

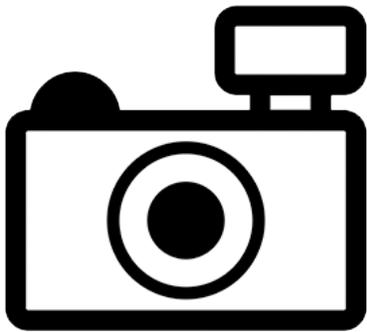
***Trichomycterus cubataonis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016

Revised, May 2017

Web Version, 5/4/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Katz and Barboza (2014):

“Known from the Cubatão river basin, southern 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 cubataonis*”

Means of Introductions in the United States

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

Remarks

From Katz and Barboza (2014):

“*Trichomycterus cubataonis* Bizerril, 1994 was described from the Cubatão [R]iver, a southern coastal basin [Bizerril, 1994]. Later it was considered to be a junior synonym of *Trichomycterus zonatus* Eigenmann, 1918 [de Pinna and Wosiacki 2003]. *Trichomycterus cubataonis* is herein re-described and revalidated.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Trichomycterinae
Genus *Trichomycterus*
Species *Trichomycterus cubataonis* Bizerril, 1994”

“Current Standing: valid”

Size, Weight, and Age Range

Katz and Barboza (2014) report a mean standard length of 34.7 mm and a range of 24.3-52.3 mm among 10 specimens.

Environment

From Eschmeyer et al. (2016):

“Habitat: freshwater.”

Climate/Range

From Katz and Barboza (2014):

“[...] neotropical [...]”

Distribution Outside the United States

Native

From Katz and Barboza (2014):

“Known from the Cubatão river basin, southern 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 Katz and Barboza (2014):

“It is hypothesized as closely related to *T. diabolus*, *T. itatiayae*, *T. maculosus* and *T. nigroautarus* based on the presence of a broad metapterygoid, which is wider than deeper. *Trichomycterus cubataonis* differs from the above four species by the number of pectoral, dorsal, and anal-fins rays, origin of anal fin related to the dorsal-fin base, insertion of pelvic-fin related to the vertebrae, origin of dorsal- and anal fins related to the vertebrae, number of dorsal and ventral procurrent rays of caudal fin, number of odontodes of the opercular and interopercular patch, length, depth and width of the head, and eye size. Moreover, *T. cubataonis* differs from *T. zonatus* mainly by the insertion of pelvic-fin related to the vertebrae, origin of dorsal- and anal fins related to the vertebrae, number of anal fin rays, and the position of the anal fin related to the dorsal-fin base.”

“Body subcylindrical on anterior portion, compressed on caudal peduncle. [...] Dorsal and anal fins approximately triangular. [...] Head trapezoidal in dorsal view. Snout blunt. Mouth subventral. Maxilla shorter than premaxilla. Teeth conic. Eye at middle of head. Barbels well developed. Tip of nasal, maxillary and rictal barbels reaching anterior edge of opercular patch of odontodes. [...] body and head golden yellowish with light brown blotches along entire body, well-defined light brown blotches along entire body, blotches forming irregular stripe along lateral midline of flank, between pectoral and caudal fins. Nasal, maxillar and rictal barbels golden yellowish. Dorsal, pectoral and anal fins light orange, with a small diagonal white stripe in the middle.”

Biology

From Katz and Barboza (2014):

“*Trichomycterus cubataonis* was found in a narrow stream (about 100 cm wide and 50 cm deep) under a bridge. The species was mainly collected along the stream banks, on gravel or litter substrate. Sympatrically were in the same habitat the Corydoradinae: *Corydoras ehrhardti* and *Scleromystax barbatus*, the Characidae: *Astyanax* sp., the Loricariidae: *Rhineloricaria* sp. and the Poeciliidae: *Phalloceros* sp.”

Human Uses

No information available.

Diseases

No information available.

Threat to Humans

No information available.

3 Impacts of Introductions

No introductions of this species have been reported.

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

4 Global Distribution

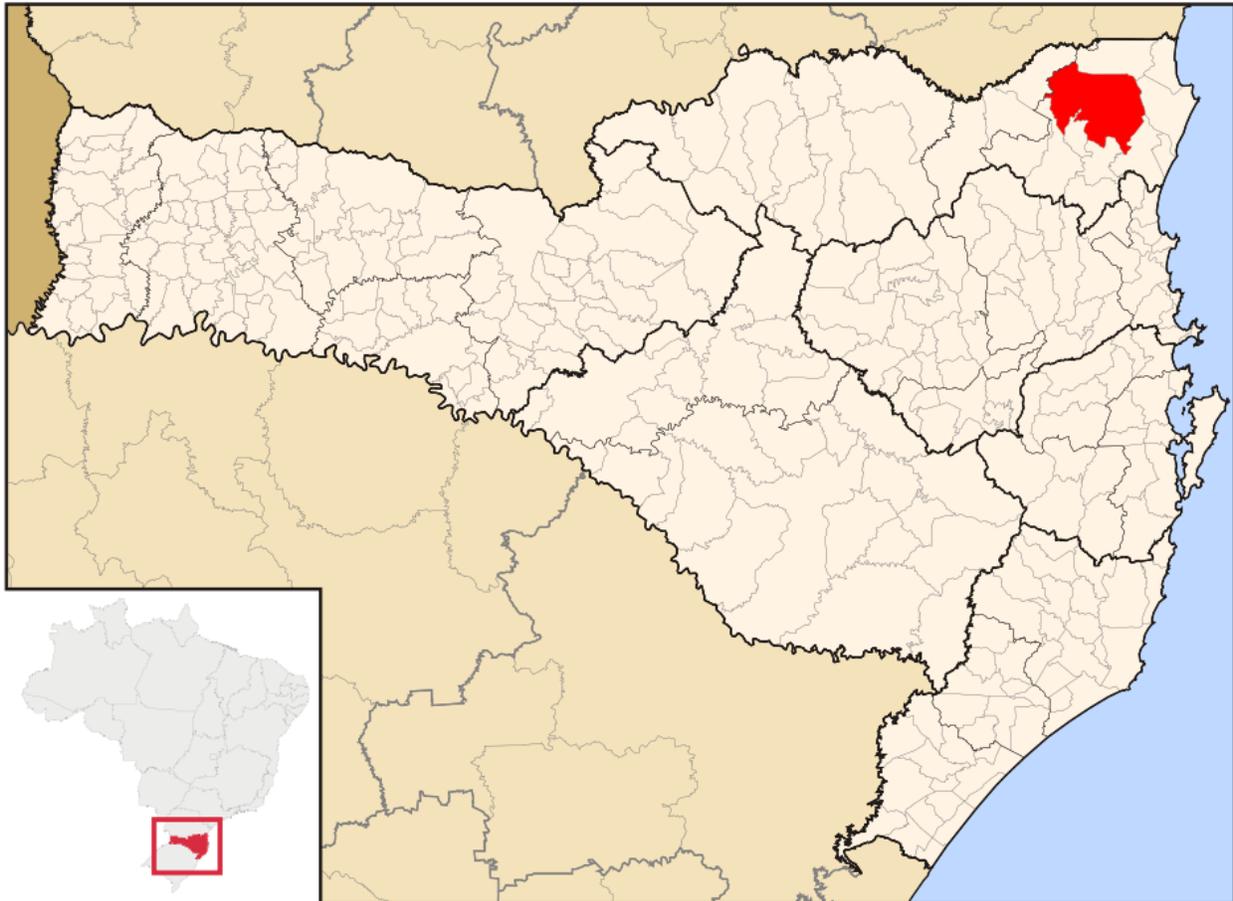


Figure 1. Municipality of Joinville, Santa Catarina State, Brazil, a collection location for *T. cubataonis* according to Katz and Barboza (2014). Map image: Cícero Henrique Rodrigues. Licensed under CC BY 2.5. Available: <https://commons.wikimedia.org/w/index.php?curid=892595>. (May 2017).

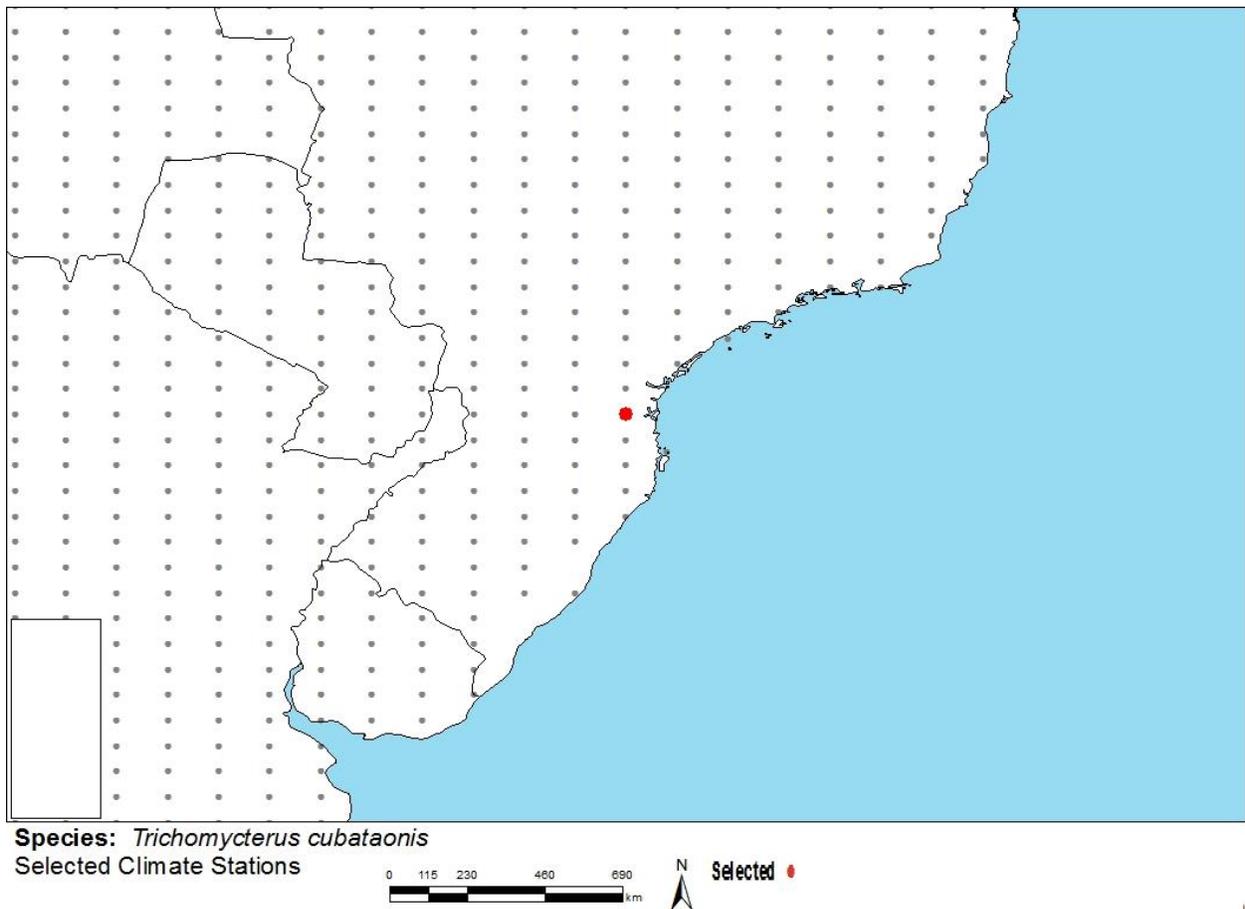
5 Distribution Within the United States

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 along parts of the Gulf of Mexico and Atlantic Ocean coastlines from New Jersey to eastern Texas, excluding much of peninsular Florida. The climate match was low throughout the remainder of the contiguous U.S., reflected in a Climate 6 proportion of 0.0 for the contiguous U.S. as a whole. The range for Climate 6 proportions indicating a low climate match is 0.000 to 0.005.



RAMP

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. cubataonis* climate matching. Source location from Katz and Barboza (2014).

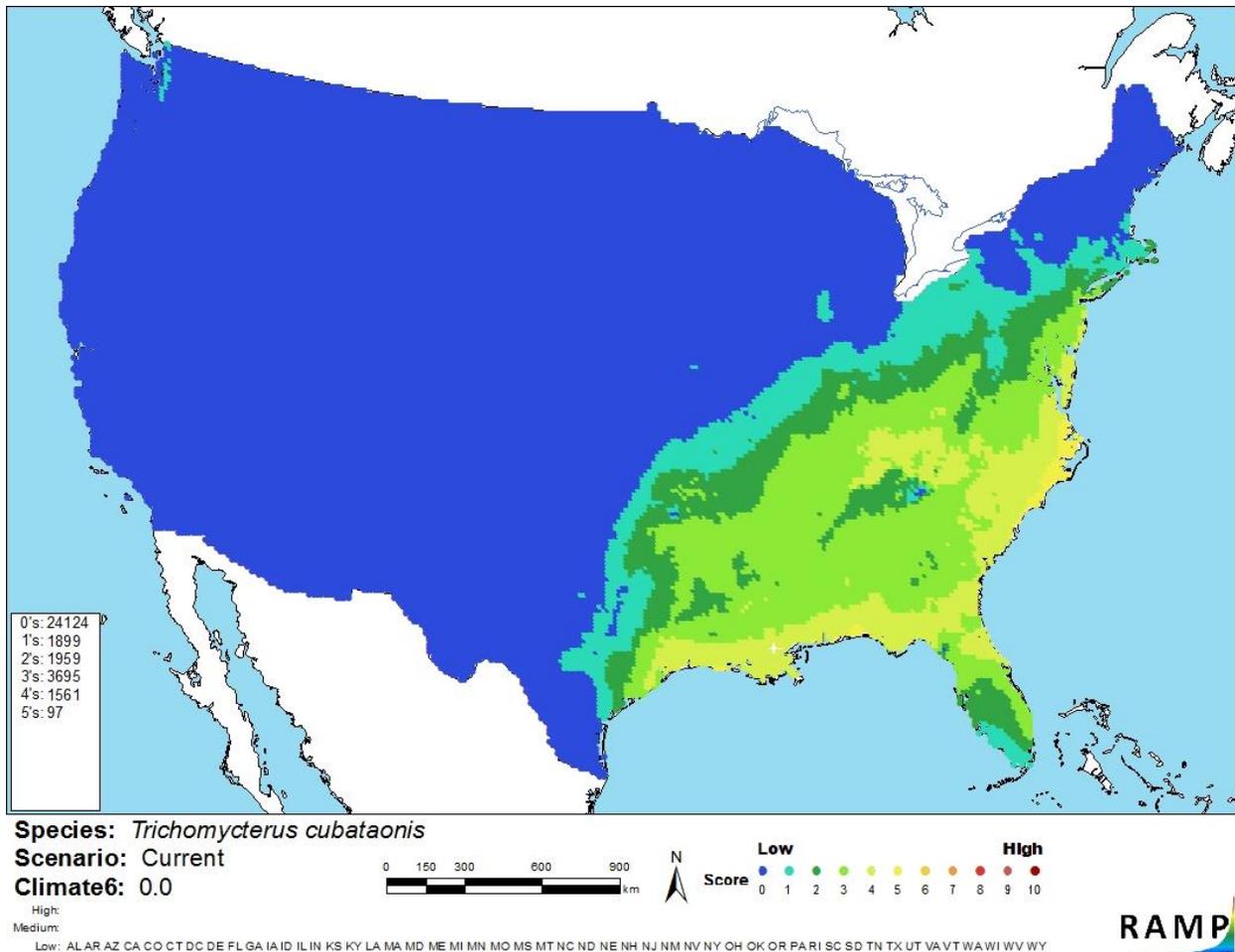


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. cubataonis* in the contiguous United States based on source location from Katz and Barboza (2014). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the right.

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

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus cubataonis is a catfish known only from the Cubatão River basin in southern Brazil. It has not been 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. cubataonis* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. cubataonis* 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

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. 2016. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (December 2016).

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).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus cubataonis* Bizerril, 1994. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682199#null. (December 2016).

Katz, A. M., and M. A. Barbosa. 2014. Re-description of *Trichomycterus cubataonis* Bizerril, 1994 (Siluriformes: Trichomycteridae) from the Cubatão river basin, southern Brazil. *Vertebrate Zoology* 64(1):3-8.

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. 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.

Bizerril, C. R. S. F. 1994. Descrição de uma nova espécie de *Trichomycterus* (Siluroidei, Trichomycteridae) do Estado de Santa Catarina, com uma sinopse da composição da família Trichomycteridae no leste Brasileiro. *Arquivos de Biologia e Tecnologia* 37:617-628.

de Pínna, M. C. C., and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270-290 in R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Check list of the freshwater fishes of South and Central America. Edipucrs, Porto Alegre, Brazil.