Trichomycterus pseudosilvinichthys (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
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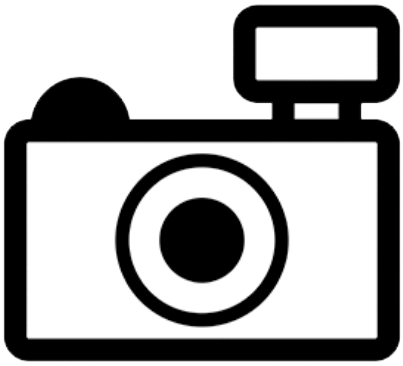

No Photo Available

1 Native Range and Status in the United States

Native Range

From Fernández and Vari (2004):

"*Trichomycterus pseudosilvinichthys* is known from various localities in Departamento Chilecito and Departamento General Lamadrid, Provincia de La Rioja, western Argentina."

Status in the United States

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

From FFWCC (2017):

"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 pseudosilvinichthys*"

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 pseudosilvinichthys* Fernández and Vari, 2004"

From Eschmeyer et al. (2016):

"Current status: Valid as *Trichomycterus pseudosilvinichthys* Fernández & Vari 2004. Trichomycteridae: Trichomycterinae."

Size, Weight, and Age Range

From Froese and Pauly (2016)

"Max length : 6.7 cm SL male/unsexed; [Fernández and Vari 2004]"

Environment

From Froese and Pauly (2016):

"Freshwater; benthopelagic."

Climate/Range
From Froese and Pauly (2016):

"Subtropical, preferred ?; 28°S - 30°S, 67°W - 68°W"

Distribution Outside the United States
Native
From Fernández and Vari (2004):

"*Trichomycterus pseudosilvinichthys* is known from various localities in Departamento Chilecito and Departamento General Lamadrid, Provincia de La Rioja, western Argentina."

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 Fernández and Vari (2004):

"Body elongate, approximately cylindrical but slightly compressed transversely in trunk region, gradually and progressively becoming more compressed transversely toward caudal fin. […] Head dorsoventrally flattened and obtusely pointed in profile. Head profile in dorsal view rectangular. Eyes located on dorsal surface of head but visible in both lateral and dorsal views. […] Mouth distinctly subterminal, with rictus directed posteriorly. […] Premaxilla with three or four rows of distally narrowing, incisiform teeth; with seven to 10 teeth in outer tooth row. Dentary with one to four rows of distally narrowing, incisiform teeth; with 10-13 teeth in outer tooth row. Lower lip with prominent fleshy lobes along lateral limits; lobes situated medial to base of rictal barbels. Lower lip fleshy anteriorly, with anterior, and to lesser degree, anteroventral surfaces covered with papillae. Upper lip fleshy and bearing numerous papillae. Barbels relatively short and tapering distally but not threadlike or with distal branching present in some congeners. Tips of maxillary barbels extending posteriorly to middle of patch of interopercular odontodes but falling short of pectoral-fin origin. Nasal barbels reaching posteriorly to distinctly beyond posterior border of eye. Submaxillary barbels shorter than maxillary barbels. […] Dorsal-fin rays 12 [12] or 13 [4], with seven branched and five [8] or six [8] unbranched rays. Distal margin of dorsal fin semicircular when fin expanded. Dorsal fin fleshy basally. […] Anal-fin rays 11 [7] or 12 [8], with six [7] or seven [8] branched and five unbranched rays. Anal fin relatively elongate, equal in size to, or slightly smaller than, dorsal fin, with distal margin of fin slightly rounded. […] Pectoral-fin rays eight, with lateral most ray unbranched. […] Pelvic-fin rays five, plus small splint anterior to first unbranched ray; second and third rays longest. […] No external obvious sexual dimorphism observed in available population samples."

"The new species is distinguished from other members of the apparently nonmonophyletic genus *Trichomycterus* by having the insertion of the first proximal dorsal-fin pterygiophore at, or posterior to, vertebra 20 to 22; the presence of the pelvic fin and girdle; a fronto-lachrymal tendon bone with a lateral expansion but an incomplete laterosensory canal segment; the absence of a portion of the supraorbital laterosensory canal running between the frontal and nasal bones with the resultant loss of pore 3; the possession of 17–19 ribs; a first pectoral-fin ray that is not prolonged as a short filament; and the tip of the pelvic fin falling short of the anus."

Biology

From Fernández and Vari (2004):

"The type locality of *T. pseudosilvinichthys* was a small, clear water stream with a rock and pebble bottom at an elevation of approximately 1800 m [5900 feet]. The only other species of fish collected at that site was *T. corduvensis*."

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases have been documented from 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 Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Trichomycterus pseudosilvinichthys* as a prohibited species (FFWCC 2017).

4 Global Distribution

Figure 1. Distribution of *Trichomycterus pseudosilvinichthys*, reported from Argentina. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported as introduced or established 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 highest in Arizona, New Mexico, and Texas and medium to low elsewhere in the United States. Climate 6 proportion indicated that the contiguous U.S. has a medium climate match. Climate 6 proportions that indicate a medium climate match are those between 0.005 and 0.103; the Climate 6 proportion of *Trichomycterus pseudosilvinichthys* is 0.049.

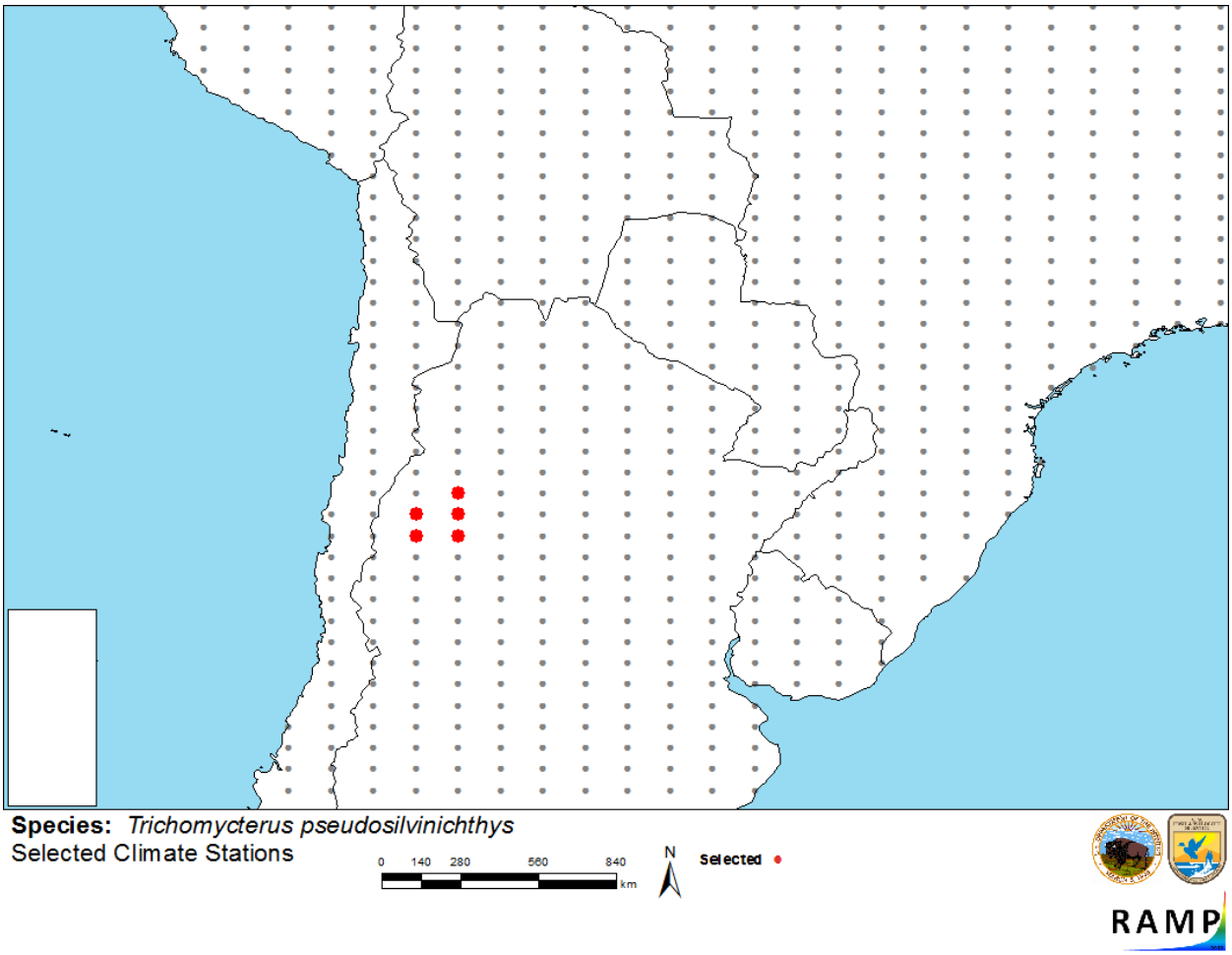

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; northwestern Argentina) and non-source locations (gray) for *Trichomycterus pseudosilvinichthys* climate matching. Source locations from GBIF (2016).

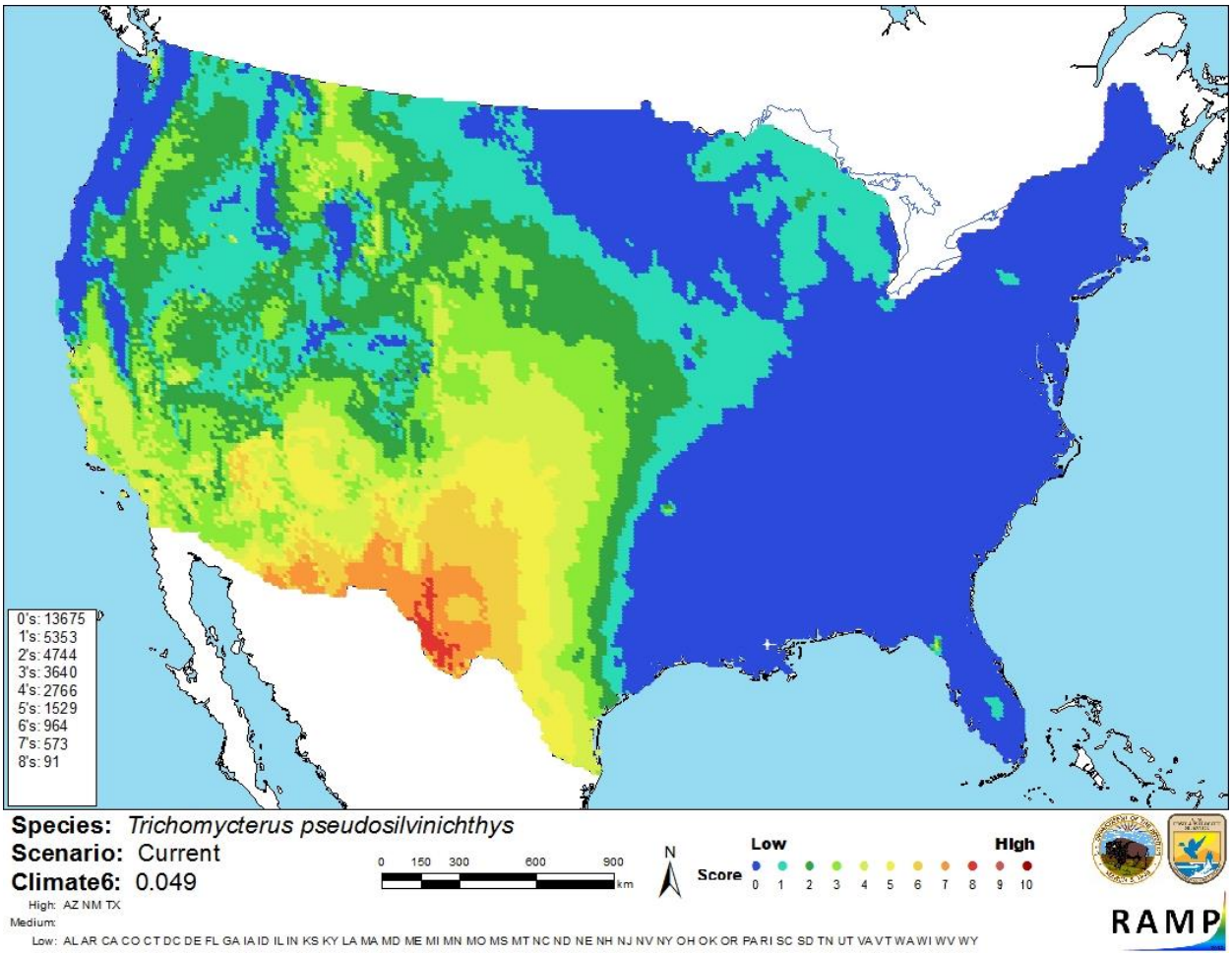

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus pseudosilvinichthys* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

There is almost no information available on the biology of *T. pseudosilvinichthys*, and this species has no documented history of invasiveness. Certainty of this assessment is low due to the lack of information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus pseudosilvinichthys is a catfish native to small, clear water streams in western Argentina. This species has a medium climate match with the United States and no documented history of introduction so any impacts of introduction are unknown. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. pseudosilvinichthys* as a prohibited species. Further information is needed to determine what risk this species poses if introduced to the U.S. Overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

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GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus pseudosilvinichthys* Fernández & Vari, 2004. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343175. (December 2016).

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Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.