

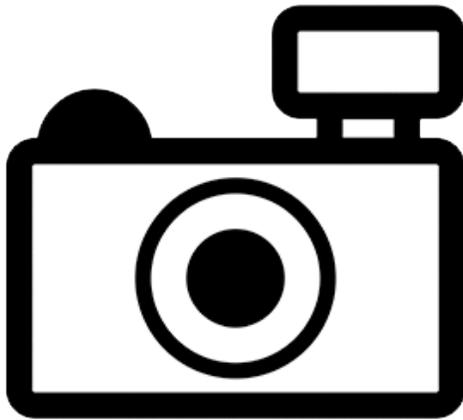
***Aphanotorulus ammophilus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, August 2011

Revised, August 2018

Web Version, 8/31/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018a):

“South America: Portuguesa River basin [Colombia, Venezuela].”

From Ray and Armbruster (2016):

“Type locality: Venezuela, Estado Cojedes, Río San Carlos, R. Portuguesa drainage at Caño Hondo, 2 km west of Las Vegas on the road from Las Vegas to Campo Alegre – 9°31'51"N, 68°39'39"W.”

From Armbruster and Page (1996):

“Rio Orinoco drainage of Venezuela [...]; mainly known from the Rio Apure system.”

Status in the United States

No records of *Aphanotorulus ammophilus* in trade or in the wild in the United States were found.

Means of Introductions in the United States

No records of *Aphanotorulus ammophilus* in the wild in the United States were found.

Remarks

Information searches were conducted using the accepted species name, *Aphanotorulus ammophilus*, and the synonym *Hypostomus ammophilus*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Aphanotorulus ammophilus* (Armbruster and Page 1996) is the valid name for this species; *Hypostomus ammophilus* (Armbruster and Page 1996) used to be a valid name for this species and now is a synonym.

From Froese and Pauly (2018b):

“Kingdom Animalia
Phylum Chordata
Class Actinopterygii
Order Siluriformes
Family Loricariidae
Genus *Aphanotorulus*”

Size, Weight, and Age Range

From Froese and Pauly (2018a):

“Max length : 16.1 cm SL male/unsexed; [Weber 2003]”

Environment

From Froese and Pauly (2018a):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018a):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018a):

“South America: Portuguesa River basin [Colombia and Venezuela].”

From Ray and Armbruster (2016):

“Type locality: Venezuela, Estado Cojedes, Río San Carlos, R. Portuguesa drainage at Caño Hondo, 2 km west of Las Vegas on the road from Las Vegas to Campo Allegre – 9°31'51"N, 68°39'39"W.”

From Armbruster and Page (1996):

“Rio Orinoco drainage of Venezuela [...]; mainly known from the Rio Apure system.”

Introduced

No records of introductions were found for *Aphanotorulus ammophilus*.

Means of Introduction Outside the United States

No records of introductions were found for *Aphanotorulus ammophilus*.

Short Description

From Oliveira et al. (2017):

“In *Aphanotorulus ammophilus*, *A. emarginatus*, *A. gomesi*, *A. horridus*, *A. phrixosoma*, and *A. unicolor* the lower and upper lobe of the caudal fin are completely covered with several series of transversely aligned conspicuous dark spots on the membrane and on the rays [...].”

From Ray and Armbruster (2016):

“Ridges formed by the compound pterotics on the head present and depressed pectoral fin that reaches well past insertion point of last pelvic-fin ray. In specimens larger than 75mm SL, orbit diameter to snout length ratio 18.5–27.9%, caudal depth to pectoral spine length ratio 19.8–25.5%, and pectoral spine length to thorax length ratio 117.0–136.3% [...] *A. ammophilus*”

“Description. [...] Head slightly compressed with raised supraoccipital crest; crest ending abruptly with posterior edge perpendicular to head. Sharp ridge present on compound pterotics. Large flap covering posterior opening of nare. Interorbital surface flat. Nape increasing in height posteriorly to dorsal fin.

Dorsal-fin spine slightly longer than or equal in length to first dorsal-fin ray. Pectoral-fin spine reaches past point of insertion on pelvic fin. Pelvic fin spine reaches insertion of anal fin. Adipose-fin membrane extending to end of fourth adipose base plate (two plates separate adipose-fin membrane and first dorsal procurrent caudal-fin spine).

Lateral line plates 28–30 [...]; dorsal-fin base plates six to 10 [...]; folded dorsal plates 10–14 [...]; plates between dorsal and adipose fins seven to 10 [...]; adipose-fin plates three to four [...]; anal-fin base plates two to three [...]; plates from anal-fin insertion to last plate on caudal peduncle 13–16 [...]; plates in folded pectoral fin five to seven [...]; number of teeth on dentary 9–20 [...]; number of teeth on premaxilla 10–18 [...].

Sexual Dimorphism. Breeding males with elongated odontodes on dorsal and lateral surfaces of body posterior to insertion of dorsal fin, increasing in length and density posteriorly. Odontodes also present on pectoral fin spines and caudal-fin spines.”

Biology

From Armbruster and Page (1996):

“Based on collections of *A. ammophilus* and *A. popoi*, adults inhabit sandy, slow to moderately fast runs of small to large, turbid rivers. Most adults were collected over sand; however, some were collected over sand covered with a thin layer of mud. Juveniles were found in habitats similar to that of adults but were also common in pools and backwaters over a sand/mud substrate.”

Human Uses

No information on the human uses of *Aphanotorulus ammophilus* were found.

Diseases

No information on diseases of *Aphanotorulus ammophilus* was found. **No records of OIE-reportable diseases were found for *Aphanotorulus ammophilus*.**

Threat to Humans

From Froese and Pauly (2018a):

“Harmless”

3 Impacts of Introductions

No records of introductions were found for *Aphanotorulus ammophilus*, therefore there is no information on impacts of introduction.

4 Global Distribution

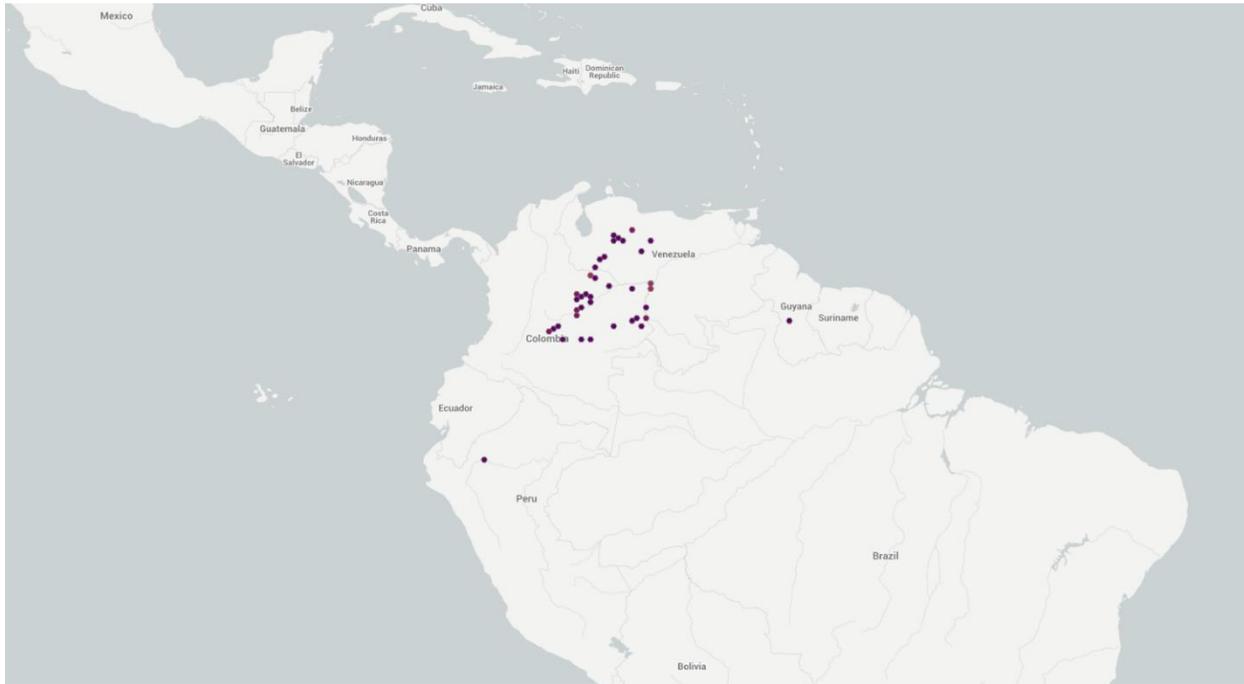


Figure 1. Known global distribution of *Aphanotorulus ammophilus*. Locations are in Guyana, Venezuela, Colombia, and Peru. Map from GBIF Secretariat (2018).

The locations in Guyana and Peru (Figure 1) were not used as source points for the climate match. They are outside the described range of the species and no other information was found to support the existence of established populations in those locations.

5 Distribution Within the United States

No records of *Aphanotorulus ammophilus* in the wild in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Aphanotorulus ammophilus* was low for the contiguous United States with a medium match in southern Florida, along the Pacific Coast, and around Seattle. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. The range for a low climate match is from 0.0 to 0.005, inclusive. All states have low individual climate scores.

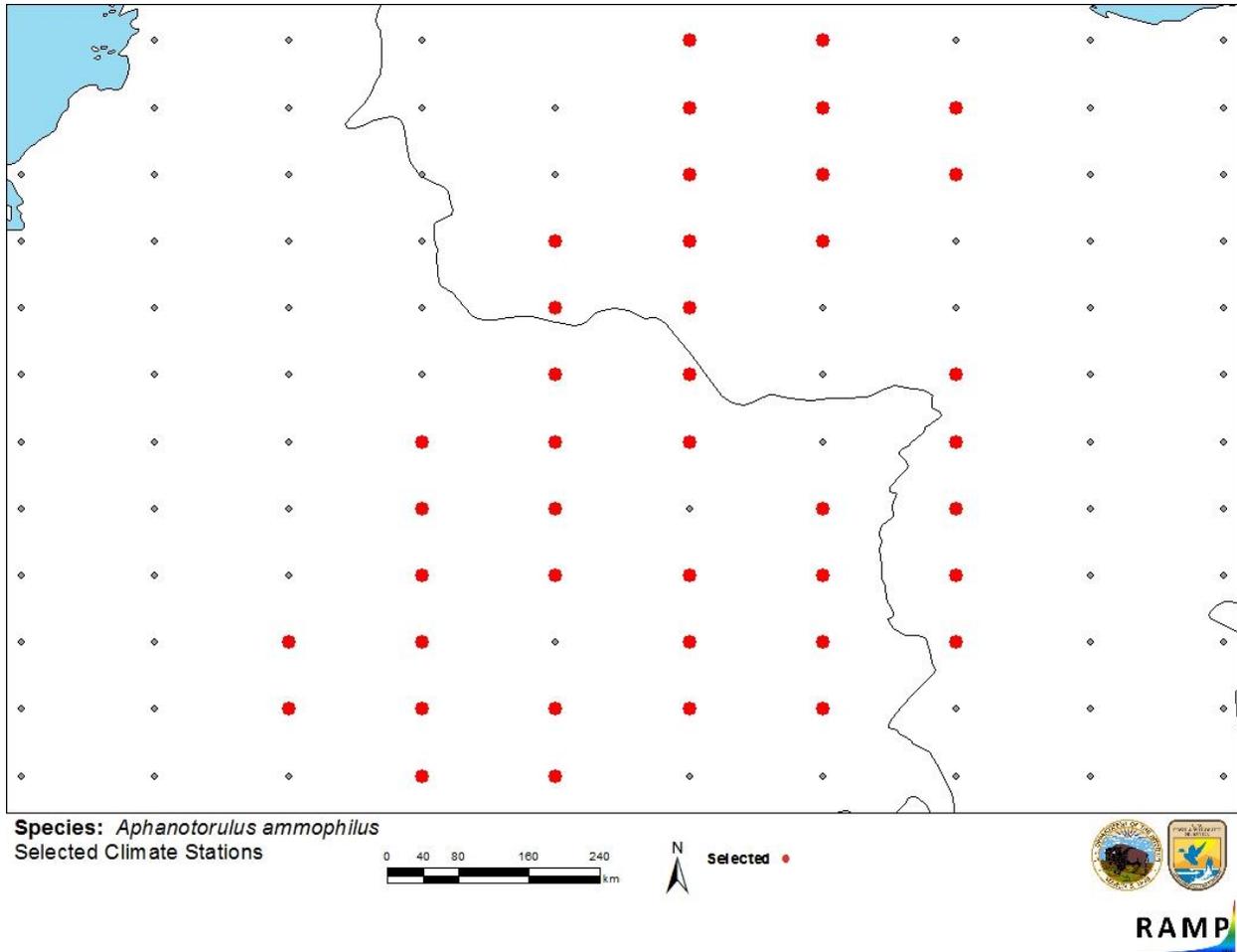


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Colombia, Venezuela) and non-source locations (gray) for *Aphanotorulus ammophilus* climate matching. Source locations from GBIF Secretariat (2018).

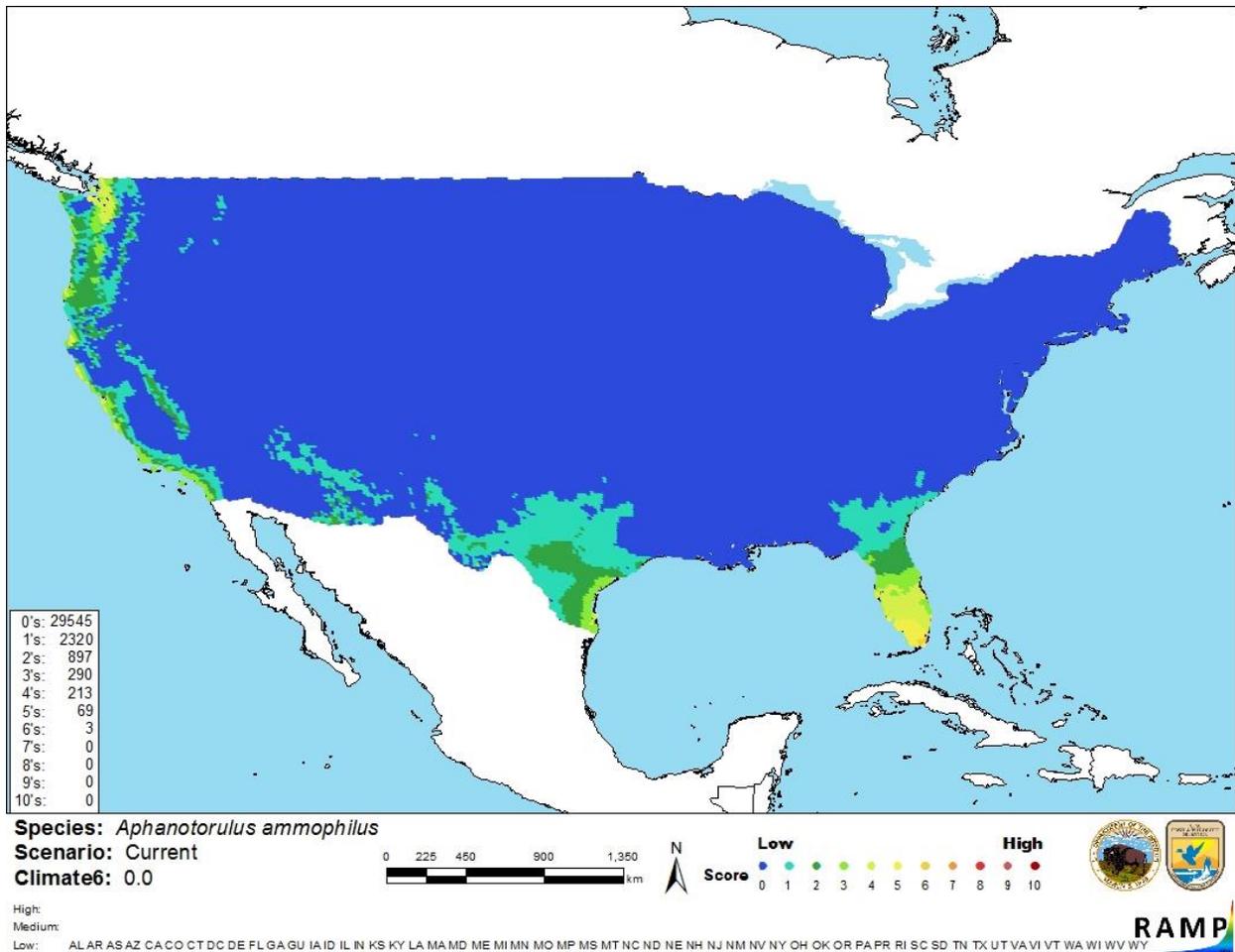


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Aphanotorulus ammophilus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of assessment is low. There was minimal biological information available for this species. There were no records of introductions found, so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Aphanotorulus ammophilus is an armored catfish native to northern South America. Little information is available about the biology and ecology of this species. The history of invasiveness is uncertain because no records of introductions were found. The climate match is low for the contiguous United States, with areas of medium match in South Florida, along the Pacific Coast and around Seattle. The certainty of assessment is low; the overall risk assessment category 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:** No additional information.
- **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.

Armbruster, J. W., and L. M. Page. 1996. Redescription of *Aphanotorulus* (Teleostei: Loricariidae) with description of one new species, *A. ammophilus*, from the Río Orinoco Basin. *Copeia* 1996:379–389.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (August 2018).

Froese, R., and D. Pauly, editors. 2018a. *Aphanotorulus ammophilus* Armbruster and Page, 1996. FishBase. Available: <https://www.fishbase.de/summary/Aphanotorulus-ammophilus.html>. (August 2018).

Froese, R., and D. Pauly, editors. 2018b. *Aphanotorulus ammophilus* Armbruster and Page, 1996. In Species 2000 and ITIS Catalogue of Life, 31st July 2018. Species 2000: Naturalis, Leiden, the Netherlands. Available: <http://www.catalogueoflife.org/col/details/species/id/4e85d3e901714a7599f7ff8d993f5971>. (August 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Aphanotorulus ammophilus* (Armbruster and Page, 1996). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2339470>. (August 2018).

Oliveira, A. S., L. R. Py-Daniel, and C. H. Zawadzki. 2017. A new species of *Aphanotorulus* (Siluriformes: Loricariidae) from the rio Aripuanã basin, Brazil. *Neotropical Ichthyology* 15:1–10.

Ray, C. K., and J. W. Armbruster. 2016. The genera *Isorineloricaria* and *Aphanotorulus* (Siluriformes: Loricariidae) with description of a new species. *Zootaxa* 5:501–539.

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

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.

Weber, C. 2003. Loricariidae - Hypostominae (armored catfishes). Pages 351–372 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.