

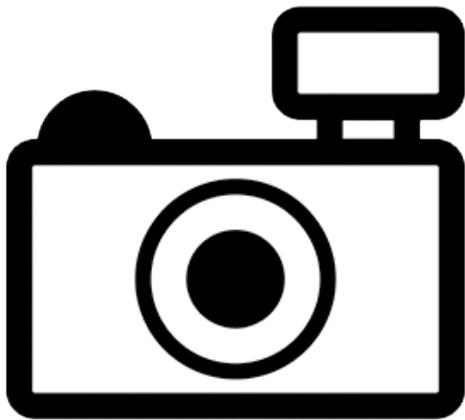
***Tridensimilis brevis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, January 2017

Revised, June 2018

Web Version, 11/1/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Amazon River basin [Brazil].”

Maldonado-Ocampo et al. (2008) report this species from the Amazon River basin in Colombia.

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, according to the literature and a search of online aquarium retailers.

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.”

Tridensimilis brevis 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 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 Introduction into the United States

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

Remarks

According to Eschmeyer et al. (2018), *Tridensimilis brevis* was originally described using the scientific name *Tridens brevis*.

From Schultz (1944):

“Eigenmann (Mem. Carnegie Mus., vol. 7, No. 5, p. 369, 1918) suggested that *Tridens brevis* should probably be placed in a separate genus. Thus Myers created the genus *Tridentopsis* and said, "I feel justified in forming a new genus for *brevis* and Pearson's fish, which I provisionally recognize as a distinct species." Thus *brevis*, because of its inadequate description with no figure, has been shifted about. Now I feel justified in view of new material in putting *brevis* into still another genus.”

“This new genus, *Tridensimilis*, may be distinguished from all other members of the subfamily Tridentinae by the following combination of characters : Opercular spines 6 in number and interopercular spines 4 to 6, these patches of spines separately movable and distinctly separated; gill membranes joined across isthmus with a broad free fold; eyes lateral; depth of body 6 to 8, head 5 to 6½ in standard length, teeth small, curved, conical, in three separate rows above; dorsal rays ii or iii (probably iii), 7 or 8; anal ii or iii (probably iii as the first simple ray is rudimentary) 18 to 21; pelvic i,4; pectoral i,5; branchiostegals 5; nasal barbel absent.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Tridentinae
Genus *Tridensimilis*
Species *Tridensimilis brevis* (Eigenmann and Eigenmann, 1889)”

From Eschmeyer et al. (2018):

“Current status: Valid as *Tridensimilis brevis* (Eigenmann & Eigenmann 1889).
Trichomycteridae: Tridentinae.”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 3.0 cm TL male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal; pH range: 5.5 - 7.0; dH range: 2 - 10. [...] 20°C - 30°C [Riehl and Baensch 1996; assumed to be recommended aquarium temperature range]”

Climate/Range

From Froese and Pauly (2016):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Amazon River basin [Brazil].”

Maldonado-Ocampo et al. (2008) report this species from the Amazon River basin in Colombia.

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 Eigenmann and Eigenmann (1889):

“Body short and deep. Head as broad as long. Mouth broad, inferior. Opercle with a bunch of six or more spines. Barbels well developed, the outer one extending to the base of the pectoral, the inner to the gill-opening. Eye large, nearer end of opercle than tip of snout.”

“Distance of dorsal fin from tip of caudal little more than 2 in the length.”

“Anal inserted very little in front of the dorsal and extending some distance beyond it, its rays decreasing in height toward the caudal. First pectoral ray greatly produced. Caudal emarginate.”

“Yellowish; blackish dots along the bases of the fins; a series of blackish dots along the middle line of the sides, similar spots on the back. Head with brown dots.”

“Head 6; depth 8; D. 9; A. 22.”

Biology

From Froese and Pauly (2016):

“In the sand of shallow rivers and creeks; parasitic, entering gill chambers of larger catfishes; also known for entering, probably by mistake, the ureta [*sic*] of mammals urinating under water [Riehl and Baensch 1996].”

Human Uses

From Froese and Pauly (2016):

“Fisheries: of no interest”

Diseases

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

Threat to Humans

From Froese and Pauly (2016):

“Traumatogenic [Riehl and Baensch 1996]”

“[...] known for entering, probably by mistake, the ureta [*sic*] of mammals urinating under water [Riehl and Baensch 1996].”

3 Impacts of Introductions

No information available. This species has not been documented as introduced or established outside of its native range.

The importation, possession, or trade of the parasitic catfish *T. brevis* 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 *Tridensimilis brevis*, reported from Brazil, Colombia, and Peru. Map from GBIF Secretariat (2018). *T. brevis* does not appear on freshwater fish species checklists for Peru (Ortega and Vari 1986; Ortega et al. 2011), so occurrences in Peru were excluded from the climate matching analysis. Additionally, the occurrence reported in southern Brazil is outside the known established range of *T. brevis* in the Amazon River basin, so it was not included in the climate matching analysis.

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 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.0, which is a low climate match. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All states had low individual climate scores. The climate match was very low across the entire contiguous United States. There was an area of slightly higher, but still low, climate match along the Gulf Coast in Louisiana, Mississippi, Alabama, and the Florida Panhandle.

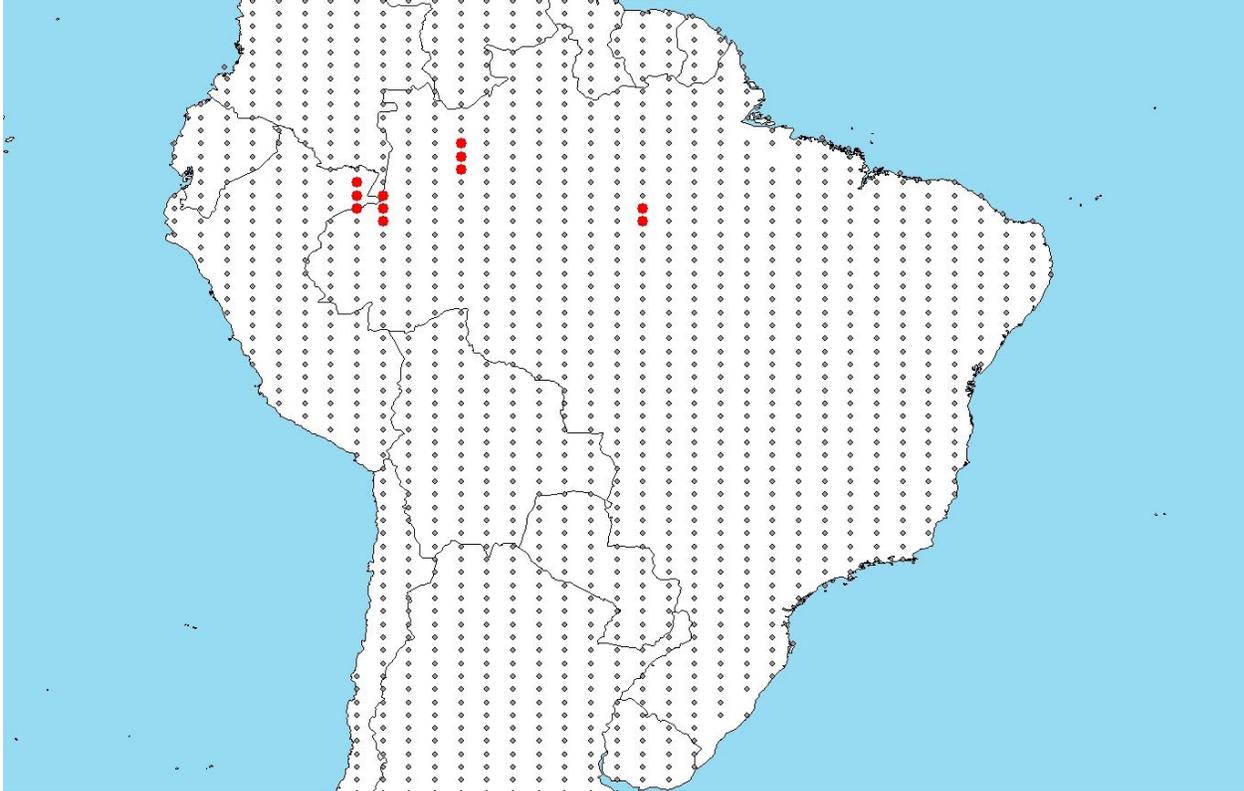


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil, Peru) and non-source locations (gray) for *Tridensimilis brevis* climate matching. Source locations from GBIF Secretariat (2018). Source locations in Peru were selected based on their proximity to species occurrences in Colombia; selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

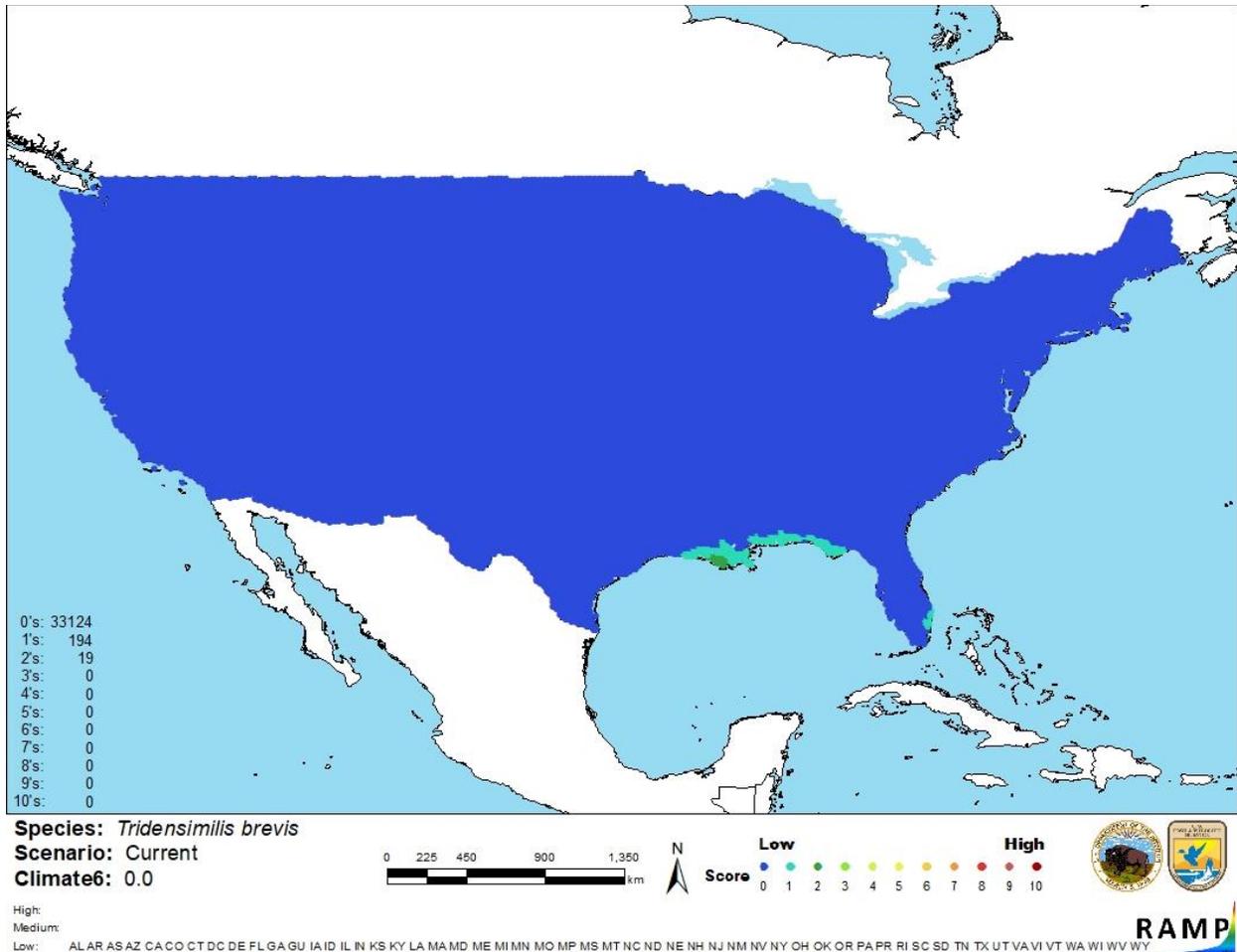


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Tridensimilis brevis* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Little is known about the biology and ecology of *Tridensimilis brevis*. This species has never been documented as introduced outside its native range. The certainty of this assessment is low because of the lack of information about the species and potential impacts of its introduction.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Tridensimilis brevis is a parasitic catfish native to the Amazon River basin. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. It has not been introduced outside of its native range, so the history of invasiveness is uncertain. Certainty of assessment is low due to a lack of information. *T. brevis* has a low climate match to the contiguous United States. The overall risk assessment category for this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information: Traumatogenic to humans**
- **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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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.

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