

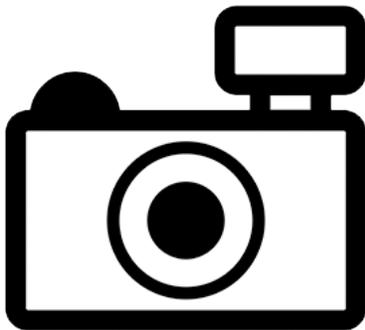
# ***Trichomycterus crassicaudatus* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, December 2016

Revised, June 2017

Web Version, 5/4/2018



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2016):

“South America: Rio Iguazu basin in Brazil.”

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

This species has not been reported as introduced in the United States.

From FFWCC (2016):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. Very limited exceptions may be made by permit from the Executive Director [...] [The list of prohibited nonnative species includes] *Trichomycterus crassicaudatus*”

## Means of Introductions in the United States

This species has not been reported as introduced in the United States.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From GBIF (2016):

“KINGDOM Animalia  
PHYLUM Chordata  
CLASS Actinopterygii  
ORDER Siluriformes  
FAMILY Trichomycteridae  
GENUS *Trichomycterus*  
SPECIES *Trichomycterus crassicaudatus*”

“TAXONOMIC STATUS  
accepted species”

### Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 13.5 cm SL male/unsexed; [Wosiacki and de Pinna 2008]”

### Environment

From Wosiacki and de Pinna (2008):

“Some of the paratypes of *T. crassicaudatus* were collected by WBW from a tributary of the Rio Iguaçú, Rio Jordão, around two kilometers upstream from its mouth. The river at that point is 100 m wide and maximally 2 m deep. The substrate is composed of angular basaltic rocks and pebble. The site is now submerged by an artificial dam. Those three specimens were trapped at the upper part of a gill net in a sector of the river with strong current and 1.2 m depth. The presence of *Trichomycterus* species in fast-running water is common (Arratia, 1983; pers. obs.), but the specimens are usually found near the substrate, between boulders and pebbles, protected from the strong current. None of the collections so far allow a definite determination of water depth and microhabitat preference of *T. crassicaudatus*. The peculiar caudal morphology of the species may be associated with some form of pelagic habit, but that still requires further information.”

### Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

## Distribution Outside the United States

### Native

From Froese and Pauly (2016):

“South America: Rio Iguacu basin in Brazil.”

### 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 Froese and Pauly (2016):

“Dorsal soft rays (total): 12; Anal soft rays: 10; Vertebrae: 35 - 36. Diagnosed from all other species in the Trichomycteridae by the deep posterior region of the body, including the caudal peduncle and caudal fin (caudal-peduncle depth 22.8-25.4% SL in adults). Distinguished also from all members of the genus *Trichomycterus* by the shape of the caudal fin in adults, in which the fin is prolonged into long, markedly diverging and somewhat irregular lobes forming a concave posterior margin (vs. caudal fin either truncate, emarginate, or round). In addition, it can be separated from all other congeners and possibly all other trichomycterids by pronounced elongation of the neural and hemal spines of the caudal vertebrae along the mid-portion of the caudal peduncle. Differs further from all other trichomycterids, except *Trichomycterus stawiarski*, by having thick-ossified and rigid procurrent caudal-fin rays, markedly distinct from the flexible and splint-like procurrent rays in other trichomycterids. The coloration pattern consists of closely set large irregular blotches overlain by a more superficial layer of small round markings, which distinguishes this species from the majority of other species currently in *Trichomycterus*, except *Trichomycterus stawiarski*. Additional characters useful for recognizing this species which could not be checked in all species of Trichomycteridae include urohyal foramen reduced to a slender canal and lateral line with 5-7 pores [Wosiacki and de Pinna 2008].”

## Biology

From Barreto et al. (2013):

“Ephemeroptera nymphs, larvae and pupae of Diptera, organic detritus and plant fragments were the most representative food items for *T. crassicaudatus* and *T. stawiarski*. [...] its feeding habit can be characterized as insectivorous, due to the high importance of benthic aquatic immature insects in the stomach contents.”

## Human Uses

No information available.

## Diseases

No information available.

## Threat to Humans

From Froese and Pauly (2016):

“Harmless”

## 3 Impacts of Introductions

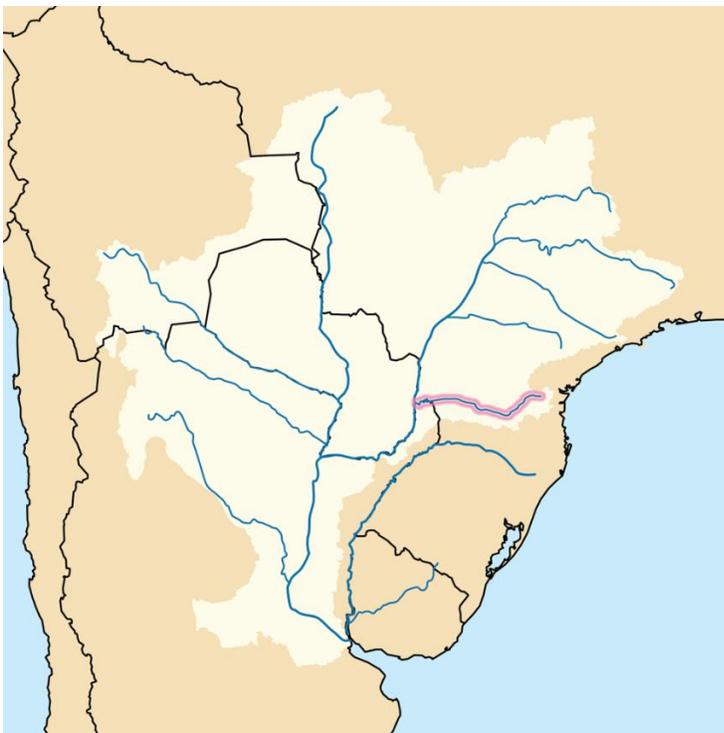
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No introductions of this species have been reported.

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Trichomycterus crassicaudatus* as a prohibited species (FFWCC 2016).

## 4 Global Distribution

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**Figure 1.** Location of the Rio Iguaçu basin (highlighted in purple) in Brazil, where *T. crassicaudatus* is known to be distributed. Map by Knusser - own work using Digital Chart of the World and GTOPO data. Licensed under CC BY-SA 3.0. Available: <https://commons.wikimedia.org/w/index.php?curid=8772527>. (June 2017).

## 5 Distribution Within the United States

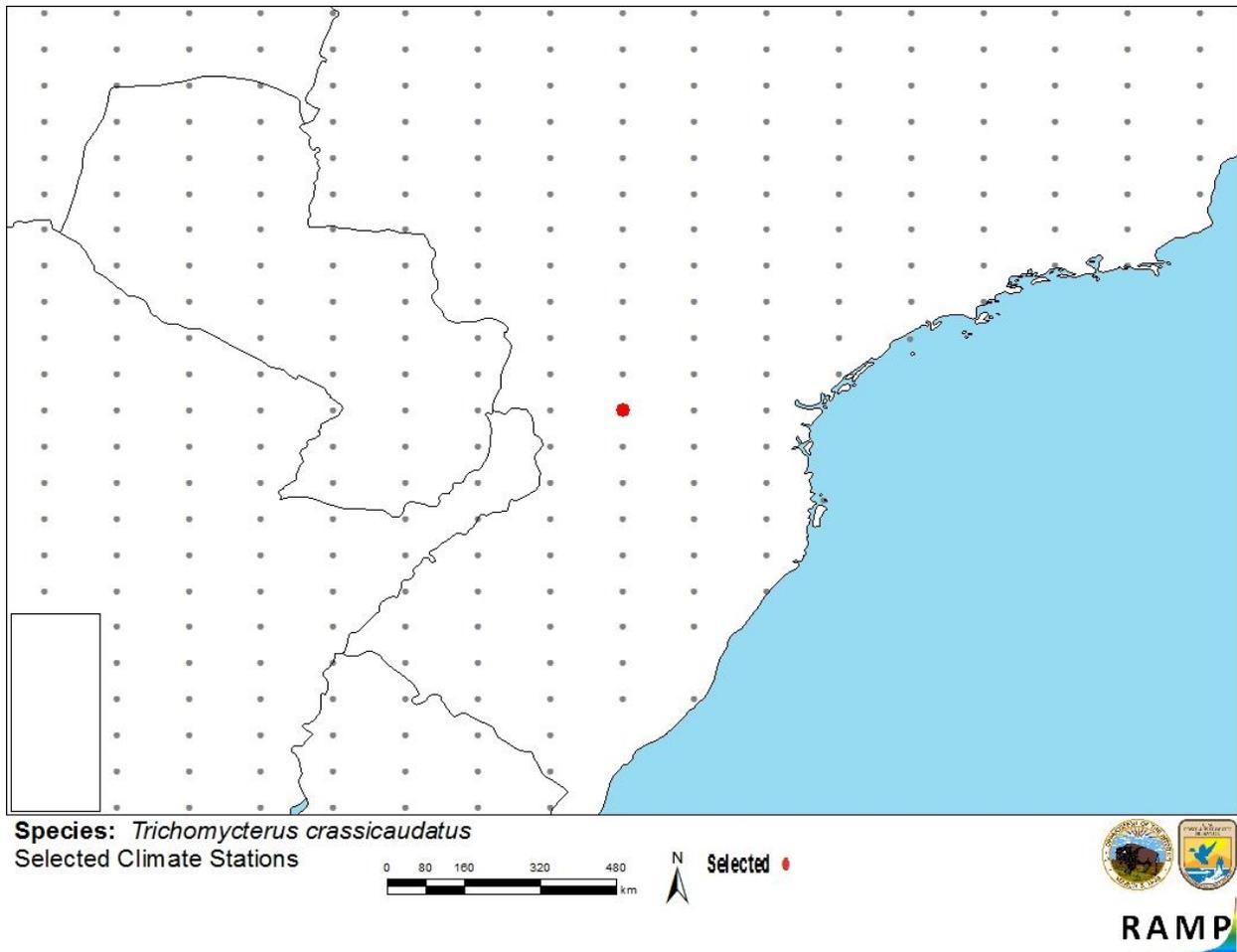
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This species has not been reported in the U.S.

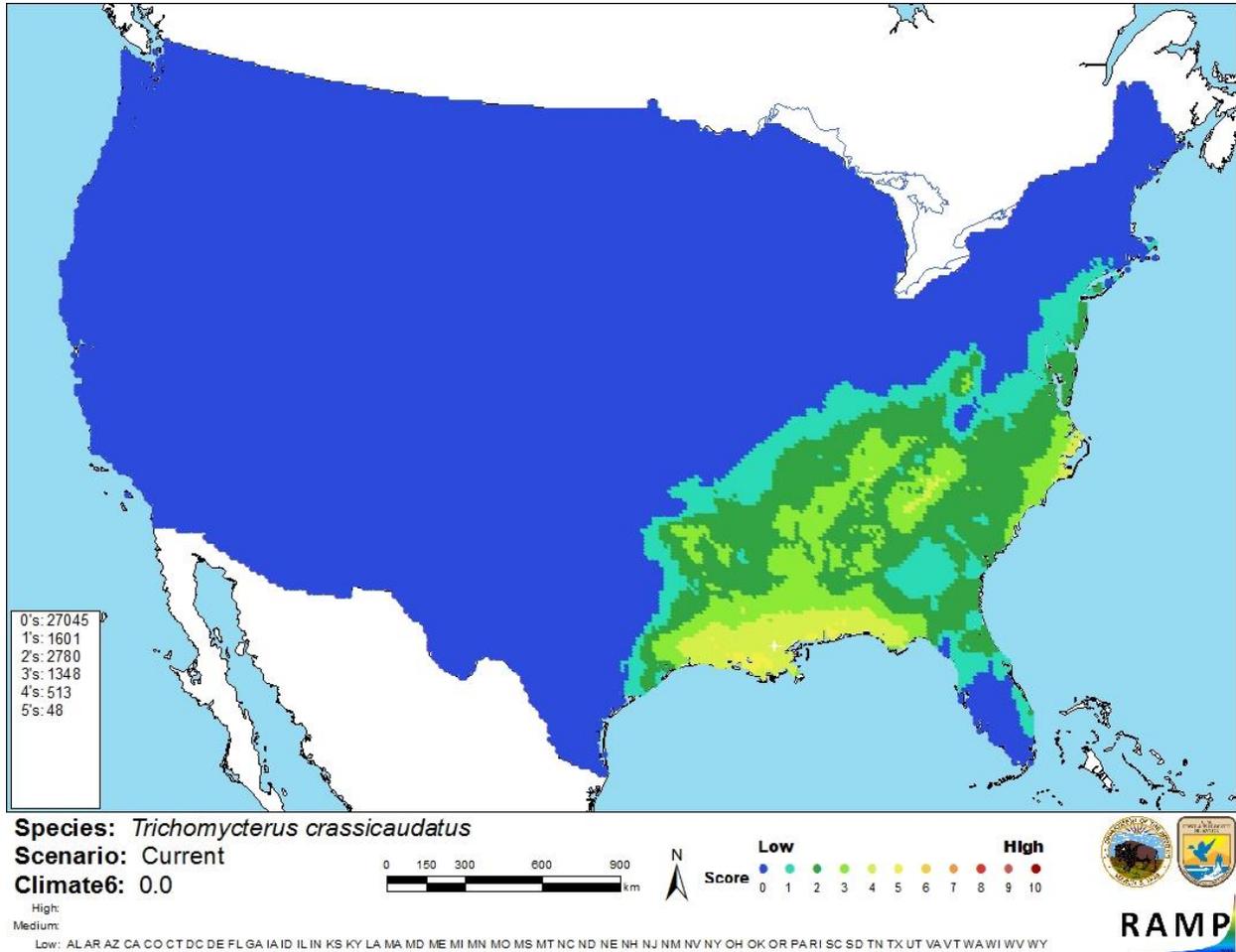
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium on the central Gulf of Mexico coastline and in coastal North Carolina, and low elsewhere. Climate 6 proportion for the contiguous U.S. suggested a low climate match overall. The range of Climate 6 proportions indicating a low climate match is 0.000 to 0.005; the Climate 6 proportion for *T. crassicaudatus* was 0.000.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; southern Brazil) and non-source locations (gray) for *T. crassicaudatus* climate matching. Source location from Wosiacki and de Pinna (2008).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *T. crassicaudatus* in the contiguous United States based on source locations reported by Wosiacki and de Pinna (2008). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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
$\geq 0.103$	High

## 7 Certainty of Assessment

The biology and ecology of *T. crassicaudatus* are poorly known. It has never been reported as introduced outside its native range. The certainty of this assessment is low because of the lack of information about the species and potential impacts of its introduction.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus crassicaudatus* is native to the Rio Iguacu basin in Brazil and has not been reported as introduced outside of its native range. Without being able to observe introductions in other parts of the world, it is impossible to know the potential impacts of introduction of *T. crassicaudatus* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. crassicaudatus* as a prohibited species. Climate match to the contiguous U.S. is low. The overall risk posed by this species 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

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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.**

- Barreto, A. P., F. C. Armiliatio, V. M. Ribeiro, and V. Abilhoa. 2013. On the diet of two endemic and rare species of *Trichomycterus* (Ostariophysi: Trichomycteridae) in the Jordão River, Iguacu River basin, southern Brazil. *Estudos de Biologia* 35(84):17-23.
- FFWCC (Florida Fish and Wildlife Conservation Commission). 2016. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (December 2016).
- Froese, R., and D. Pauly, editors. 2016. *Trichomycterus crassicaudatus* Wosiacki & de Pinna, 2008. FishBase. Available: <http://www.fishbase.org/summary/63883>. (December 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus crassicaudatus* Wosiacki & de Pinna, 2008. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343059>. (December 2016).
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Wosiacki, W. B., and M. de Pinna. 2008. A new species of the Neotropical catfish genus *Trichomycterus* (Siluriformes: Trichomycteridae) representing a new body shape for the family. *Copeia* 2008(2):273-278.

## 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.**

Arratia, G. 1983. Preferencias de habitat de peces Siluriformes de aguas continentales de Chile (Fam. Diplomystidae y Trichomycteridae). *Studies on Neotropical Fauna and Environment* 18:217-237.