a low climate match overall. Scores of 0.005 and below are classified as low match; Climate 6 score for *H. plecostomoides* was 0.000.

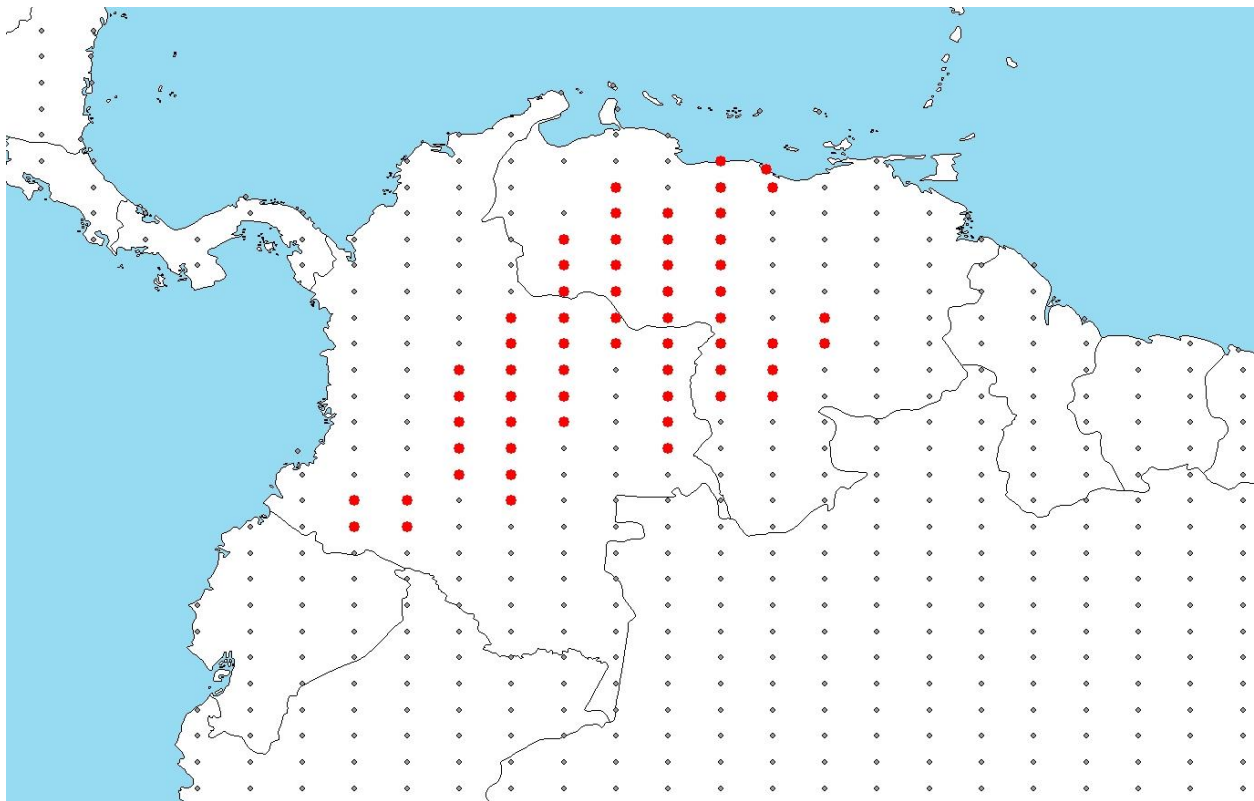


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Colombia, Venezuela) and non-source locations (gray) for *H. plecostomoides* climate matching. Source locations from GBIF Secretariat (2017).

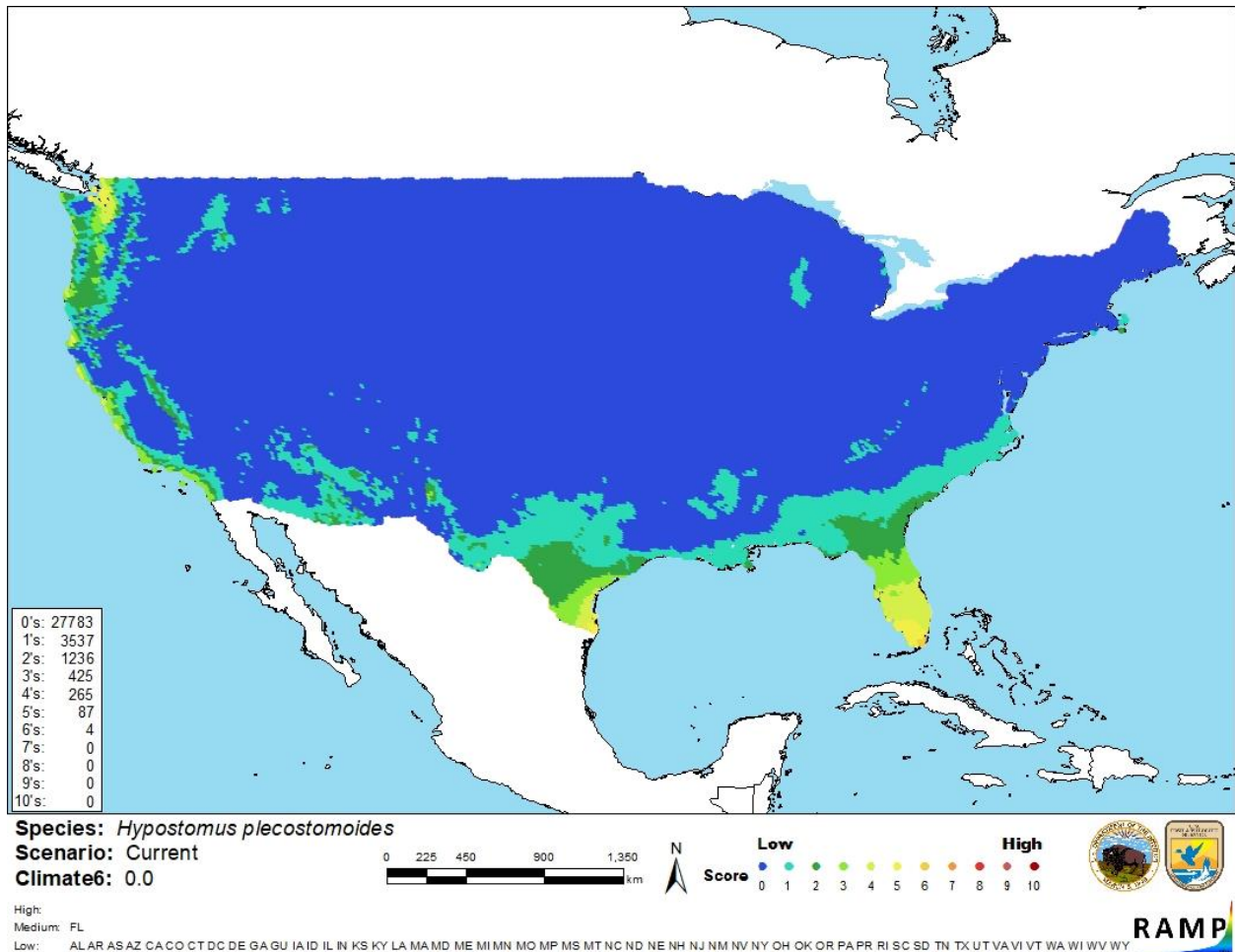


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *H. plecostomoides* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10= Highest match.

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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Limited information was available on the biology and ecology of *Hypostomus plecostomoides*. One source reports *H. plecostomoides* as introduced outside its native range, but no further information was available on where, when, or how introductions have taken place. No impacts of introduction are known. Unidentified species of *Hypostomus* have become established in the United States, and it is possible that one or more of those populations could be identified later as

H. plecostomoides. There is considerable uncertainty about the taxonomy of this genus and about species-level identification. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus plecostomoides is a catfish native to the Amazon and Orinoco basins in Colombia and Venezuela. One source reports *H. plecostomoides* as introduced outside its native range, but no further information was available on where, when, or how introductions have taken place. *H. plecostomoides* is approved for export from Colombia as an ornamental fish, but no evidence was found to suggest that this species is in trade in the United States. However, unidentified species of *Hypostomus* are established in the United States. Climate match to the contiguous United States was low overall, with medium matches in southern Florida, southern Texas, and along the Pacific Coast. Because of the lack of well-documented introduction history and substantial taxonomic uncertainty, certainty of this assessment is low and overall risk is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **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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