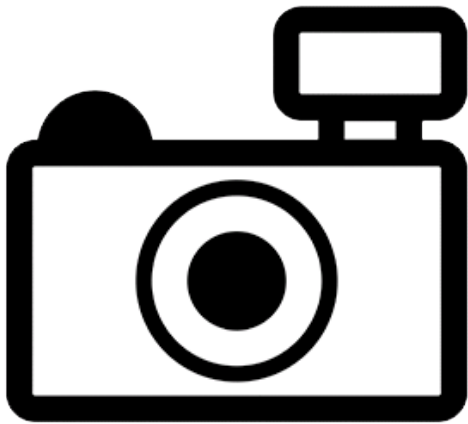


***Hypostomus commersoni* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013
Revised, August 2018
Web Verion, 8/31/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018a):

“South America [Argentina, Brazil, Paraguay, Uruguay]: Middle and lower Paraná and Uruguay River basins and from the Laguna dos Patos basin.”

“[In Argentina:] Known from San Pedro in Lower Paraná River [Cordiviola de Yuan and Pignalberi de Hassan 1985] and upper Paraná [López et al. 2005].”

“[In Brazil:] Known from Saint-Francois River [Weber 2003]. Also recorded from the Patos lagoon [Garcia et al. 2003] and Uruguay River [Zaniboni Filho et al. 2004].”

From Rosso and Quirós (2010):

“The same could be happening in the present with *Hypostomus commersoni*, a commonly abundant species in lower basin lakes. A very few individuals of this species had been collected for the first time in the upper reach lakes lately (Dirección Provincial de Pesca, 2008; this paper). The expansion in the distribution of this species within the middle and lower Salado River [Argentina] reaches from 1957 to present was suspected to be related with changes in pluviosity, temperature and channelization (Gómez, 2008).”

Status in the United States

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

Means of Introductions in the United States

No records of *Hypostomus commersoni* 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 commersoni* Valenciennes 1836 is the current valid name for this species, it is also the original name.

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysii
Order Siluriformes
Family Loricariidae
Subfamily Hypostominae
Genus *Hypostomus*
Species *Hypostomus commersoni* Valenciennes, 1836”

Size, Weight, and Age Range

From Froese and Pauly (2018a):

“Max length : 60.5 cm TL male/unsexed; [Zaniboni Filho et al. 2004]; max. published weight: 1.8 kg [Zaniboni Filho et al. 2004]”

Environment

From Froese and Pauly (2018a):

“Freshwater; demersal; potamodromous [Riede 2004].”

Climate/Range

From Froese and Pauly (2018a):

“Subtropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018a):

“South America [Argentina, Brazil, Paraguay, Uruguay]: Middle and lower Paraná and Uruguay River basins and from the Laguna dos Patos basin.”

“[In Argentina:] Known from San Pedro in Lower Paraná River [Cordiviola de Yuan and Pignalberi de Hassan 1985] and upper Paraná [López et al. 2005].”

“[In Brazil:] Known from Saint-Francois River [Weber 2003]. Also recorded from the Patos lagoon [Garcia et al. 2003] and Uruguay River [Zaniboni Filho et al. 2004].”

From Rosso and Quirós (2010):

“The same could be happening in the present with *Hypostomus commersoni*, a commonly abundant species in lower basin lakes. A very few individuals of this species had been collected for the first time in the upper reach lakes lately (Dirección Provincial de Pesca, 2008; this paper). The expansion in the distribution of this species within the middle and lower Salado River [Argentina] reaches from 1957 to present was suspected to be related with changes in pluviosity, temperature and channelization (Gómez, 2008).”

Introduced

No records of *Hypostomus commersoni* introductions were found.

Means of Introduction Outside the United States

No records of *Hypostomus commersoni* introductions were found.

Short Description

From Reis et al. (1990):

“Description: standard length of examined specimens 111.1 to 423.0 mm; [...].

Head completely covered with dermal ossifications dorsally, except for a small, roughly ovate naked area on snout tip, which usually disappears in larger specimens. Dorsal margin of orbit slightly elevated, continuing in a low ridge on posttemporal plate. Another low ridge on supraoccipital, diverging in two separate ridges on predorsal plates always present. Usually one, sometimes two scutes bordering posterior margin of the supraoccipital bone. Body deep; dorsal profile gently descending from origin of dorsal fin to end of caudal peduncle. Caudal peduncle roughly ovate in cross-section; slightly flattened ventrally. Dorsal scutes between end of dorsal fin base and adipose fin spine somewhat flattened in their dorsal portions; those closer to dorsal fin sometimes with a central area devoided of odontodes.

Outer face of upper lip covered with small scutelets; maxillary barbel comparatively short. Teeth small and not much numerous; with a well developed outer cusp of about half length of inner.

Body completely covered with rows of scutes with a rough keel, forming four rough ridges along flanks. These ridges sometimes very strong. Abdomen and lower surface of head usually covered with minute scutelets, even in smaller specimens.

Distal half of pectoral fin spine of larger specimens usually covered dorsally with proemioent odontodes anteriorly curved. Adipose fin spine very strong but short and curved. Caudal fin margin concave to strongly concave; medium-sized outer rays.

Colour in alcohol: ground colour of dorsal surface light- to dark-brown; slightly lighter to whitish ventrally. All body and fins covered with very small, roundish, black or dark-brown dots; smaller and closer together on head. This pattern sometimes inconspicuous on caudal fin and ventral portion of caudal peduncle.

Colour in life: living specimens of *H. commersonii* [*sic*] usually darker than alcohol preserved specimens.”

Biology

From Froese and Pauly (2018a):

“Occurs in rivers [Burgess 1989] and ponds [Cordiviola de Yuan and Pignalberi de Hassan 1985]. Feeds on organic material on the bottom [Burgess 1989].”

From Reis et al. (1990):

“*H. commersonii* was the only species [of those *Hypostomus* spp. studied] found inhabiting lentic, open environments such as large lagoons and freshwater swamps.

Human Uses

From Froese and Pauly (2018a):

“Aquarium: commercial”

Diseases

There are no OIE-listed diseases, infections, or infestations associated with *Hypostomus commersoni*.

From Froese and Pauly (2018b):

“Host of *Argulus violaceus* [...]”

Poelen et al. (2014) lists *Raphidascaris hypostomi*, *Sprentascaris hypostomi*, *Clinostomum marginatum*, *Allocreadium lobatum*, *Crassicutis intermedius*, *Acanthostomum gnerii*, *Gonocercella magna*, *Thometrema magna*, *Saccocoelioides elongatus*, *Saccocoelioides magniovatus*, *Saccocoelioides nanii*, and *Crassicutis intermedia* as parasites of *Hypostomus commersoni*.

Threat to Humans

From Froese and Pauly (2018a):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution

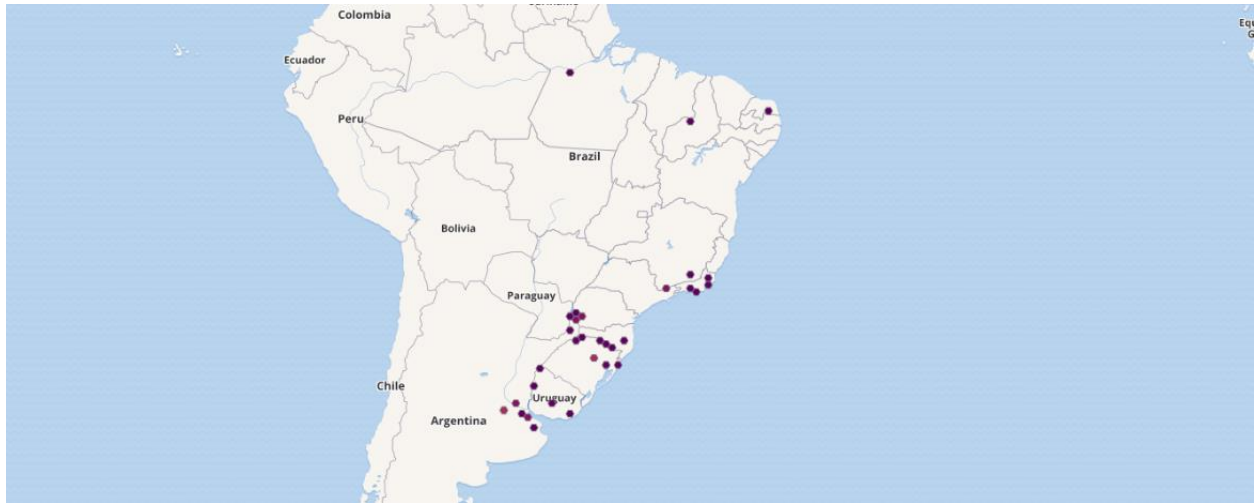


Figure 1. Known global distribution in South America of *Hypostomus commersoni*. Locations are in Argentina, Brazil, Paraguay, and Uruguay. Map from GBIF Secretariat (2018).

The three northern locations in Brazil (Figure 1) were not used as source points in the climate match. The specimens were all collected between 1865 and 1924 and identified as *Plecostomus commersonii* (GBIF Secretariat 2018). According to Eschmeyer et al. (2018), *P. commersonii* is potentially a synonym of *Hypostomus scabriceps* and not *H. commersoni*. These locations are also outside the range description given by Froese and Pauly (2018a) and Rosso and Quirós (2010).

Froese and Pauly (2018a) give an additional source location in eastern Argentina.

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Hypostomus commersoni* was low in the Northeast, upper Midwest, and in the West. The climate match was high along the southern Atlantic Coast and the Gulf Coast and adjacent inland areas; everywhere else was a medium match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.160, high. Scores 0.103 and above are high. The following states had high individual climate scores: Alabama, Arkansas, Delaware, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

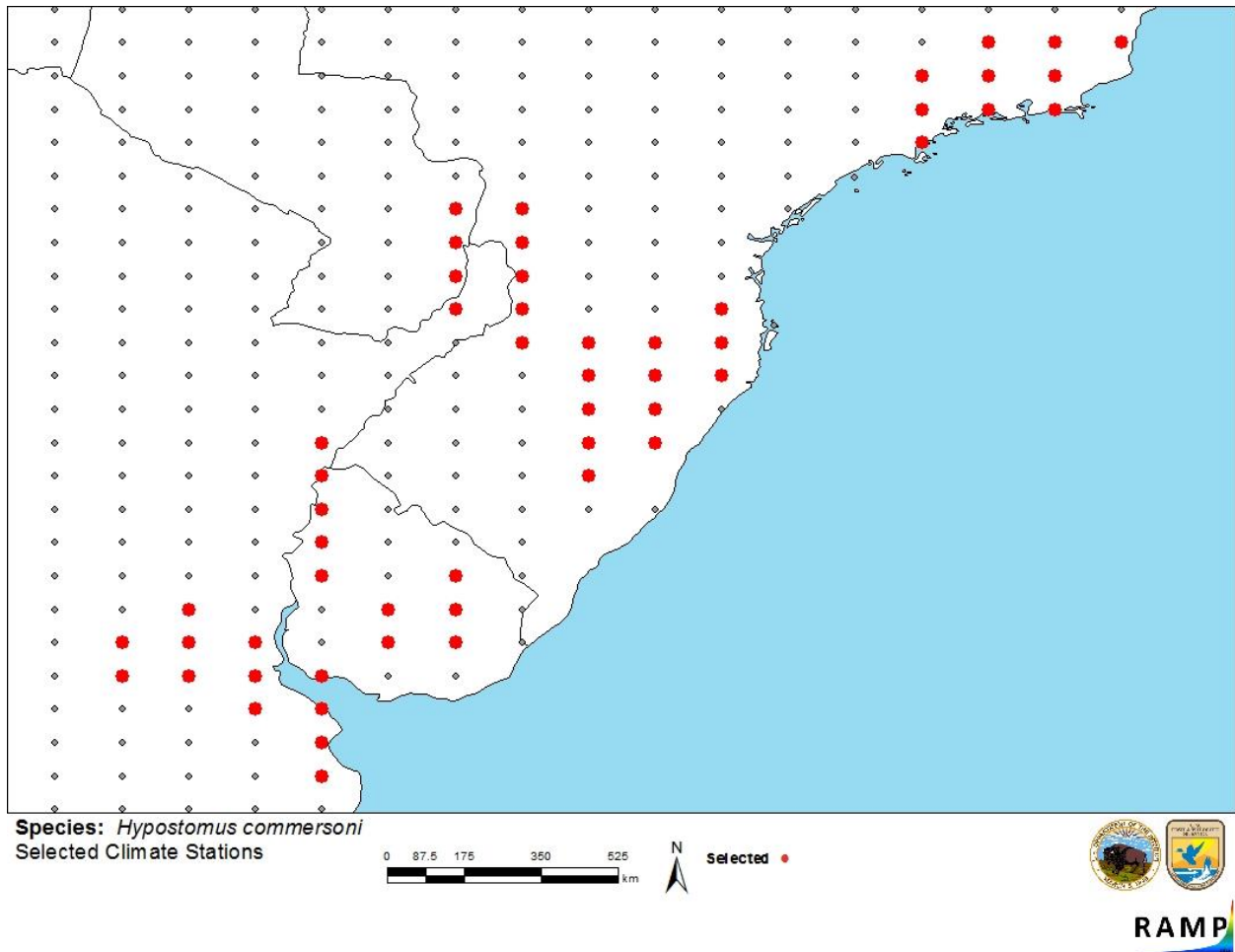


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil, Paraguay, Argentina, Uruguay) and non-source locations (gray) for *Hypostomus commersoni* climate matching. Source locations from Froese and Pauly (2018) and GBIF Secretariat (2018).

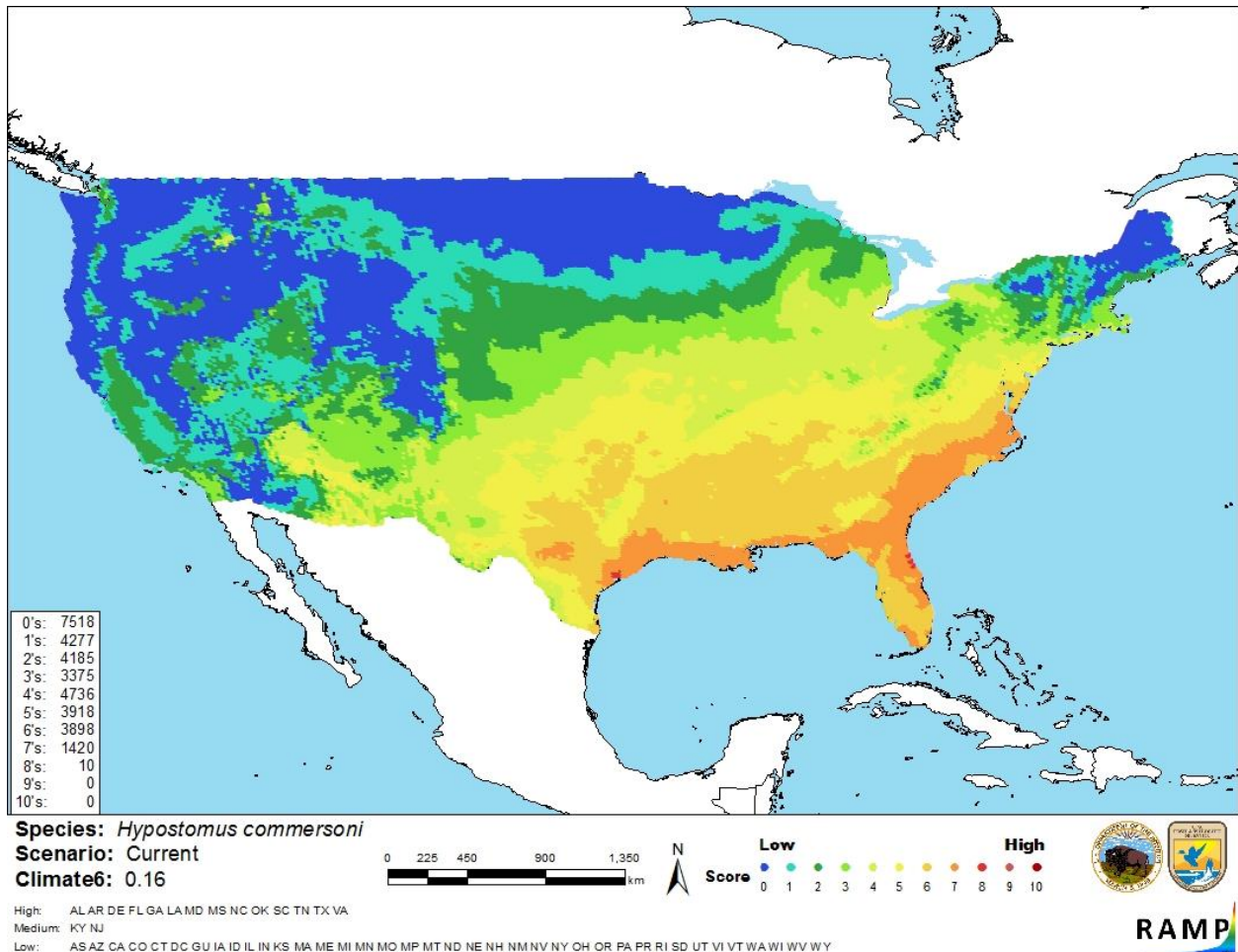


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Hypostomus commersoni* in the contiguous United States based on source locations reported by Froese and Pauly (2018a) and GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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 for *Hypostomus commersoni* is low. There is some biological and ecological information for this species and the range seems adequately documented. There were no records of introduction found and therefore there is no information on impacts of introduction to evaluate.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hypostomus commersoni is an armored catfish that is native to southern South America. One source stated that the species is found in the aquarium trade but no specific trade information was available and no records of the species in trade in the United States were found. The history of invasiveness is uncertain. No records of introduction were found so there is no information on impacts of introduction. The climate match was high. The high climate match was focused on the south, particularly the southern Atlantic and Gulf coastal areas. 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): High**
- **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.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (August 2018).

Froese, R., and D. Pauly, editors. 2018a. *Hypostomus commersoni* Valenciennes, 1836. FishBase. Available: <http://www.fishbase.org/summary/Hypostomus-commersoni.html>. (August 2018).

Froese, R., and D. Pauly, editors. 2018b. *Hypostomus commersoni* Valenciennes, 1836. World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1022570>. (August 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Hypostomus commersoni* Valenciennes, 1836. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5202227>. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Hypostomus commersoni* Valenciennes, 1836. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680156#null. (August 2018).

- 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.
- Reis, R. E., C. Weber, and L. R. Malabarba. 1990. Review of the genus *Hypostomus* Lacépède, 1803 from southern Brazil, with descriptions of three new species (Pisces, Siluriformes, Loricariidae). *Revue Suisse de Zoologie* 97(3):729–766.
- Rosso, J. J., and R. Quirós. 2010. Patterns in fish species composition and assemblage structure in the upper Salado River lakes, Pampa Plain, Argentina. *Neotropical Ichthyology* 8(1):135–144.
- 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.

- Burgess, W. E. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. T. F. H. Publications, Neptune City, New Jersey.
- Cordiviola de Yuan, E., and C. Pignalberi de Hassan. 1985. Fish population in the Paraná River: lentic environments of Diamante and San Pedro areas (Argentine Republic). *Hydrobiologia* 127:213–218.
- Garcia, A. M., M. B. Raseira, J. P. Vieira, K. O. Winemiller, and A. M. Grimm. 2003. Spatiotemporal variation in shallow-water freshwater fish distribution and abundance in large subtropical coastal lagoon. *Environmental Biology of Fishes* 68:215–228.
- Gómez, S. E. 2008. Notas sobre el cambio ambiental en ictiología. *Biología Acuática* 24:1–6.
- López, H. L., A. M. Miquelarena, and J. Ponte Gómez. 2005. Biodiversidad y distribución de la ictiofauna Mesopotámica. *Miscelánea* 14:311–354.
- Riede, K. 2004. Global register of migratory species - from global to regional scales. Final Report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn.
- 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.
- Zaniboni Filho, E., S. Meurer, O. A. Shibatta, and A. P. de Oliverira Nuñez. 2004. Catálogo ilustrado de peixes do alto Rio Uruguai. Florianópolis : Editora da UFSC: Tractebel Energia.