

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

## Ecological Risk Screening Summary

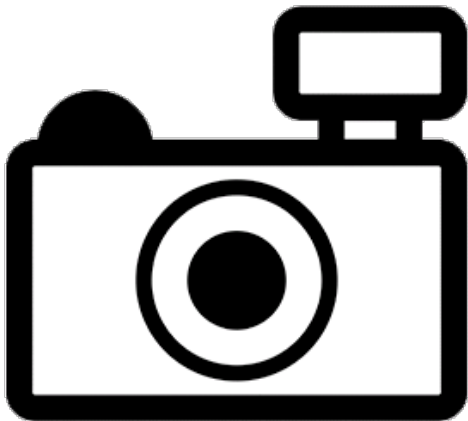
U.S. Fish & Wildlife Service, January 2017

Revision, June 2018

Web Version, 10/26/2021

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: Colombian Andes.”

### Status in the United States

No records of *Trichomycterus nigromaculatus* in the wild or in trade in the United States were found.

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 the tilapia *Trichomycterus nigromaculatus* as a prohibited species. Prohibited nonnative species (FFWCC 2016), "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.”

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

No records of *Trichomycterus nigromaculatus* in the United States were found.

## Remarks

No additional remarks.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Trichomycterus nigromaculatus* Boulenger 1887 is the valid name for this species; it is also the original name.

From ITIS (2017):

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 nigromaculatus* Boulenger, 1887

## Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 16.5 cm male/unsexed; [de Pinna 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: Colombian Andes.”

Introduced

No records of *Trichomycterus nigromaculatus* introductions were found.

## Means of Introduction Outside the United States

No records of *Trichomycterus nigromaculatus* introductions were found.

## Short Description

From Angulo et al. (2018):

“*Trichomycterus nigromaculatus*: light brown with small to large dark brown spots on the sides and the dorsal portion of the body, usually with one or three dark brown lateral bands.”

## **Biology**

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

## **Human Uses**

No information on human uses of *Trichomycterus nigromaculatus* was found.

## **Diseases**

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

## **Threat to Humans**

From Froese and Pauly (2018):

“Harmless”

## **3 Impacts of Introductions**

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No records of *Trichomycterus nigromaculatus* introductions were found.

*T. nigromaculatus* is regulated in multiple States.

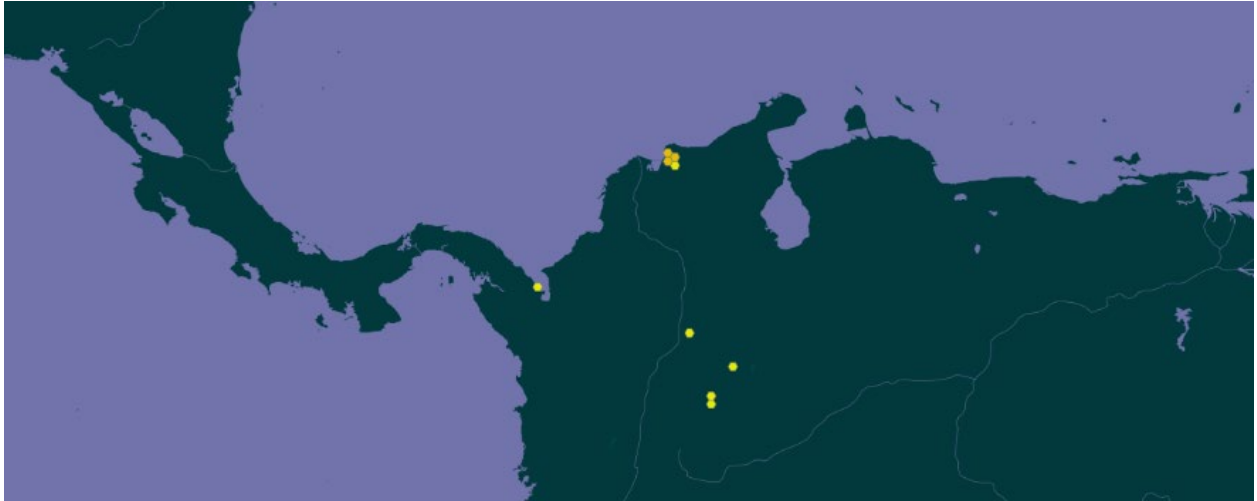
## **4 History of Invasiveness**

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No records of introduction were found for *Trichomycterus nigromaculatus*. No information regarding this species in trade was found. Therefore, 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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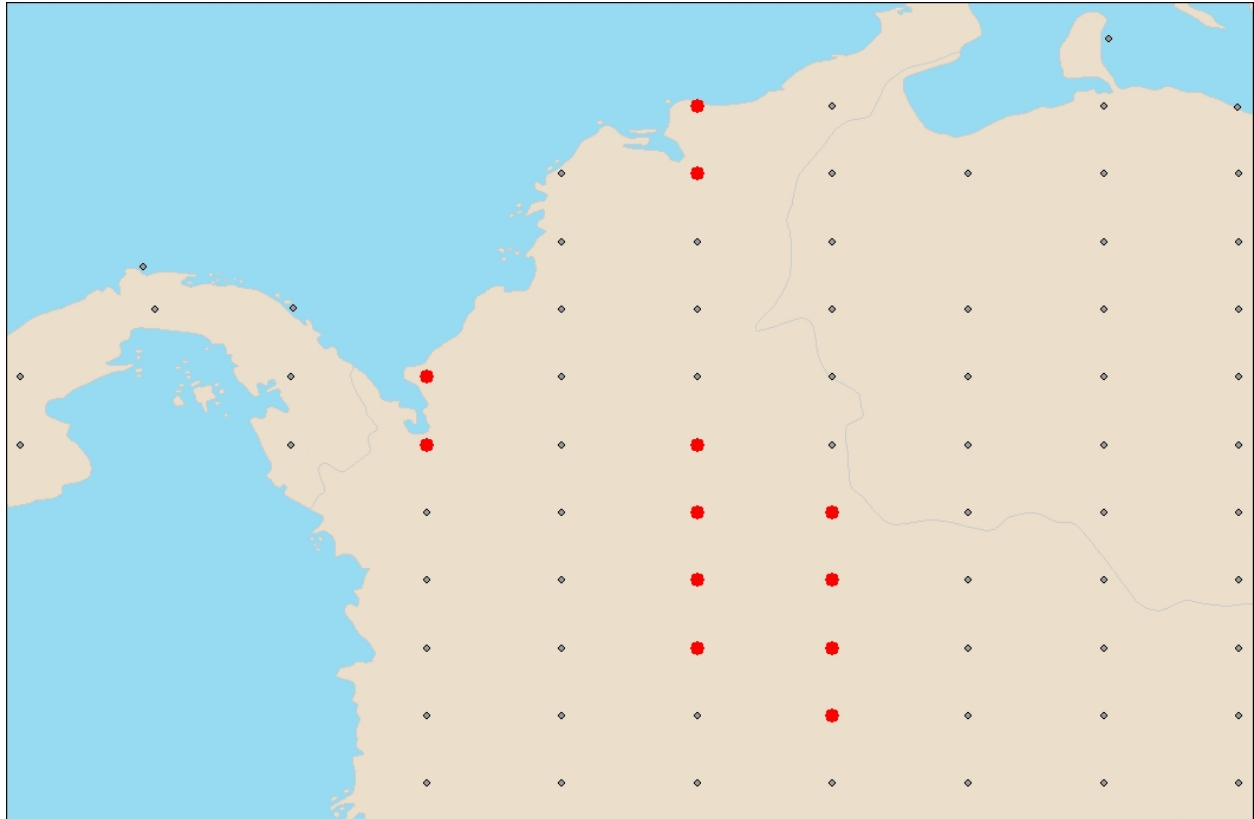
No records of *Trichomycterus nigromaculatus* in the United States were found.

## 7 Climate Matching

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### Summary of Climate Matching Analysis

The climate match for *Trichomycterus nigromaculatus* was low across the contiguous United States with a few small areas of medium matches in southern Florida, the coast of California, and northwestern Washington around the Puget Sound. There were no areas of high match. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual Climate 6 scores.



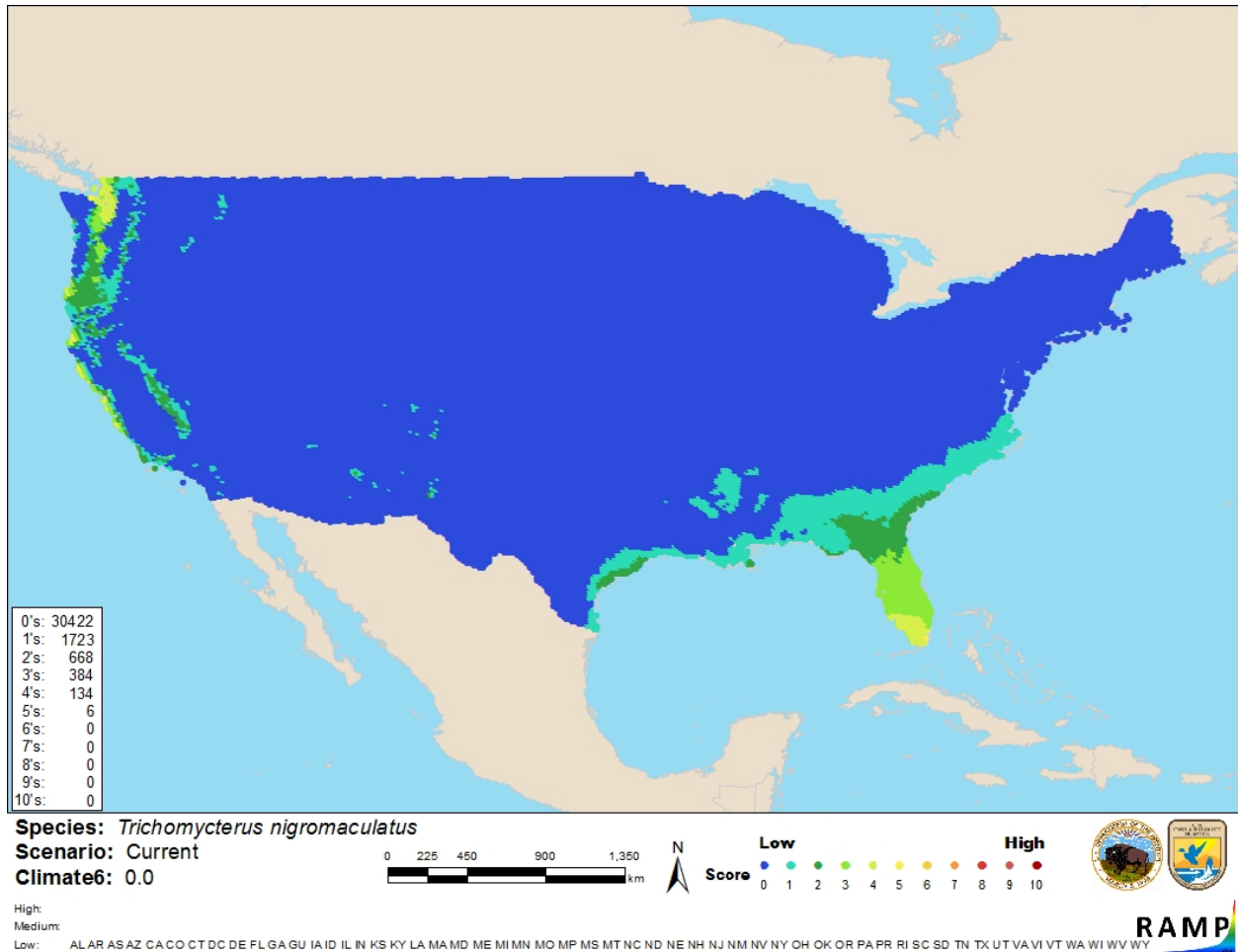
Species: *Trichomycterus nigromaculatus*  
Selected Climate Stations



Selected ●



RAMP



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus nigromaculatus* 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 assessment for *Trichomycterus nigromaculatus* is low. There is a general lack of information for this species.



## 9 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus nigromaculatus* is a species of trichomycterid catfish native to Colombia. There is very limited information on this species. No indication of this species in trade was found.

*T. nigromaculatus* is regulated in multiple States. The history of invasiveness is classified as No Known Nonnative Population. There are no records of introductions. The overall climate match was Low. There were a few small areas of medium match and no areas of high match. The certainty of assessment is low due to a general 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 information.
- **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.**

Angulo A, Donascimiento C, Lasso-Alcalá OM, Farah-Pérez A, Langeani F, McMahan CD. 2018. Redescription of *Trichomycterus striatus* (Meek and Hildebrand, 1913) (Siluriformes: Trichomycteridae), with notes on its geographic distribution. *Zootaxa* 4420:530–550.

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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. 2018. Prohibited species list. Tallahassee: Florida Fish and Wildlife Conservation Commission. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/> (June 2018).

- Froese R, Pauly D, editors. 2018. *Trichomycterus nigromaculatus* Boulenger, 1887. Available: <https://www.fishbase.de/summary/Trichomycterus-nigromaculatus.html> (June 2018).
- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Trichomycterus nigromaculatus* Boulenger, 1887. Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/2343201> (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 nigromaculatus* Boulenger, 1887. Reston, Virginia: Integrated Taxonomic Information System. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682240](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682240) (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).
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- State of Nevada. 2018. Restrictions on importation, transportation and possession of certain species. Nevada Administrative Code, Chapter 503, Section 110.
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- 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.**

Burgess WE. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. Neptune City, New Jersey: T.F.H. Publications.

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.