

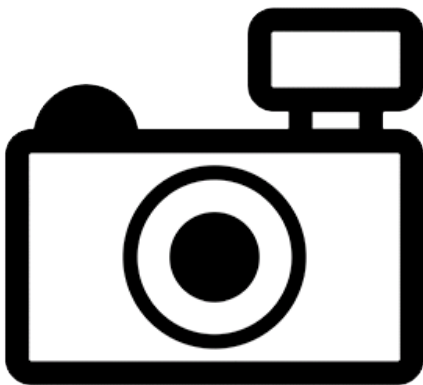
# ***Hypostomus nudiventris* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, March 2012

Revised, September 2018

Web Version, 4/2/2019



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2018):

“South America: northern Brazilian coastal drainages.”

### **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 Introduction into 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 *Plecostomus nudiventris*. Information searches for this report were conducted using both the original name and the currently accepted scientific name.

## 2 Biology and Ecology

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### 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 nudiventris* (Fowler, 1941)”

From Fricke et al. (2018):

“**Current status:** Valid as *Hypostomus nudiventris* (Fowler 1941). Loricariidae: Hypostominae.”

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

From Froese and Pauly (2018):

“Max length : 5.7 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: northern Brazilian coastal drainages.”

Introduced

No introductions of this species have been reported.

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

No introductions of this species have been reported.

## Short Description

From Fowler (1941):

“Depth  $4\frac{2}{5}$ ; head  $3\frac{5}{7}$ , length  $1\frac{1}{8}$  in its width. Snout (in profile)  $1\frac{1}{4}$  in head; eye  $4\frac{4}{5}$ ,  $3\frac{1}{2}$  in snout,  $2\frac{1}{3}$  in interorbital; mouth width  $2\frac{1}{5}$  in head; buccal disk width  $1\frac{1}{2}$ , greater than interorbital, with broad papillate lips, lower broader and with cirrus each side  $\frac{4}{5}$  of eye; 12 slender curved teeth above each side and 12 below each side; interorbital  $1\frac{5}{6}$  in head, depressed, nearly level. Gill opening small, largely below eye.”

“Scutes 23+2 in lateral series; 5 or 6 transversely between dorsal and ventral origins; 3 predorsal. Scutes in rows along side of back each with small terminal spine behind. All scutes rugose striate longitudinally. Entire chest and belly naked. Occipital extension forms broad obtuse point.”

“D. I, 7, long slender spine  $1+\frac{1}{3}$  times head and terminally flexible adipose fin  $2\frac{1}{2}$  in head, spine moderately large; A. I, 3, first branched ray  $1\frac{3}{4}$  in head; least depth of caudal peduncle  $2\frac{2}{3}$ ; caudal  $2\frac{1}{4}$  in rest of fish, emarginate chiefly above and upper lobe shorter; pectoral  $3\frac{1}{8}$ , rays I, 5, spine well roughened with asperities; ventral rays I, 5, fin equals head.”

“Color in alcohol brown, under surface of head and belly paler, latter with obscure scattered variable dark gray to blackish spots. Head above with numerous small close-set blackish spots. Trunk and tail with large black and less numerous spots above and on sides. Fins all grayish or lighter than general body color above. The dorsal distinctively marked, each membrane with 4 to 6 black spots, with median broken brown line or streak longitudinally. Caudal with 7 transverse dark bands. Anal with 2 rows of dark spots. Paired fins with 3 to 5 rows of dark spots.”

“Characterized by the total absence of scales or scutes on the belly. Each dorsal membrane with 5 or 6 black ocelli and in intervals brown median vertical line or streak parallel with fin rays.”

## Biology

Information not available.

## Human Uses

Information not available.

## Diseases

Information not available. No OIE-reportable diseases (OIE 2019) have been documented in this species.

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

### 3 Impacts of Introductions

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No introductions of *H. nudiventris* have been reported 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

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**Figure 1.** Known global distribution of *H. nudiventris*, reported from coastal northeastern Brazil. Map from GBIF Secretariat (2017).

### 5 Distribution within the United States

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

## 6 Climate Matching

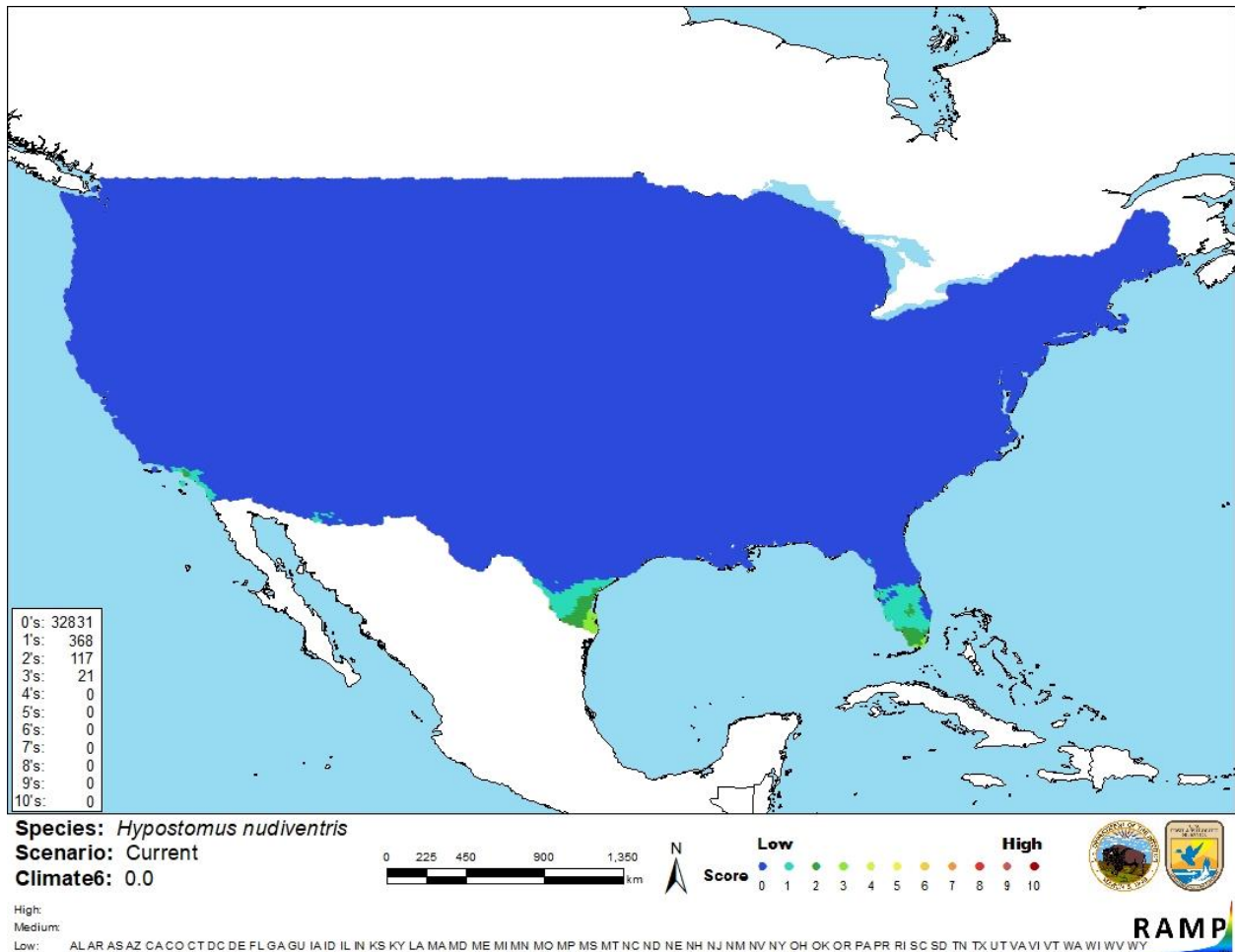
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### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean Distance) was low throughout the contiguous United States, reflected in a Climate 6 score of 0.000. Scores of 0.005 and below are classified as low match. Southern Texas and southern Florida showed slightly higher, but still low, matches compared to the rest of the contiguous United States. The climate match was based on one location, the only georeferenced occurrence available.



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



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus nudiiventris* 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
$\geq 0.103$	High

## 7 Certainty of Assessment

Limited information was available on the biology and ecology of *H. nudiiventris*. It has not been reported as introduced outside its native range, so no impacts of introduction are known. However, 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. nudiiventris*. There is considerable uncertainty about the taxonomy of this genus and about species-level

identification. Additionally, only one georeferenced location was available for the climate match. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Hypostomus nudiiventris* is a catfish native to the coastal river drainages in northern Brazil. This species has no documented history of introduction in the United States or elsewhere outside its native range. However, unidentified species of *Hypostomus* are established in the United States. History of invasiveness is uncertain. *H. nudiiventris* does not appear to be present in trade in the United States or elsewhere. Climate match was low throughout the contiguous United States. However, the match was based on only one georeferenced occurrence; no additional locations were available. Because of the lack of documented introduction history and distribution data coupled with substantial taxonomic uncertainty, certainty of this assessment is low and overall risk is uncertain.

### Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Low**
- **Certainty of Assessment: Low**
- **Overall Risk Assessment Category: Uncertain**

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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.**

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