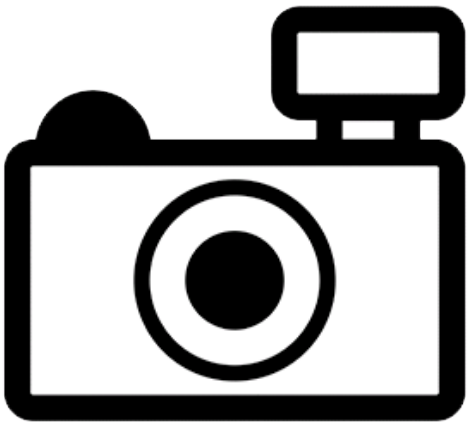
Trichomycterus spilosoma (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
Revised, February 2018
Web Version, 2/25/2020



1 Native Range and Status in the United States

Native Range

From Villa-Navarro et al. (2016):

"This species occurs in the rivers Dagua, San Juan, Sipí and Tamaná, in the Upper Cauca and Pacific river systems of Colombia (Maldonado-Ocampo et al. 2005, 2008, Castellanos-Morales and Galvis 2012). Its type locality is Sipí in the Chocó Department, and Tamaná River, in the San Juan River basin (Regan 1913)."

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 Arizona Secretary of State (2006):

"Fish listed below are restricted live wildlife [in Arizona] as defined in R12-4-401. […] South American parasitic catfish, all species of the family Trichomycteridae and Cetopsidae […]"

From Dill and Cordone (1997):

"[…] At the present time, 22 families of bony and cartilaginous fishes are listed [as prohibited in California], e.g. all parasitic catfishes (family Trichomycteridae) […]"

From FFWCC (2019):

"Nonnative Conditional species (formerly referred to as restricted species) and Prohibited species 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. These species are not allowed to be personally possessed, but can be imported and possessed by permit for research or public exhibition; Conditional species may also be possessed by permit for commercial sales. Facilities where Conditional or Prohibited species are held must meet certain biosecurity criteria to prevent escape."

Trichomycterus spilosoma is listed as a Prohibited species in Florida.

From Louisiana House of Representatives Database (2010):

"No person, firm, or corporation shall at any time possess, sell, or cause to be transported into this state [Louisiana] 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: […] all members of the families […] *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.
[The list includes all species of] Family Trichomycteridae"

From Legislative Council Bureau (2018):

"Except as otherwise provided in this section and NAC [Nevada Administrative Code] 504.486, the importation, transportation or possession of the following species of live wildlife or hybrids thereof, including viable embryos or gametes, is prohibited [in Nevada]: […]
All species in the families Cetopsidae and Trichomycteridae"

From Utah DNR (2012):

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

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 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 spilosoma*

From Eschmeyer et al. (2016):

"Current status: Valid as *Trichomycterus spilosoma* (Regan 1913). Trichomycteridae: Trichomycterinae."

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 25.0 cm male/unsexed; [de Pínna and Wosiacki 2003]"

Environment

From Villa-Navarro et al. (2016):

"It inhabits medium-sized rivers and water bodies with moderately strong current. It hides amongst the rocks and gravel in the substrate. It has been found more abundantly in good quality waters, although it is also known from well-oxygenated waters with high concentration of organic matter (Maldonado-Ocampo et al. 2005)."

Climate/Range
From Froese and Pauly (2016):

"Tropical"

Distribution Outside the United States
Native
From Villa-Navarro et al. (2016):

"This species occurs in the rivers Dagua, San Juan, Sipí and Tamaná, in the Upper Cauca and Pacific river systems of Colombia (Maldonado-Ocampo et al. 2005, 2008, Castellanos-Morales and Galvis 2012). Its type locality is Sipí in the Chocó Department, and Tamaná River, in the San Juan River basin (Regan 1913)."

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

Means of Introduction Outside the United States
This species has not been reported as introduced or established outside of its native range.

Short Description
From Regan (1913):

"Depth of body 7 to 8 in length, length of head 6 to 6 $\frac{3}{4}$. Head longer than broad, Diameter of eye 10 to 12 in length of head, $2\frac{1}{2}$ to 3 in interocular width; eyes very slightly in advance of middle of length of head, their distance from posterior nostrils $\frac{1}{6}$ or $\frac{1}{7}$ of length of head. Maxillary barbell nearly as long as head, extending to basal part of pectoral. Dorsal 9, with 6 branched rays; free edge straight; origin a little in advance of vent, $1\frac{2}{3}$ as far from end of snout as from base of caudal. Anal 7, with 4 branched rays; origin a little behind end of dorsal. Pectoral filament as long as head, branched rays $\frac{2}{3}$ to $\frac{3}{4}$ length of head. Caudal truncate or slightly emarginate. Yellowish, with dark brown spots on body and fins; young with a dark lateral band."

Biology
No information available.

Human Uses
From Villa-Navarro et al. (2016):

"The species is fished for local consumption (Lasso et al. 2011)."

Diseases
No OIE-reportable diseases (OIE 2020) 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 or established outside of its native range.

The importation, possession, or trade of the catfish *T. spilosoma* is prohibited or restricted in the following states: Arizona (Arizona Secretary of State 2006), California (Dill and Cordone 1997), Florida (FFWCC 2019), Louisiana (Louisiana House of Representatives Database 2010), Mississippi (Mississippi Secretary of State 2019), Nevada (Legislative Council Bureau 2018), and Utah (Utah DNR 2012).

4 Global Distribution

Figure 1. Known global distribution of *Trichomycterus spilosoma*, reported from Colombia and Ecuador. Map from GBIF Secretariat (2019). The occurrence reported in eastern Colombia was excluded from the climate matching analysis because the coordinates do not match the verbal description of the collection location. The occurrence reported in southwestern Ecuador was excluded from the climate matching analysis because it is located outside the known established range of the species.

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. 2018; 16 climate variables; Euclidean Distance) was medium on the Atlantic coast of Florida. A low match occurred throughout the remaining contiguous United States. The Climate 6 score indicated that the contiguous United States has a low overall climate match. The Climate 6 score of *Trichomycterus spilosoma* was 0.000. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All States had a low climate score.

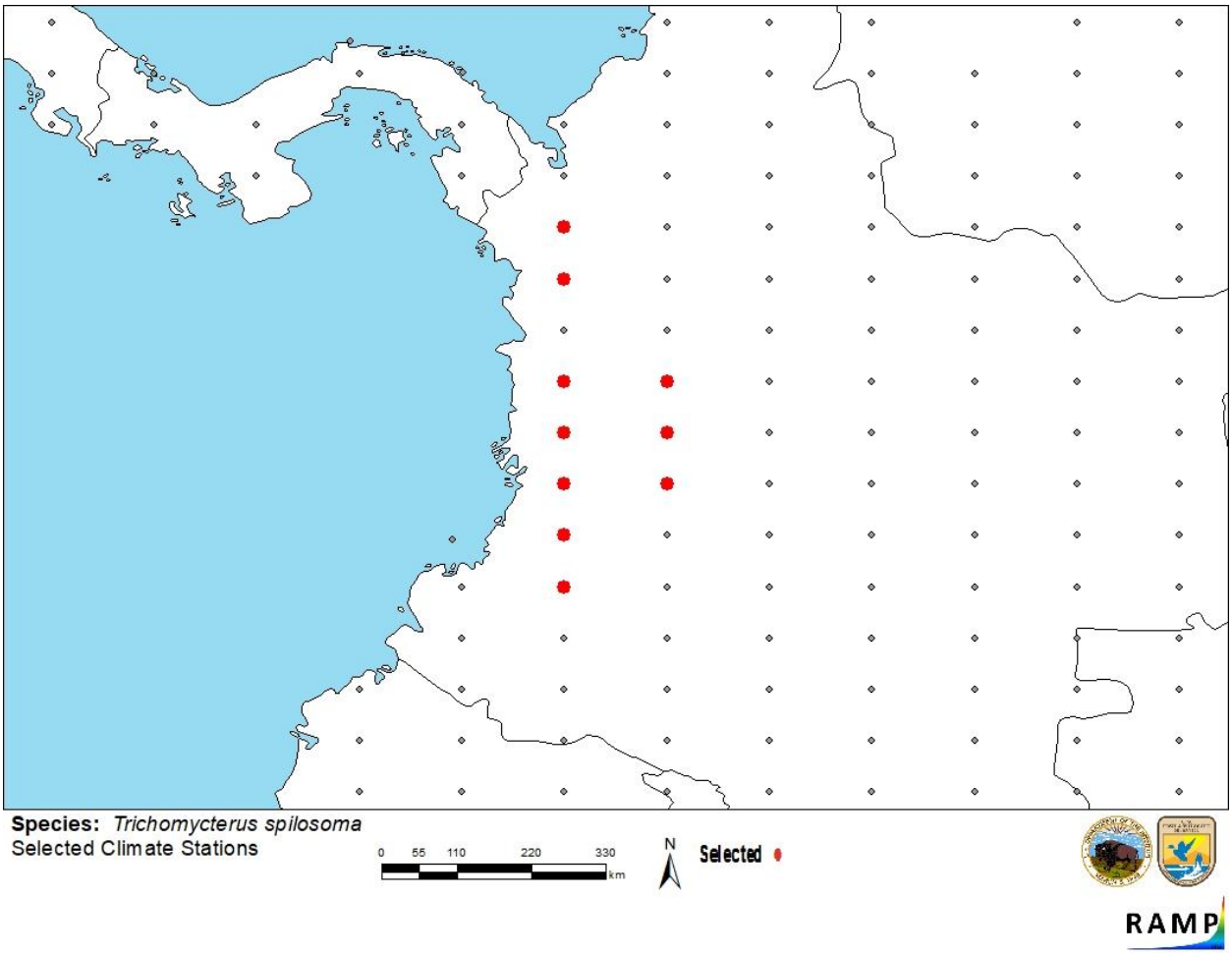


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Colombia) and non-source locations (gray) for *Trichomycterus spilosoma* climate matching. Source locations from GBIF Secretariat (2019).

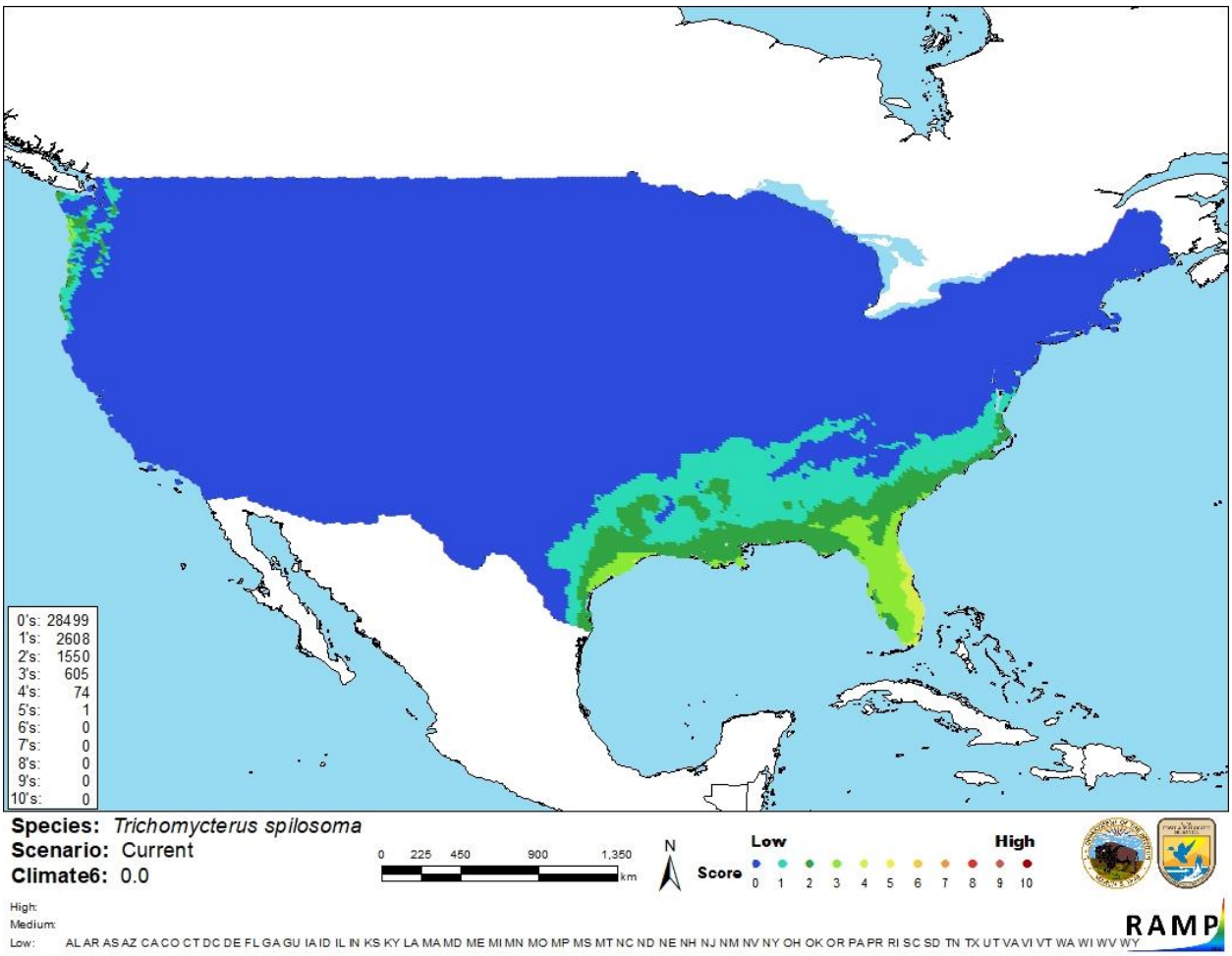


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus spilosoma* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0= Lowest match, 10= Highest match. Counts of climate match scores are tabulated on the left.

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

Information on the biology of *T. spilosoma* is not widely available. This species has not been reported as introduced outside its native range, so there is no information available on impacts of introduction. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus spilosoma is a species of parasitic catfish native to the Pacific coast of Colombia. There are no documented introductions of this species outside its native range. History of invasiveness is uncertain. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. Certainty of this assessment is low due to a lack of information. *T. spilosoma* has a low overall climate match with the contiguous United States, with medium match only along the Atlantic coast of Florida. 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.

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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). 2019. Florida's nonnative fish and wildlife. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: https://myfwc.com/wildlifehabitats/nonnatives/. (November 2019).

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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.

Castellanos-Morales, C. A., and F. Galvis. 2012. Species from the genus *Trichomycerus* (Siluriformes:Trichomycteridae) in Colombia. Boletín Científico Museo de Historia Natural 16(1):194-206.

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. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.

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Maldonado-Ocampo, J. A., R. P. Vari, and J. S. Usma. 2008. Checklist of freshwater fishes of Colombia. Biota Colombiana 9(2):143-237.