Trichomycterus caipora (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, November 2016
Revised, January 2017
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1 Native Range and Status in the United States

Native Range

From Lima et al. (2008):

"*Trichomycterus caipora* is only known from the type locality in the mountain streams of the rio Macabu basin, lagoa Feia drainage, serra de Macaé, northern Rio de Janeiro State, southeastern

Brazil […] The new species can be found in several sites in the upper and middle reaches of the rio Macabu and its tributary streams."

Status in the United States

This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

From FFWCC (2017):

"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 for research or for public exhibition by facilities that meet biosecurity criteria […] [The list of prohibited nonnative species includes] *Trichomycterus caipora*"

Means of Introductions in the United States

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

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From GBIF (2016):

"KINGDOM Animalia
PHYLUM Chordata
CLASS Actinopterygii
ORDER Siluriformes
FAMILY Trichomycteridae
GENUS *Trichomycterus*
SPECIES *Trichomycterus caipora*"

"TAXONOMIC STATUS
accepted species"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 11.6 cm SL male/unsexed; [Lima et al. 2008]"

Environment

From Lima et al. (2008):

"*Trichomycterus caipora* was collected in clear, fast flowing streams and small rivers, with substrate composed mainly by rocks, gravel and coarse sand […] The original Atlantic forest

vegetation is rare along the river banks; marginal vegetation, when present, was composed mainly by grass from adjacent pastures. Specimens were collected on the main channel of streams, in sites ranging from about 6 m to 15 m stream width, in depths of about 50 cm, on substrate composed by varied size rocks, in spots with medium to fast water current."

Climate/Range

From Froese and Pauly (2016):

"Tropical, preferred ?; 22°S - , 41°W -"

From Lima et al. (2008):

"*Trichomycterus caipora* was collected […] in altitudes between 80 and 210 m. Since no sampling was performed above this altitude, it is possible that *T. caipora* possesses a more extent longitudinal distribution."

Distribution Outside the United States

Native

From Lima et al. (2008):

"*Trichomycterus caipora* is only known from the type locality in the mountain streams of the rio Macabu basin, lagoa Feia drainage, serra de Macaé, northern Rio de Janeiro State, southeastern Brazil […] The new species can be found in several sites in the upper and middle reaches of the rio Macabu and its tributary streams."

Introduced

This species has not been reported as introduced outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced outside of its native range.

Short Description

From Froese and Pauly (2016):

"Body moderately deep, subcylindrical on anterior portion, compressed on caudal peduncle. Dorsal profile slightly convex between snout and end of dorsal-fin base, approximately straight from this point to base of caudal fin. Ventral profile convex between lower jaw and end of anal-fin base, straight on caudal peduncle. Head depressed, longer than wider, subtriangular in dorsal view. Eye at middle of head, orbital rim not free. Skin covering eye thin and translucent. Snout blunt. Mouth subventral. Lower lip with conspicuous lateral fleshy lobes. Tip of nasal barbel reaching posterior margin of eye. Tip of maxillary and rictal barbels reaching anterior portion of interopercular patch of odontodes. Base of maxillary and rictal barbels, lips and ventral portion of head covered by papillae. Pectoral-fin rays i,8. Pectoral fin somewhat triangular, lateral and posterior edges slightly convex. First pectoral-fin ray terminating as long

filament. Dorsal and anal fins approximately triangular. Caudal fin emarginate. Dorsal-fin rays vii,5-6; anal-fin rays v,5; pelvic-fin rays i,4; principal caudal-fin rays 6+7, dorsal procurrent rays 12-16, ventral procurrent rays 11-15. Free vertebrae 35-36; precaudal vertebrae 12; caudal vertebrae 23-24."

Biology

From Lima et al. (2008):

"*Trichomycterus caipora* seems to be [*sic*] nocturnal species. Only five juvenile specimens were captured in daylight, whereas 16 specimens were easily collected at dawn and night time. Underwater observations during daytime did not detect active individuals of *Trichomycterus caipora*. Only one individual was seen hiding under plant debris and rocks, in a shallow area of a pool just downstream from Cachoeira Amorosa, a 15 m high waterfall. Furthermore, three specimens of *T. aff. zonatus* were caught at this period always in sand beds, while 17 specimens were captured during daylight, when they were swimming active or buried in sand. This could suggest diel and microhabitat segregation between these congeneric species."

Human Uses

No information available.

Diseases

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

Threat to Humans

From Froese and Pauly (2016):

"Harmless"

3 Impacts of Introductions

This species has not been reported as introduced outside of its native range. The Florida Fish and Wildlife Conservation Commission (2017) has listed the parasitic catfish *T. caipora* as a prohibited species.

4 Global Distribution

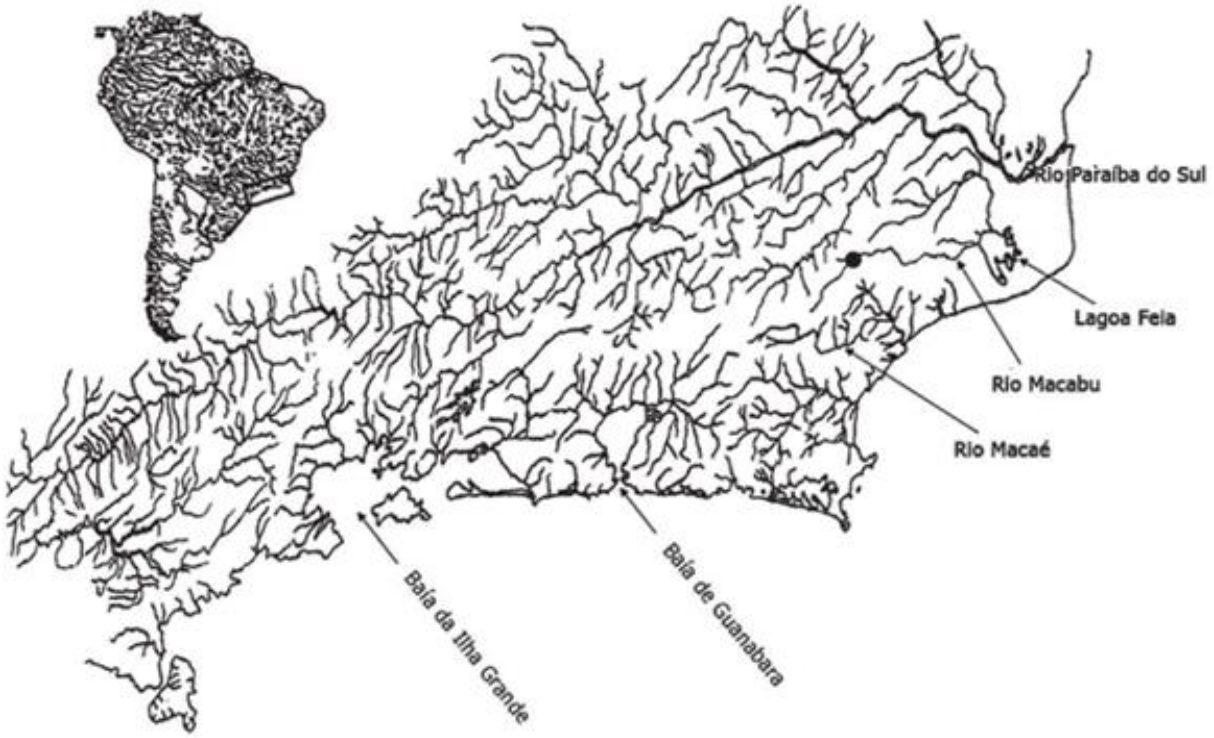

Figure 1. Known global established locations of *Trichomycterus caipora*. Black dot in upper right represents multiple sampling localities in the rio Macabu basin in Brazil. Map from Lima et al. (2008), licensed under CC BY-NC.

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in southwestern Florida and low throughout the remainder of the contiguous United States. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. Proportions less than or equal to 0.005 indicate a low match; the climate match of *Trichomycterus caipora* was 0.0.

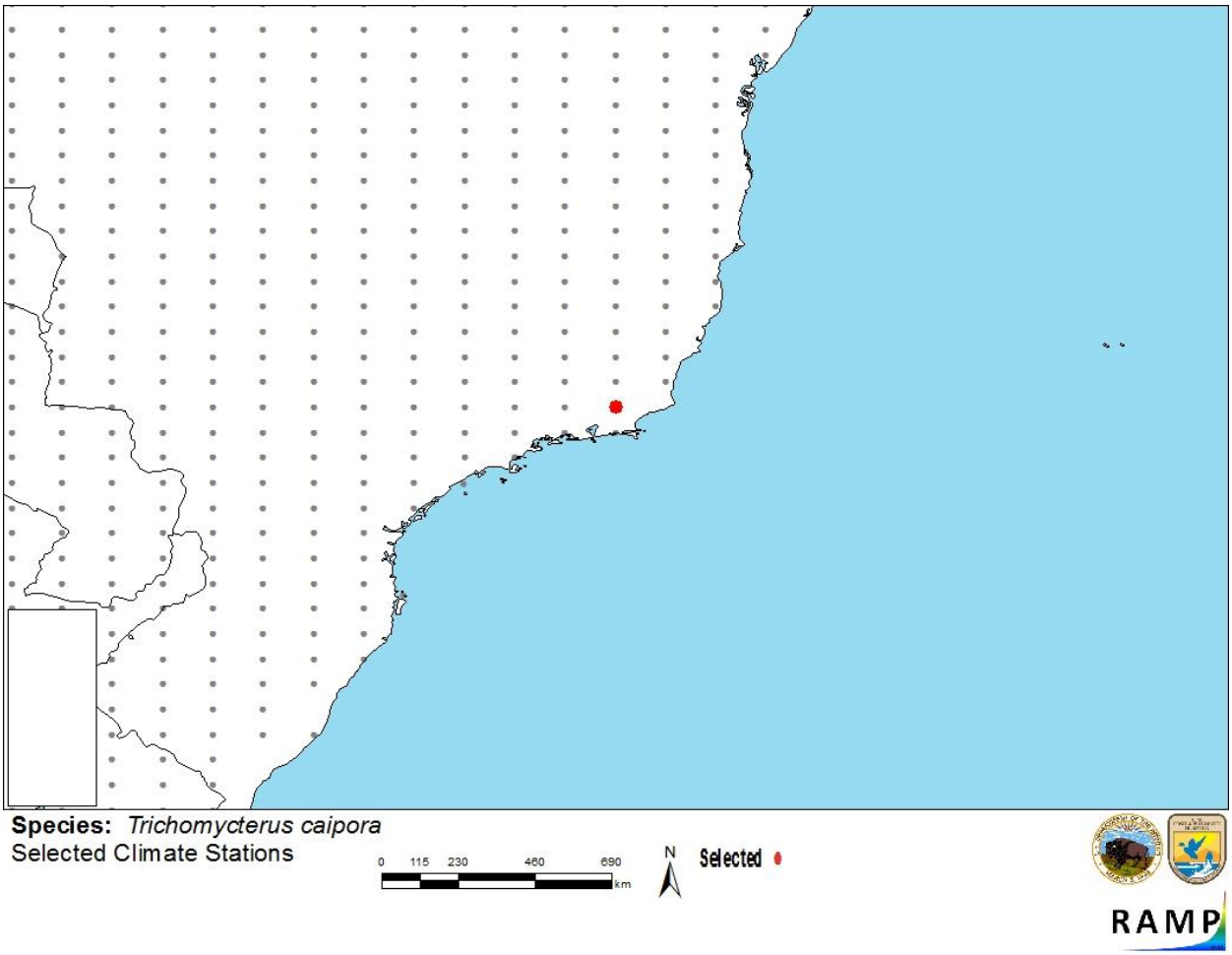

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in southern Brazil selected as source location (red) and non-source locations (gray) for *Trichomycterus caipora* climate matching. Source locations from Lima et al. (2008).

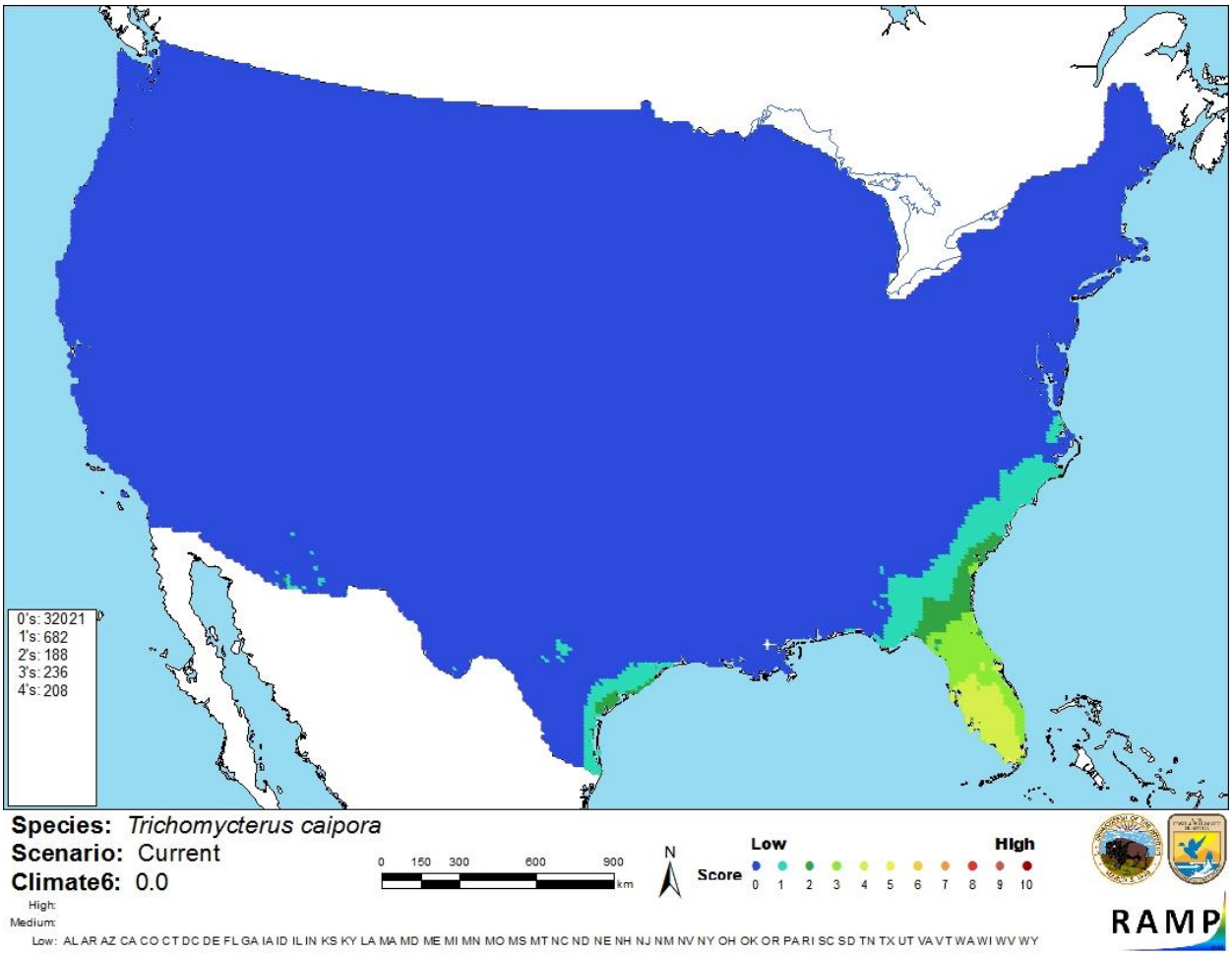

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus caipora* in the contiguous United States based on source locations reported by Lima et al. (2008). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

There is limited information available on the biology of *T. caipora* and the species distribution is restricted. There is no information available on impacts of introduction because no introductions have been documented. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus caipora is a freshwater catfish native to southeastern Brazil; it is known only from the type locality. There are no documented introductions of this species outside of its native range from which to evaluate a history of invasiveness. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. caipora* as a prohibited species. *T. caipora* has a low climate match with the United States. 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**
- **Overall Risk Assessment Category: Uncertain**

9 References

FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#Trichomycterus. (January 2017).

Froese, R., and D. Pauly, editors. 2016. *Trichomycterus caipora* (Lima, Lazzarotto & Costa, 2008). FishBase. Available: http://www.fishbase.org/summary/Trichomycterus-caipora.html. (November 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus caipora* Lima, Lazzarotto & Costa, 2008. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343219. (January 2017).

Lima, S. M. Q., H. Lazzarotto, and W. J. E. M. Costa. 2008. A new species of *Trichomycterus* (Siluriformes: Trichomycteridae) from lagoa Feia drainage, southeastern Brazil. Neotropical Ichthyology 6(3):315-322.

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.