

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

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, January 2013

Revised, August 2018

Web Version, 9/11/2018



Photo: Sebastien Brosse. Licensed under Creative Commons BY-NC. Available: <http://www.fishbase.se/photos/PicturesSummary.php?ID=48911&what=species>.

## **1 Native Range and Status in the United States**

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### **Native Range**

From Froese and Pauly (2018):

“South America: Guianan coastal drainages, from Oyapock [border of Brazil and French Guiana] westward to the Maroni basin [French Guiana and Suriname].”

“[In French Guiana:] Found in the rapids of the Arataye River during dry season [Boujard 1992].”

### **Status in the United States**

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

### **Means of Introductions in the United States**

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

### **Remarks**

No additional remarks.

## **2 Biology and Ecology**

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### **Taxonomic Hierarchy and Taxonomic Standing**

According to Eschmeyer et al. (2018), *Hypostomus gymnorhynchus* (Norman 1926) is the current valid name for this species. It was originally described as *Plecostomus gymnorhynchus*.

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 gymnorhynchus* (Norman, 1926)”

According to Weber et al. (2012), *Hypostomus gymnorhynchus occidentalis*, *H. surinamensis*, and *H. g. tapanahoniensis* are synonyms of *H. gymnorhynchus*.

## **Size, Weight, and Age Range**

From Froese and Pauly (2018):

“Max length : 26.6 cm SL male/unsexed; [Allard et al. 2015]; max. published weight: 253.00 g [Allard et al. 2015]”

“Rarely attains a length of 20 cm [Boujard et al. 1997].”

## **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: Guianan coastal drainages, from Oyapock [border of Brazil and French Guiana] westward to the Maroni basin [French Guiana and Suriname].”

“[In French Guiana:] Found in the rapids of the Arataye River during dry season [Boujard 1992].”

Introduced

No records of *Hypostomus gymnorhynchus* introductions were found.

## **Means of Introduction Outside the United States**

No records of *Hypostomus gymnorhynchus* introductions were found.

## **Short Description**

From Boeseman (1968):

“A rather robust species with a broadly rounded head, about ovate in dorsal view, but with a relatively slender caudal peduncle.”

“Depth of head at tip of occipital process 5.0-5.7 (av. 5.35), width at cleithra 3.25-3.85 (3.5), in standard length. Diameter of orbit 2.25-3.65 in snout, 1.35-2.1 in interorbital width, relatively diminishing in size with age. [...]”

“Scutes in longitudinal lateral series 26/26 (1 ex., aberrant, with two additional scutes on caudal base), 27/27 (21 ex.), neglecting the elongate scute on caudal base. There are 6 interdorsal scutes, 2 or 3 between second dorsal and caudal, and 12 or 13 post-anal, while one or two small scutes cover the origins of these fins. The post-occipital is single, but an about median suture may be discernable (2 ex.). The belly is naked up to a size of about 75 mm, though a few scattered scutelets may occur; it is mostly covered with scattered scutes up to about 100 mm, in still larger specimens mostly or almost wholly covered, though naked parts may remain especially on posterior half. In juveniles, the lower surface of the head is mostly naked, only the lateral marginal plates curving around the margins forming a narrow cover variably produced immediately before the gill apertures, while on each side of the widely naked snout tip a narrow projection of the dorsal armature also curves around the margin; in large examples extensive triangular areas on both sides of the oral disc are covered, their bases usually connected by a few separate small scutelets across the throat, and the tops of the triangles connected by a transverse series of three platelets (possibly developing into a complete band in still larger specimens) crossing the lower snout; the tip of the snout remains widely naked.”

“The number of mandibular teeth on each ramus seems to vary between 20 and 37, the low counts presumably being caused by overlooking teeth hidden in the gums.”

“The deflated first dorsal fin usually falls distinctly short of the base of the spine of second dorsal fin, but occasionally almost or even actually reaches the spine, especially in a few young examples.”

“The colour markings consist of moderately dense, usually rather well defined, moderately large spots, lacking only on the plain belly, more or less suboblong on body and caudal peduncle, much more dense and round on head, on the fins rather large (usually?, [sic] [...]) and more or less distinctly forming cross-bands or series especially on the caudal fin; caudal with dusky tips.”

## **Biology**

From Froese and Pauly (2018):

“Rheophilic species occurring in very sunny rapids with strong current and rocky bottom [Le Bail et al. 2000].”

From Boeseman (1968):

“All specimens were collected in cataracts or rapids, or in pools nearby formed in the rocky river bed during the dry period.”

De Mérona et al. (2003) lists *Hypostomus gymnorhynchus* as a detritivore.

## **Human Uses**

From Froese and Pauly (2018):

“Aquarium: commercial”

## Diseases

No information on diseases of *Hypostomus gymnorhynchus* was found.

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

## 3 Impacts of Introductions

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No records of *Hypostomus gymnorhynchus* introductions were found; therefore, there is no information on impacts of introductions.

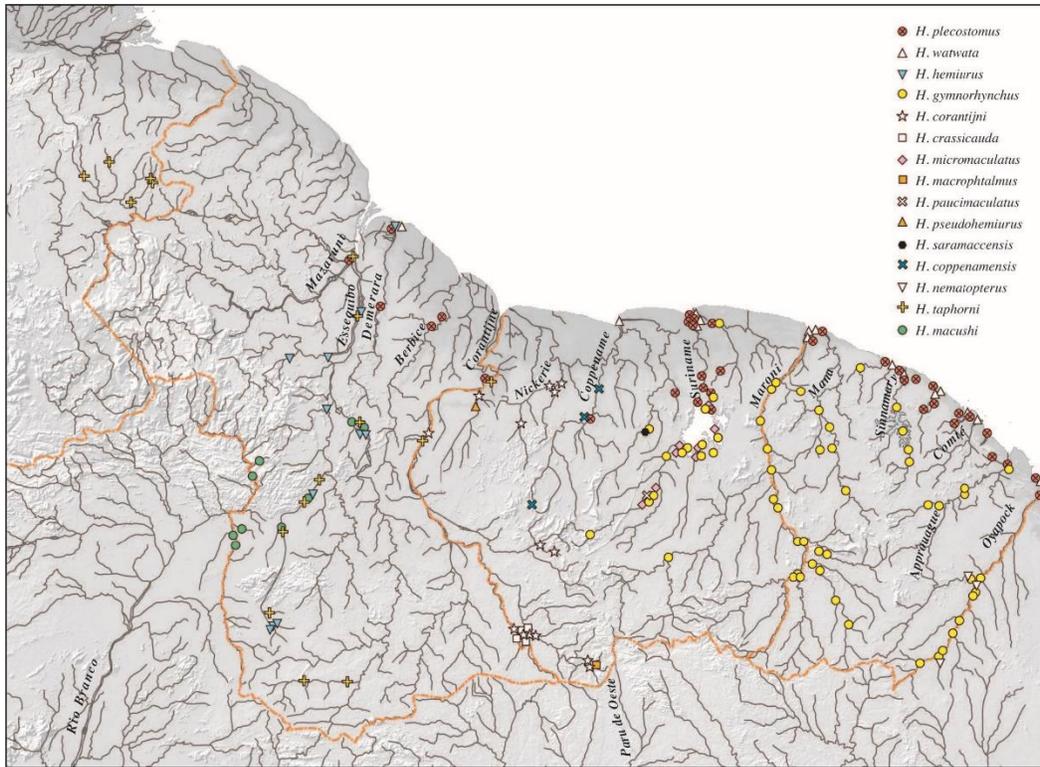
## 4 Global Distribution

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**Figure 1.** Known global distribution of *Hypostomus gymnorhynchus*. Locations are in Suriname, French Guiana, and Brazil. Map from GBIF Secretariat (2018).

The two southernmost locations in Brazil (Figure 1) and the westernmost locations in Suriname (Figure 1) were not used as source points in the climate match. The observations are outside the river drainages described as the native range (Froese and Pauly 2018; GBIF Secretariat 2018), and there was no other information supporting the existence of established populations at those locations.



**Figure 2.** Additional distribution of *Hypostomus gymnorhynchus* (yellow circles, mainly to the right of the map). Locations are in Suriname and French Guiana. Map from Weber et al. (2012).

## 5 Distribution Within the United States

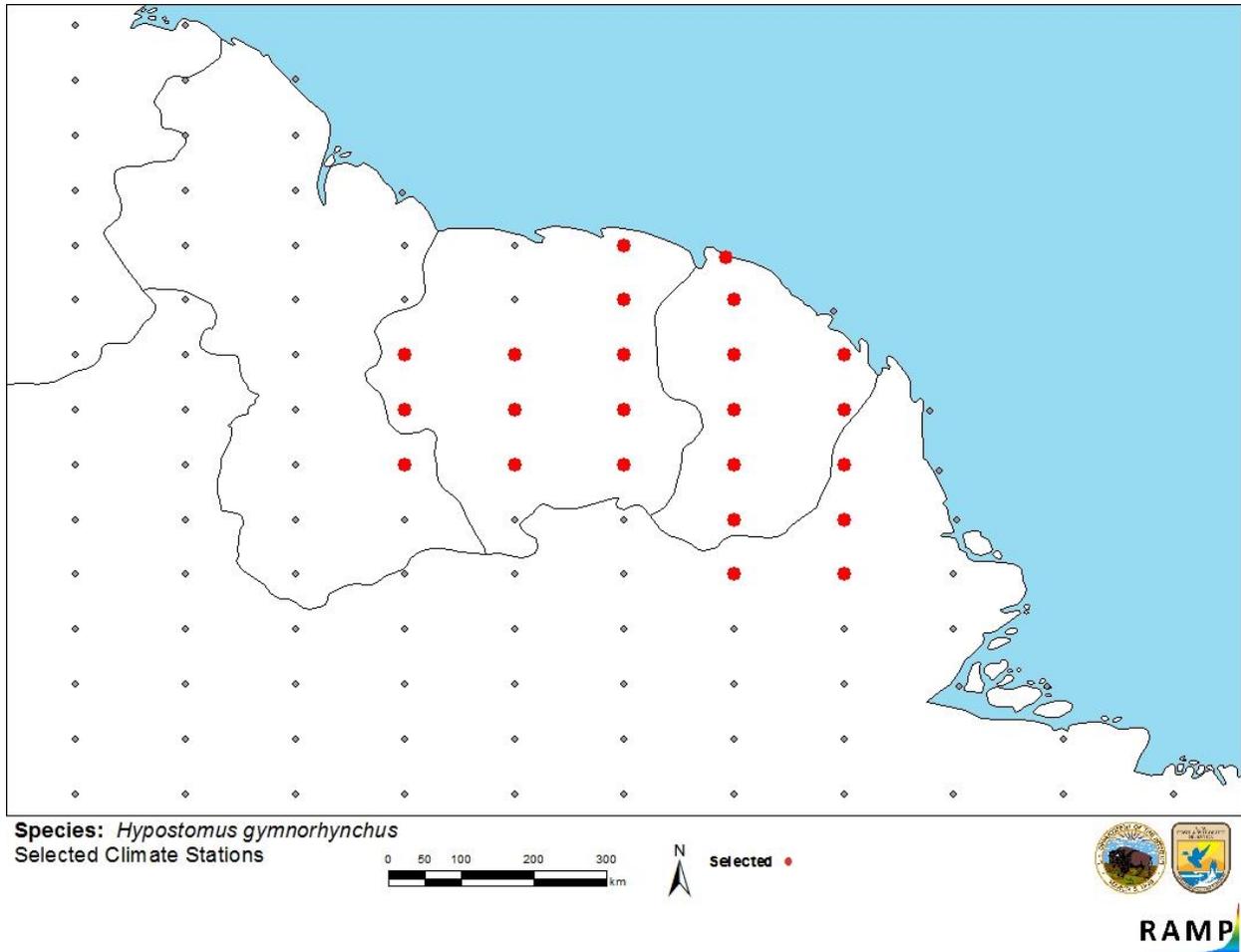
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No records of *Hypostomus gymnorhynchus* in the wild in the United States were found.

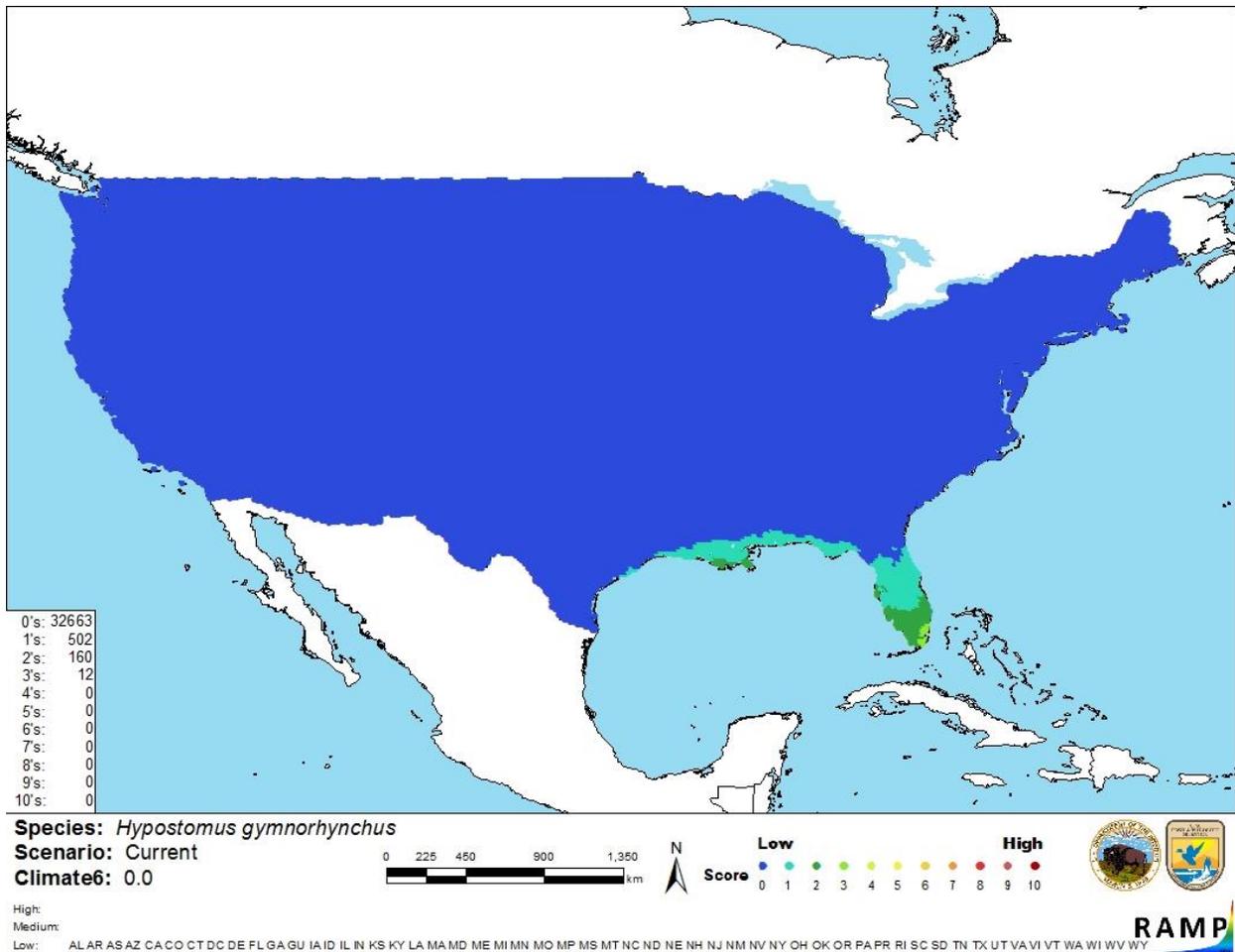
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Hypostomus gymnorhynchus* was low across the entire contiguous United States. There were no areas of medium or high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.000, low. All States had low individual climate scores.



**Figure 3.** RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Suriname, French Guiana, Brazil) and non-source locations (gray) for *Hypostomus gymnorhynchus* climate matching. Source locations from Weber et al. (2012) and GBIF Secretariat (2018).



**Figure 4.** Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus gymnorhynchus* in the contiguous United States based on source locations reported by Weber et al. (2012) 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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

The certainty of assessment for *Hypostomus gymnorhynchus* is low. There is some general information available for this species but no records of introduction were found. Since there were no records of introductions, there is no information on impacts to be evaluated.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Hypostomus gymnorhynchus* is an armored catfish that is native to coastal rivers of northeastern South America, primarily in Suriname and French Guiana. It is a detritivore that can be found in and around fast current and rapids. According to one source, it is used in the aquarium trade. The history of invasiveness for *H. gymnorhynchus* is uncertain. There were no records of introductions and subsequently no information on impacts. The climate match was low; there were no areas of medium or high match in the contiguous United States. 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): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.**

Boeseman, M. 1968. The genus *Hypostomus* Lacépède, 1803, and its Surinam representatives (Siluriformes, Loricariidae). Rijksmuseum van Natuurlijke Historie, Zoologische Verhandelingen 99, Leiden, The Netherlands.

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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.

Weber, C., R. Covain, and S. Fisch-Muller. 2012. Identity of *Hypostomus plecostomus* (Linnaeus, 1758), with an overview of *Hypostomus* species from the Guianas (Teleostei: Siluriformes: Loricariidae). *Cybium* 36(1):195–227.

## 10 References Quoted But Not Accessed

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**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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Boujard, T. 1992. Space-time organization of riverine fish communities in French Guiana. *Environmental Biology of Fishes* 34:235–246.

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Le Bail, P.-Y., P. Keith, and P. Planquette. 2000. Atlas des poissons d'eau douce de Guyane. Tome 2, Fascicule II: Siluriformes. Collection Patrimoines Naturels 43(II). Publications scientifiques du Muséum national d'Histoire naturelle, Paris.