Hypostomus rhantos (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, February 2013
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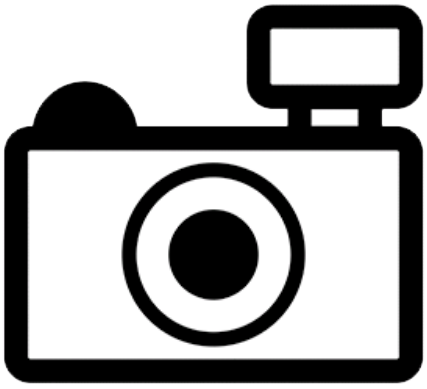

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018a):

"South America: Venezuela. Currently known from the Río Ventuari, a tributary of the upper Río Orinoco, and the mainstem upper Orinoco above Puerto Ayacucho to the Río Casiquiare in Amazonas [Armbruster et al. 2007]."

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 is listed for sale from San Antonio, Texas-based aquarium retailer Dave's Rare Aquarium Fish (no date).

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)."

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2018b):

"Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > Pisces (Superclass) > Actinopterygii (Class) > Siluriformes (Order) > Loricariidae (Family) > Hypostominae (Subfamily) > *Hypostomus* (Genus) > *Hypostomus rhantos* (Species)"

"Status accepted"

Size, Weight, and Age Range

From Froese and Pauly (2018a):

"Max length: 19.6 cm SL male/unsexed; [Armbruster et al. 2007]"

Environment

From Froese and Pauly (2018a):

"Freshwater; benthopelagic."

Climate/Range

From Froese and Pauly (2018a):

"Tropical; 5°N - 3°N, 66°W - 67°W"

Distribution Outside the United States

Native

From Froese and Pauly (2018a):

"South America: Venezuela. Currently known from the Río Ventuari, a tributary of the upper Río Orinoco, and the mainstem upper Orinoco above Puerto Ayacucho to the Río Casiquiare in Amazonas [Armbruster et al. 2007]."

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reportedShort Description
From Froese and Pauly (2018a):

"Light gray to tan when alive, becoming tan when preserved. Body densely covered with tiny spots, head spots even smaller than body spots. Spots present on all fins, generally larger than spots on body, evenly distributed on rays, spines, and membranes. Caudal fin membranes light and spotted anteriorly, fading to dark wash posteriorly. Abdomen lighter than sides, with tiny spots. Occasionally with four dorsal saddles, first below anterior dorsal-fin rays, second below and slightly behind posterior dorsal-fin rays, third below and slightly anterior to adipose-fin spine, and fourth at base of caudal peduncle; all saddles angled anteriorly, saddles one and two combine and continue to base of pelvic fin, third and fourth terminating at middle of midventral plate row. Fin spines usually lighter than rest of body. Spots relatively larger in juveniles. Juveniles with fewer spots distally on all fins, lower half of caudal fin much darker. Head and nape forming arch from tip of snout to origin of dorsal fin. Body depth decreasing from origin of dorsal fin to dorsal procurrent caudal spines then increasing to caudal fin. A rounded ridge present from anterodorsal corner of orbit, running ventral to nares, and ending slightly anteroventral of anterior nare. Longitudinal ridge of raised bone and slightly larger odontodes

present on pterotic-supracleithrum beginning at posterodorsal corner of orbit and contiguous with supraorbital ridge. Space between orbits concave such that supraorbital ridge higher than medial surface of head. Supraoccipital convex medially with slight crest [Armbruster et al. 2007]."

Biology

From Armbruster et al. (2007):

"*Hypostomus rhantos* was collected in loricariid assemblages with an average of 7.2 loricariid species per site (n=16 sites). Habitats from which *H. rhantos* were collected range from consolidated lateritic rocks in flow, to bedrock cracks in flow, to branches and trunks of trees in slack water."

Human Uses

This species is listed for sale from San Antonio, Texas-based aquarium retailer Dave's Rare Aquarium Fish (no date).

Diseases

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

Threat to Humans

From Froese and Pauly (2018a):

"Harmless"

3 Impacts of Introductions

No introductions of *H. rhantos* 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

Figure 1. Known global distribution of *H. rhantos*, reported from Venezuela. Map from GBIF Secretariat (2017).

5 Distribution within the United States

There is currently no known distribution of *Hypostomus rhantos* 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 peninsular Florida and extreme southern Texas, and low elsewhere in the contiguous United States. 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. rhantos* was 0.000.

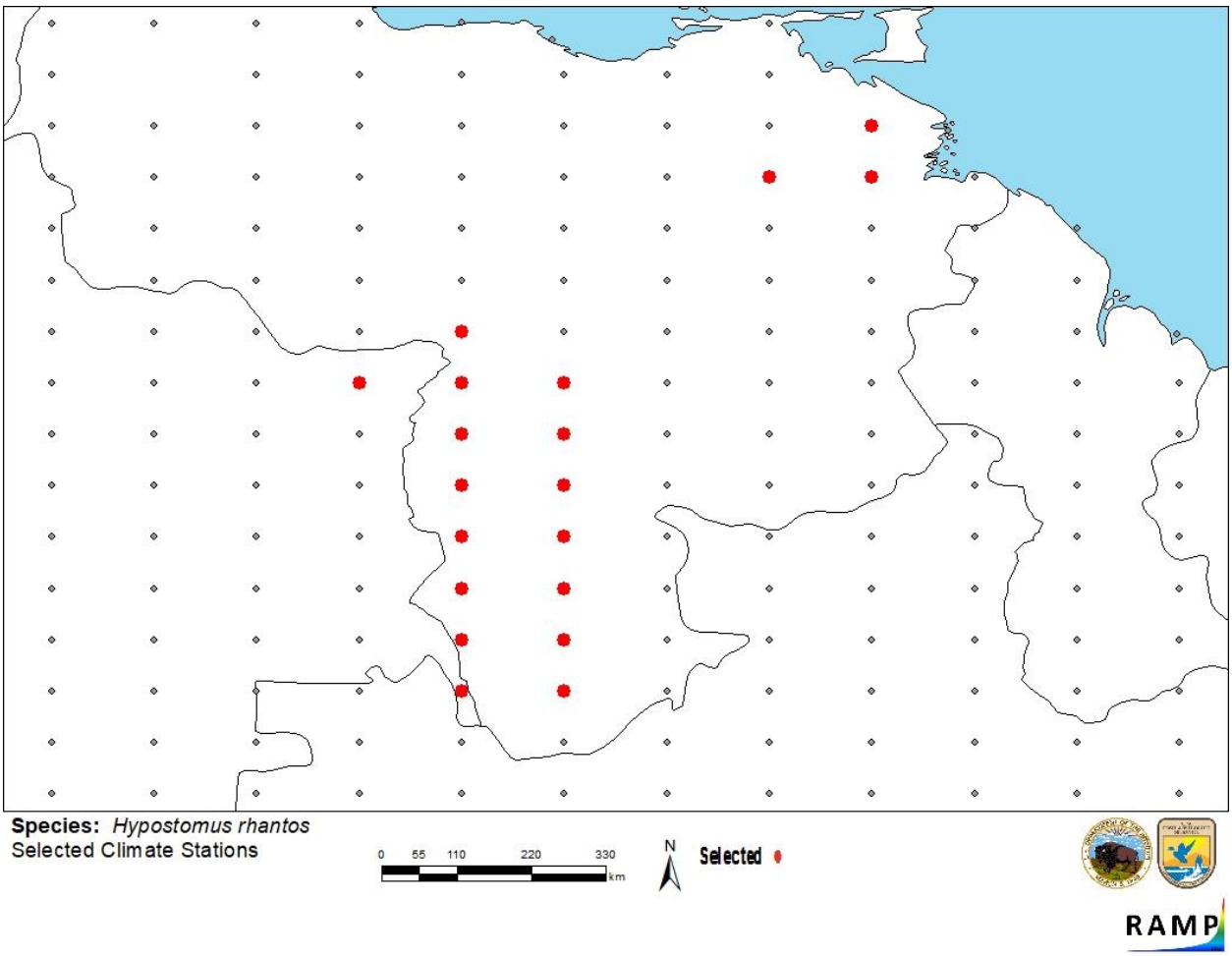

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Venezuela, Colombia) and non-source locations (gray) for *H. rhantos* climate matching. Source locations from GBIF Secretariat (2017).

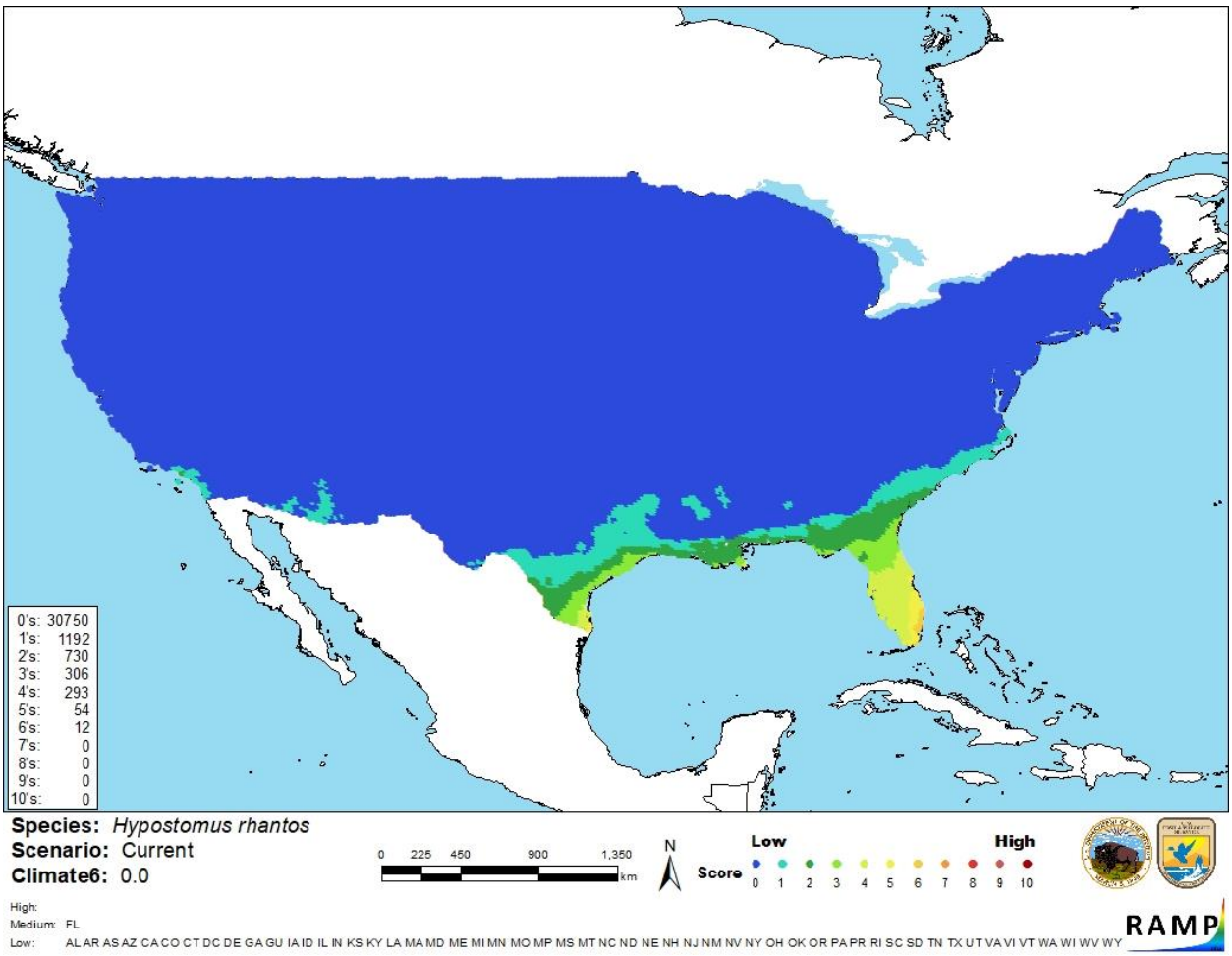

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *H. rhantos* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10= Highest match.

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≤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 rhantos*. 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. rhantos*. 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 rhantos is a catfish native to the Orinoco River drainage of Venezuela. This species has no documented history of introduction in the United States or elsewhere outside its native range, and it is not known to be in trade. However, unidentified species of *Hypostomus* are established in the United States. Climate match to the contiguous United States was low overall, with medium match in peninsular Florida and extreme southern Texas. Because of the lack of 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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