

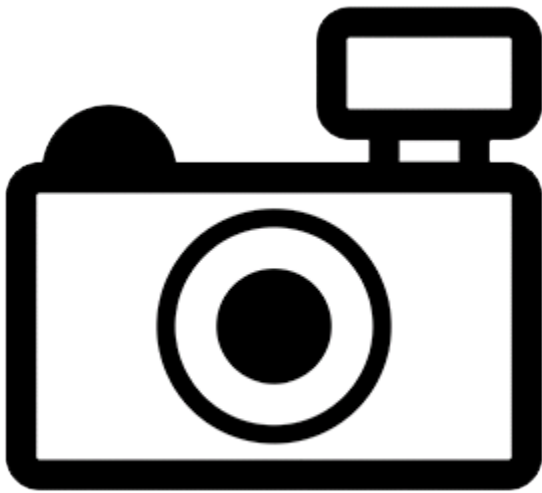
***Trichomycterus yuska* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016

Revised, April 2018

Web Version, 11/26/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: endemic to Argentina.”

From Fernández and Schaefer (2003):

“[...] from a stream at 4,000 m elevation in the Andean Cordillera of Catamarca, Argentina.”

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 yuska 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 in the United States.

Remarks

From Fernández and Schaefer (2003):

“*Trichomycterus yuska* is the fourth representative of the genus endemic to Argentina (Fernández and Vari, 2000).”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“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 yuska* (Fernández and Schaefer, 2003)”

From Fricke et al. (2019):

“**Current status:** Valid as *Trichomycterus yuska* Fernández & Schaefer 2003. Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 9.7 cm SL male/unsexed [Fernández and Schaefer 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

From Fernández and Schaefer (2003):

“[...] was collected from a small, clear-water stream with sandy bottom at an elevation of approximately 4,050 m.”

Climate/Range

From Froese and Pauly (2018):

“Subtropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: endemic to Argentina.”

From Fernández and Schaefer (2003):

“[...] from a stream at 4,000 m elevation in the Andean Cordillera of Catamarca, Argentina”

Introduced

This species has not been reported beyond its native range.

Means of Introduction Outside the United States

This species has not been reported beyond its native range.

Short Description

From Froese and Pauly (2018):

“Dorsal soft rays (total): 10-12; Anal soft rays: 9 - 11; Vertebrae: 38 - 39. Head and cheek musculature hypertrophied, head shape square in dorsal view; first pectoral fin ray prolonged as a thin, short filament; tip of pelvic fin when depressed not reaching the anus; pectoral fin rays 7-8; pelvic fin short, not extending posteriorly to reach the anus; premaxilla with outer row teeth incisiform, not spatulate [Fernández and Schaefer 2003]”

Biology

From Froese and Pauly (2018):

“Found in a small, clear-water stream with sandy bottom at an elevation of approximately 4,050 m [Fernández and Schaefer 2003].”

“Feeds on aquatic insects [Fernández and Schaefer 2003].”

Human Uses

No information available.

Diseases

No OIE-reportable diseases (OIE 2019) have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

This species has not been reported beyond its native range, so no information is available on impacts of introduction.

The importation, possession, or trade of the catfish *T. yuska* 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 yuska*, reported from Argentina. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

This species has not been reported 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 low throughout the entire contiguous United States. The high elevations of the Rocky and Sierra Nevada mountain ranges showed slightly higher (although still low) climate matches. The Climate 6 score for the contiguous United States was 0.0, indicating a low overall climate match. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All States had low climate scores.

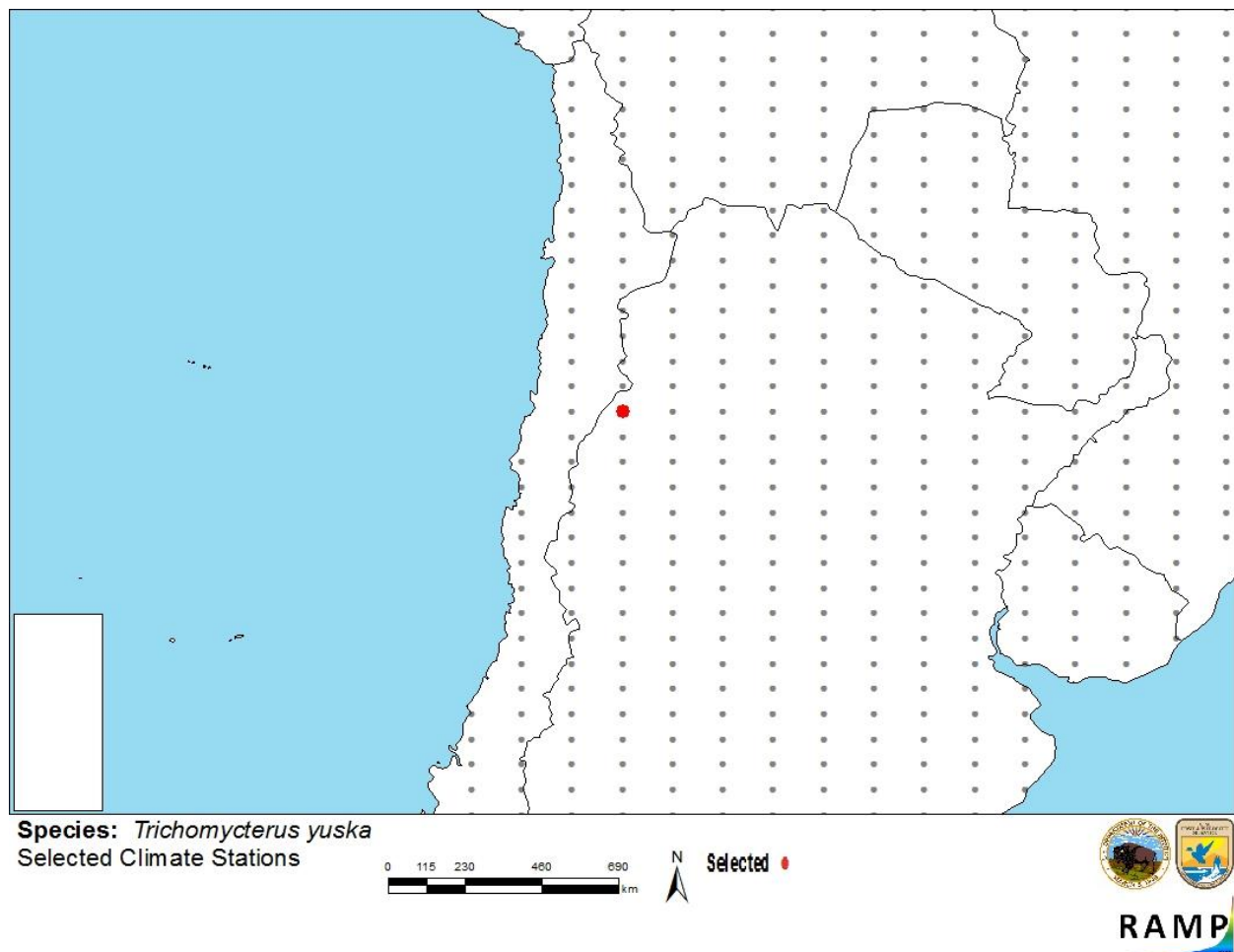


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Argentina) and non-source locations (gray) for *Trichomycterus yuska* climate matching. Source locations from GBIF (2017).

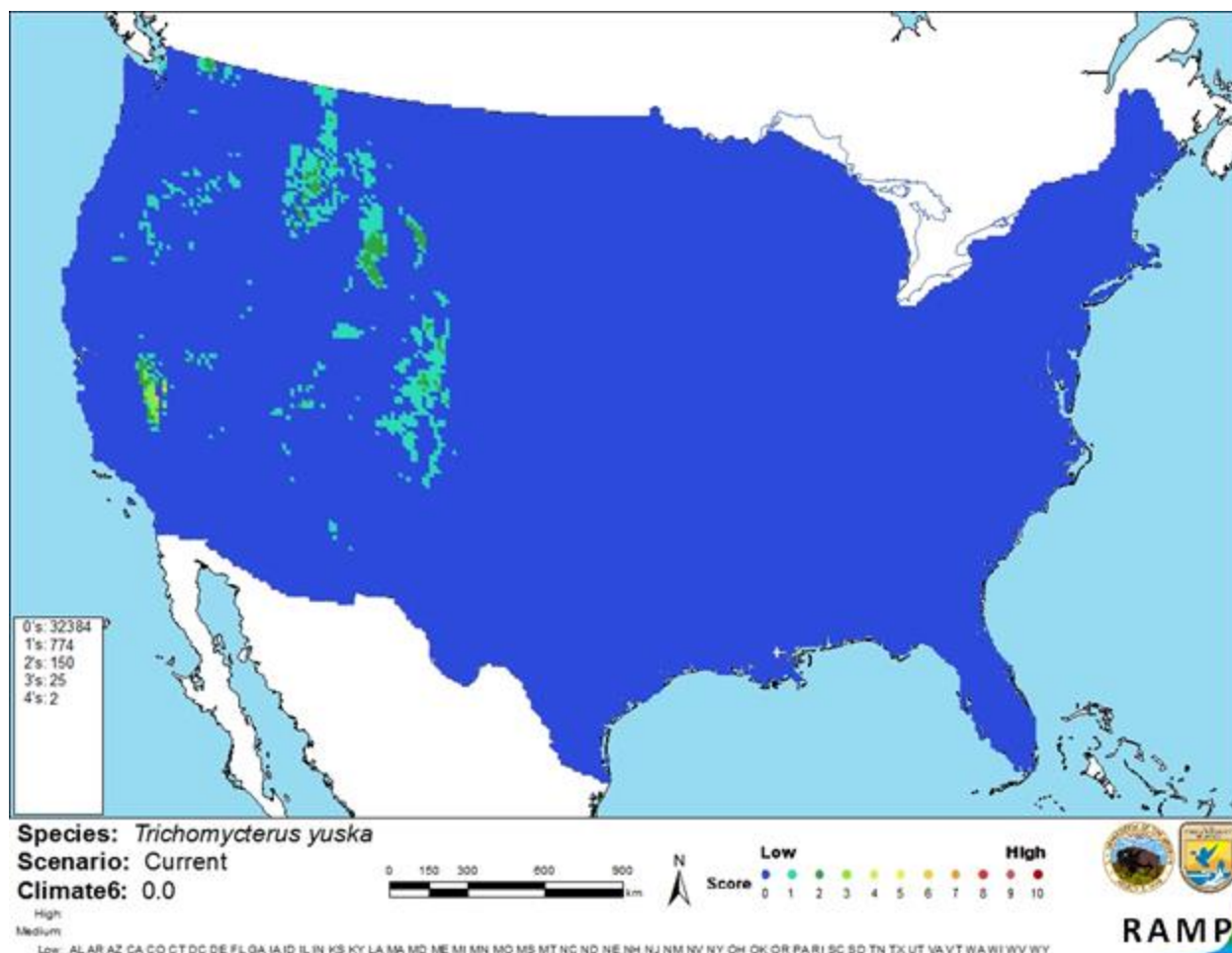


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus yuska* in the contiguous United States based on source locations reported by GBIF (2017). 0= Lowest match, 10=Highest match.

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

There is very little information available about the biology, ecology, and distribution of *Trichomycterus yuska*. Further information is needed to conduct a thorough assessment of the establishment risk and potential negative impacts of this species outside of its native range. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus yuska is a catfish endemic to mountain streams in Catamarca, Argentina. History of invasiveness is uncertain because there have been no reports of introductions of *T. yuska* beyond its native range and the species is not known to be in trade. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. *T. yuska* has a low climate match with the contiguous United States. Certainty of assessment is low due to lack of information about the species. Given the low climate match and uncertainty about its impact if introduced, the overall risk assessment category for *Trichomycterus yuska* 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.

Arizona Secretary of State. 2006. Restricted live wildlife. Arizona Administrative Code, R12-4-406.

Dill, W. A., and A. J. Cordone. 1997. History and status of introduced fishes in California, 1871-1996. California Department of Fish and Game. Fish Bulletin 178.

Fernández, L., and S. A. Schaefer. 2003. *Trichomycterus yuska*, a new species from high elevations of Argentina (Siluriformes: Trichomycteridae). Ichthyological Exploration of Freshwaters 14(4):353-360.

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).

Fricke, R., W. N. Eschmeyer, and R. Van der Laan, editors. 2019. Eschmeyer's Catalog of Fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (November 2019).

Froese, R., and D. Pauly, editors. 2018. *Trichomycterus yuska* Fernández and Schaefer, 2003. FishBase. Available: <http://www.fishbase.org/summary/62039>. (April 2018).

- GBIF (Global Biodiversity Information Facility). 2017. GBIF backbone taxonomy: *Trichomycterus yuska* (Fernández and Schaefer, 2003). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343080>. (April 2018).
- ITIS (Integrated Taxonomic Information System). 2018. *Trichomycterus yuska* Fernández and Schaefer, 2003. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682282#null. (April 2018).
- Legislative Council Bureau. 2018. Restrictions on importation, transportation and possession of certain species. Nevada Administrative Code, Section 503.110.
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- Mississippi Secretary of State. 2019. Guidelines for aquaculture activities. Mississippi Administrative Code, Title 2, Part 1, Subpart 4, Chapter 11. Regulatory and Enforcement Division, Office of the Mississippi Secretary of State, Jackson, Mississippi.
- OIE (World Organisation for Animal Health). 2019. OIE-listed diseases, infections and infestations in force in 2019. World Organisation for Animal Health, Paris. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (August 2019).
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Utah DNR. 2012. R657-3 – collection, importation, transportation, and possession of animals. Utah Division of Natural Resources, Salt Lake City, Utah. Available: <https://wildlife.utah.gov/hunting-in-utah/guidebooks/46-rules/rules-regulations/940-r657-3--collection-importation-transportation-and-possession-of-animals.html>. (May 2018).

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.

- Fernández, L., and R. Vari. 2000. A new species of *Trichomycterus* (Teleostei:Siluriformes: Trichomycteridae) lacking a pelvic girdle from the Andes of Argentina. *Copeia* 2000:990-996.