

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

## **Ecological Risk Screening Summary**

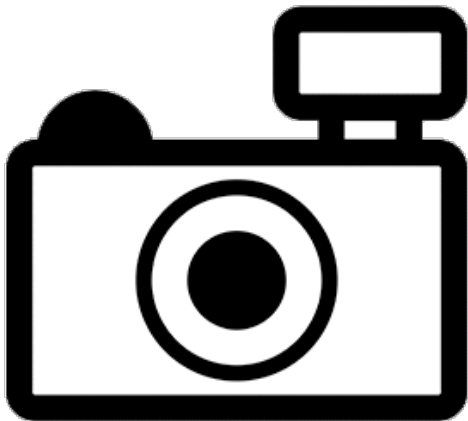
U.S. Fish & Wildlife Service, May 2012

Revised, June 2018

Web Version, 10/13/2021

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2018):

“South America: San Juan River, Motatán drainage, Lake Maracaibo basin in Venezuela.”

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

*Trichomycterus motatanensis* has not been reported in the wild or in trade in the United States.

From Arizona Office of the Secretary of State (2013):

“I. Fish listed below are considered restricted wildlife: [...]”

9. All species of the family Cetopsidae and Trichomycteridae. Common name: South American catfish.”

From California Department of Fish and Wildlife (2019):

“It shall be unlawful to import, transport, or possess live animals restricted in subsection (c) below except under permit issued by the department. [...] Family Trichomycteridae (Pygidiidae)-Parasitic Catfishes.: All species”

The Florida Fish and Wildlife Conservation Commission has listed all species in the family Trichomycteridae as prohibited species. Prohibited nonnative species (FFWCC 2021), “are considered to be dangerous to Florida’s native species and habitats or could pose threats to the health and welfare of the people of Florida.”

From Georgia DNR (2020):

“The exotic species listed below, except where otherwise noted, may not be held as pets in Georgia. This list is not all inclusive. [...] Parasitic catfishes; all species”

From Louisiana State Legislature (2019):

“No person, firm, or corporation shall at any time possess, sell, or cause to be transported into this state by any other person, firm, or corporation, without first obtaining the written permission of the secretary of the Department of Wildlife and Fisheries, any of the following species of fish: freshwater electric eel (*Electrophorus* sp.); rudd (*Scardinius erythrophthalmus*); all members of the families Synbranchidae (Asian swamp eels); Channidae (snakeheads); Clariidae (walking catfishes); Trichomycteridae (pencil catfishes); [...]”

From Mississippi Secretary of State (2019):

“All species of the following animals and plants have been determined to be detrimental to the State's native resources and further sales or distribution are prohibited in Mississippi. No person shall import, sell, possess, transport, release or cause to be released into the waters of the state any of the following aquatic species or hybrids thereof. However, species listed as prohibited may be allowed under a permitting process where environmental impact has been assessed. [...] Pencil or parasitic catfishes Family Trichomycteridae \*\*\*\* [indicating all species within the family are included in the regulation]”

From State of Nevada (2018):

“Except as otherwise provided in this section and NAC 504.486, the importation, transportation or possession of the following species of live wildlife or hybrids thereof, including viable embryos or gametes, is prohibited: [...] South American Parasitic Catfish.....All species in the families Cetopsidae and Trichomycteridae”

From Oklahoma Secretary of State (2019):

“Until such time as is necessary for the Department of Wildlife Conservation to obtain adequate information for the determination of other harmful or potentially harmful exotic species, the importation into the State and/or the possession of the following exotic fish or their eggs is prohibited: [...]

Parasitic South American Catfish group (Candiru), genera & species of the Trichomycteridae family. *Vandellia* spp., *Tridens* spp., and *Pygidium* spp.”

From Texas Parks and Wildlife (2020):

“The organisms listed here are legally classified as exotic, harmful, or potentially harmful. No person may possess or place them into water of this state except as authorized by the department. Permits are required for any individual to possess, sell, import, export, transport or propagate listed species for zoological or research purposes; for aquaculture (allowed only for Blue, Nile, or Mozambique tilapia, Triploid Grass Carp, or Pacific White Shrimp); or for aquatic weed control (for example, Triploid Grass Carp in private ponds). [...]

South American Parasitic Candiru Catfishes, Family Trichomycteridae All species”

From Utah Office of Administrative Rules (2019):

“All species of fish listed in Subsections (2) through (30) are classified as prohibited for collection, importation and possession, [...] Parasitic catfish (candiru, carnero) family Trichomycteridae (All species).”

## Means of Introductions in the United States

*Trichomycterus motatanensis* has not been reported in the United States.

## Remarks

No additional remarks.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Trichomycterus motatanensis* (Schultz 1944) is the current valid name of this species. *Trichomycterus motatanensis* was originally described as *Pygidium emanueli motatanensis* Schultz 1944.

From ITIS (2018):

Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata

Infraphylum Gnathostomata  
Superclass Actinopterygii  
Class Teleostei  
Superorder Ostariophysi  
Order Siluriformes  
Family Trichomycteridae  
Subfamily Trichomycterinae  
Genus *Trichomycterus*  
Species *Trichomycterus motatanensis* (Schultz, 1944)

## Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 7.1 cm male/unsexed; [de Pínna and Wosiacki 2003]”

## Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

## Climate

From Froese and Pauly (2018):

“Tropical”

## Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: San Juan River, Motatán drainage, Lake Maracaibo basin in Venezuela.”

Introduced

No records of *Trichomycterus motatanensis* being introduced outside its native range were found.

## Means of Introduction Outside the United States

No records of *Trichomycterus motatanensis* being introduced outside its native range were found.

## Short Description

From Schultz (1944):

“Three dark bands on sides, none along middorsal line of back anteriorly; a blackish band on midsides along lateral line, above and below which is a pale band or streak; below lower pale

streak a band, more or less a series of diffuse blotches running together, beginning in axil of pectoral and continuing above pelvic base and fading posteriorly; above upper pale streak a third intense dark band, beginning at base of nasal barbel, passing through eye, thence a little distance away from base of dorsal, fading posteriorly; no middorsal dark streak; origin of dorsal fin equal distance from base of midcaudal fin rays and middle of length of branched rays of pelvics; insertion of pelvics equal distance from base of midcaudal fin rays and about middle of postorbital length of head; nasal barbel reaches past end of operculum; length of upper prolonged pectoral ray contained 1 to  $1\frac{1}{7}$  times in distance from its tip to insertion of pelvics.”

## **Biology**

No information on the biology of *Trichomycterus motatanensis* was found.

## **Human Uses**

No information on the human uses of *Trichomycterus motatanensis* was found.

## **Diseases**

No information on parasites or pathogens of *Trichomycterus motatanensis* was found. **No records of OIE-reportable diseases (OIE 2021) were found for *T. motatanensis* were found.**

## **Threat to Humans**

From Froese and Pauly (2018):

“Harmless”

## **3 Impacts of Introductions**

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No records of *Trichomycterus motatanensis* introductions were found.

*T. motatanensis* is regulated in multiple States.

## **4 History of Invasiveness**

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There have been no reports of introductions of *Trichomycterus motatanensis* outside of its native range, so the history of invasiveness is classified as No Known Nonnative Population.

## 5 Global Distribution

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## 6 Distribution Within the United States

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*Trichomycterus motatanensis* has not been reported in the United States.

## 7 Climate Matching

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### Summary of Climate Matching Analysis

The climate match for *Trichomycterus motatanensis* was low for the majority of the country with a small patch of medium match in southern Texas. The overall Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are considered low). All States in the contiguous United States had a low individual Climate 6 score.

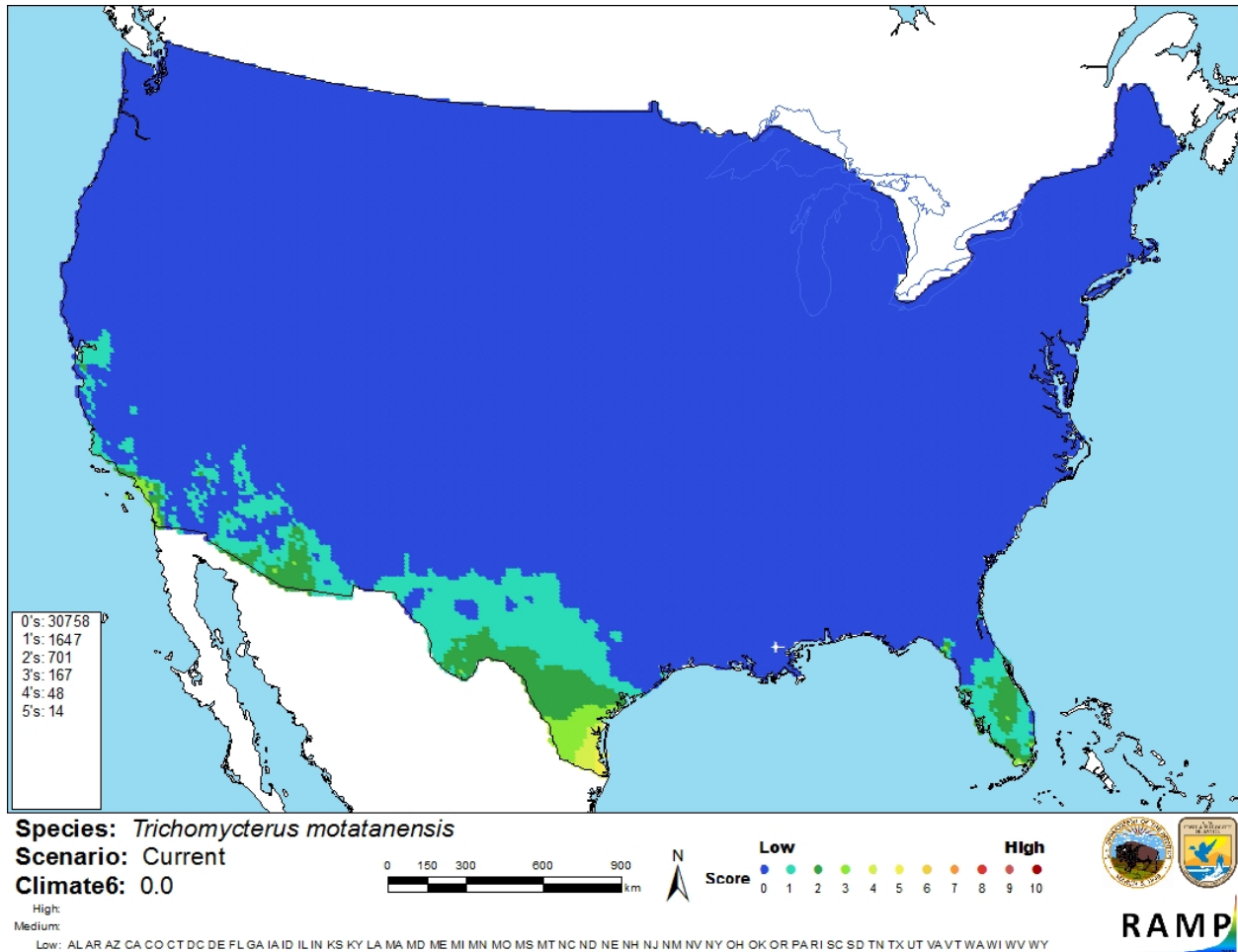


**Species:** *Trichomycterus motatanensis*  
Selected Climate Stations



Selected •





**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus motatanensis* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 8 Certainty of Assessment

The certainty of this assessment is low. There is minimal information for *Trichomycterus motatanensis* and a lack of peer-reviewed literature.



## 9 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus motatanensis* is a freshwater catfish native to Venezuela. There was no indication this species is in trade or has other human uses. *T. motatanensis* is regulated in multiple States. The history of invasiveness is classified as No Known Nonnative Population, as it has not been reported as introduced or established outside of its native range. The overall climate match resulted in a Low climate match for the entire United States. There was a small area of medium match in southern Texas. The certainty of this assessment is Low due to lack of information. The overall risk assessment category is Uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 4): No known nonnative population**
- **Overall Climate Match (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information:** No additional remarks.
- **Overall Risk Assessment Category: Uncertain**

## 10 Literature Cited

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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 11.**

Arizona Office of the Secretary of State. 2013. Live wildlife. Arizona Administrative Code, Game and Fish Commission, Title 12, Chapter 4, Article 4.

California Department of Fish and Wildlife. 2019. Restricted species laws and regulations manual. Available: <https://wildlife.ca.gov/Conservation/Invasives/Regulations> (November 2020).

Eschmeyer WN, Fricke R, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (June 2018).

[FFWCC] Florida Fish and Wildlife Conservation Commission. 2021. Prohibited nonnative species list. Tallahassee: Florida Fish and Wildlife Conservation Commission. Available: <https://myfwc.com/wildlifehabitats/nonnatives/prohibited-species-list/> (August 2021).

Froese R, Pauly D, editors. 2018. *Trichomycterus motatanensis* (Schultz, 1944). FishBase. Available: <https://www.fishbase.de/summary/Trichomycterus-motatanensis.html> (June 2018).

- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Trichomycterus motatanensis* (Schultz, 1944). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/2343142> (June 2018).
- Georgia [DNR] Department of Natural Resources. 2020. Wild animals/exotics. Social Circle: Georgia Department of Natural Resources Law Enforcement Division. Available: <http://gadnrle.org/exotics> (November 2020).
- [ITIS] Integrated Taxonomic Information System. 2018. *Trichomycterus motatanensis* (Schultz, 1944). Reston, Virginia: Integrated Taxonomic Information System. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682237](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682237) (June 2018).
- Louisiana State Legislature. 2019. Exotic fish; importation, sale, and possession of certain exotic species prohibited; permit required; penalty. Louisiana Revised Statutes, Title 56, Section 319.
- Mississippi Secretary of State. 2019. Guidelines for aquaculture activities. Mississippi Administrative Code, Title 2, Part 1, Subpart 4, Chapter 11. Jackson: Office of the Mississippi Secretary of State, Regulatory and Enforcement Division.
- [OIE] World Organisation for Animal Health. 2021. Animal diseases. Available: <https://www.oie.int/en/what-we-do/animal-health-and-welfare/animal-diseases/> (September 2021).
- Oklahoma Secretary of State. 2019. List of restricted exotic species. Oklahoma Administrative Code, Title 800, Chapter 20-1-2.
- Sanders S, Castiglione C, Hoff M. 2014. Risk Assessment Mapping Program: RAMP. Version 2.81. U.S. Fish and Wildlife Service.
- Schultz LP. 1944. The catfishes of Venezuela, with descriptions of thirty-eight new forms. *Proceedings of the United States National Museum* 94:173–338.
- State of Nevada. 2018. Restrictions on importation, transportation and possession of certain species. Nevada Administrative Code, Chapter 503, Section 110.
- Texas Parks and Wildlife. 2020. Invasive, prohibited and exotic species. Austin: Texas Parks and Wildlife. Available: [https://tpwd.texas.gov/huntwild/wild/species/exotic/prohibited\\_aquatic.phtml](https://tpwd.texas.gov/huntwild/wild/species/exotic/prohibited_aquatic.phtml) (November 2020).
- Utah Office of Administrative Rules. 2019. Classification and specific rules for fish. Utah Administrative Code, Rule R657-3-23.

## 11 Literature Cited in Quoted Material

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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.**

de Pinna MCC, Wosiacki W. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270–290 in Reis RE, Kullander SO, Ferraris CJ Jr, editors. Checklist of the freshwater fishes of South and Central America. Porto Alegre, Brazil: EDIPUCRS.