

Bristlenosed Catfish (*Ancistrus temminckii*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2013

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1 Native Range, and Status in the United States

Native Range

From Nico et al. (2016):

“Tropical America. Central and South America (Armbruster 1997).”

Status in the United States

From Nico et al. (2016):

“A member of this genus was first encountered in small numbers in the Nuuanu #3 Reservoir in Oahu, Hawaii, in 1984; it is now abundant in that reservoir and in many other Oahu reservoirs and streams (Devick 1991; Sabaj and Englund 1999). An unidentified *Ancistrus* has been reported from Wahiawa Reservoir in Oahu since about 1987 (Devick 1988) and also was

collected from Manoa Stream, Oahu, in 1989 (museum specimens). Established in Oahu (Mundy 2005).”

Means of Introductions in the United States

From Nico et al. (2016):

“Probably aquarium release.”

Remarks

From Nico et al. (2016):

“Synonyms and Other Names: antenna armored catfish”

“According to Devick ([1991]), at least two different *Ancistrus* species have been found in Hawaii, but identifications to species level have not been made. Sabaj and Englund (1999) report only one species: *Ancistrus* cf. *temminckii*.”

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 Loricariidae
Subfamily Hypostominae
Genus *Ancistrus*
Species *Ancistrus temminckii* (Valenciennes in Cuvier and Valenciennes, 1840)”

“Current Standing: valid”

Size, Weight, and Age Range

From Nico et al. (2016):

“Size: 15 cm (Burgess 1989).”

From Froese and Pauly (2016):

“Max length: 9.8 cm SL male/unsexed; [Fisch-Muller 2003].”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal; dH range: ? – 25”

“[...] 21°C - 24°C [Baensch and Riehl 1985; assumed to be recommended aquarium temperature range]”

Climate/Range

From Froese and Pauly (2016):

“Tropical [...]”

Distribution Outside the United States

Native

From Nico et al. (2016):

“Tropical America. Central and South America (Armbruster 1997).”

Introduced

No introductions of this species reported outside the United States.

Means of Introduction Outside the United States

No introductions of this species reported outside the United States.

Short Description

From Nico et al. (2016):

“The genus *Ancistrus* contains about 50 or more described species (Burgess 1989; Armbruster 1997). Members of this genus exhibit marked sexual dimorphism (Ferraris 1991), with males having bristles or antlers on the head. Burgess (1989) and Armbruster (1997) gave distinguishing characteristics of the genus and a key to loricariid genera; Burgess (1989) also provided key to selected species. Photographs were given in Burgess (1989) and Ferraris (1991).”

Biology

From Nico et al. (2016):

“Bristlenosed catfish, like many other loricariid catfishes, are benthic fishes that primarily consume algae and detritus (Burgess 1989).”

From Englund et al. (2000):

“This species appeared to preferentially select high velocity riffle and run habitats, and was less common in pool habitats. [...] Loricariid catfish found in Oahu streams are primarily algivores but will also readily consume fish eggs (Sabaj and Englund 1999).”

Human Uses

From Froese and Pauly (2016):

“Aquarium: commercial”

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

From Nico et al. (2016):

“Unknown. Introduced *Ancistrus* in Hawaiian streams may compete with native stream gobies for food and space (Sabaj and Englund 1999).”

“Devick (1991) cited *Ancistrus* as a suspected major hazard to native Hawaiian species, apparently because of its abundance.”

From Englund et al. (2000):

“In Manoa Stream, bristle-nosed catfish densities were high and may also be in part contributing to the near absence of the native gobiid *Awaous guamensis* during this study. Native stream gobies are undoubtedly adversely affected by loricariid catfish through competition for food and space, and introduced parasites. [...] Although habitat disturbance and other introduced fish are factors, native gobies such as *Awaous guamensis* were rare in the lowest sections of south shore Oahu streams containing very high densities of introduced suckermouth catfish such as Manoa and Nuuanu Streams.”

4 Global Distribution



Figure 1. Known global established locations of *Ancistrus temminckii* in northern South America and Hawaii. Map from GBIF (2016).

5 Distribution Within the United States

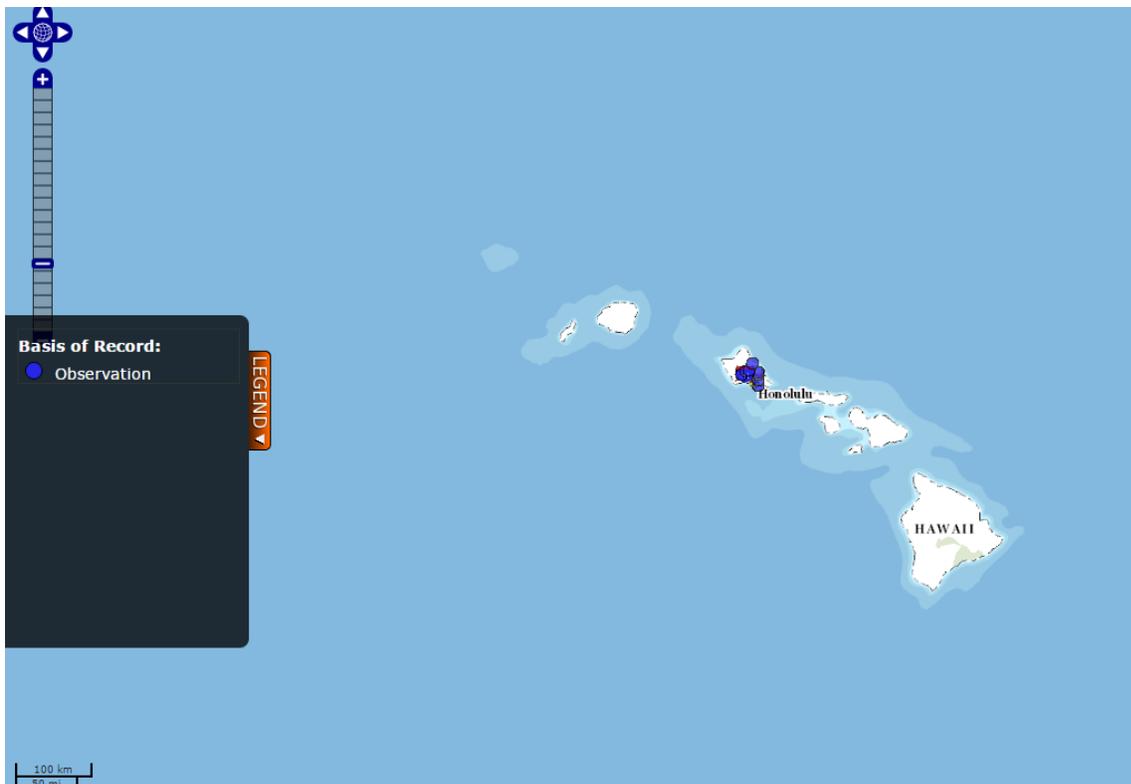


Figure 2. Known established locations of *Ancistrus temminckii* in the United States (Hawaii). Map from USGS (2016).

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) is medium-high in southern Florida and medium along the Gulf Coast and parts of coastal California and Washington. Most of the continental U.S. exhibits a low climate match. Climate6 score indicates that the Continental U.S. has a medium climate match with *Ancistrus temminckii* overall. The range of scores for a medium climate match is 0.005 - 0.103; Climate6 score of *A. temminckii* is 0.008.

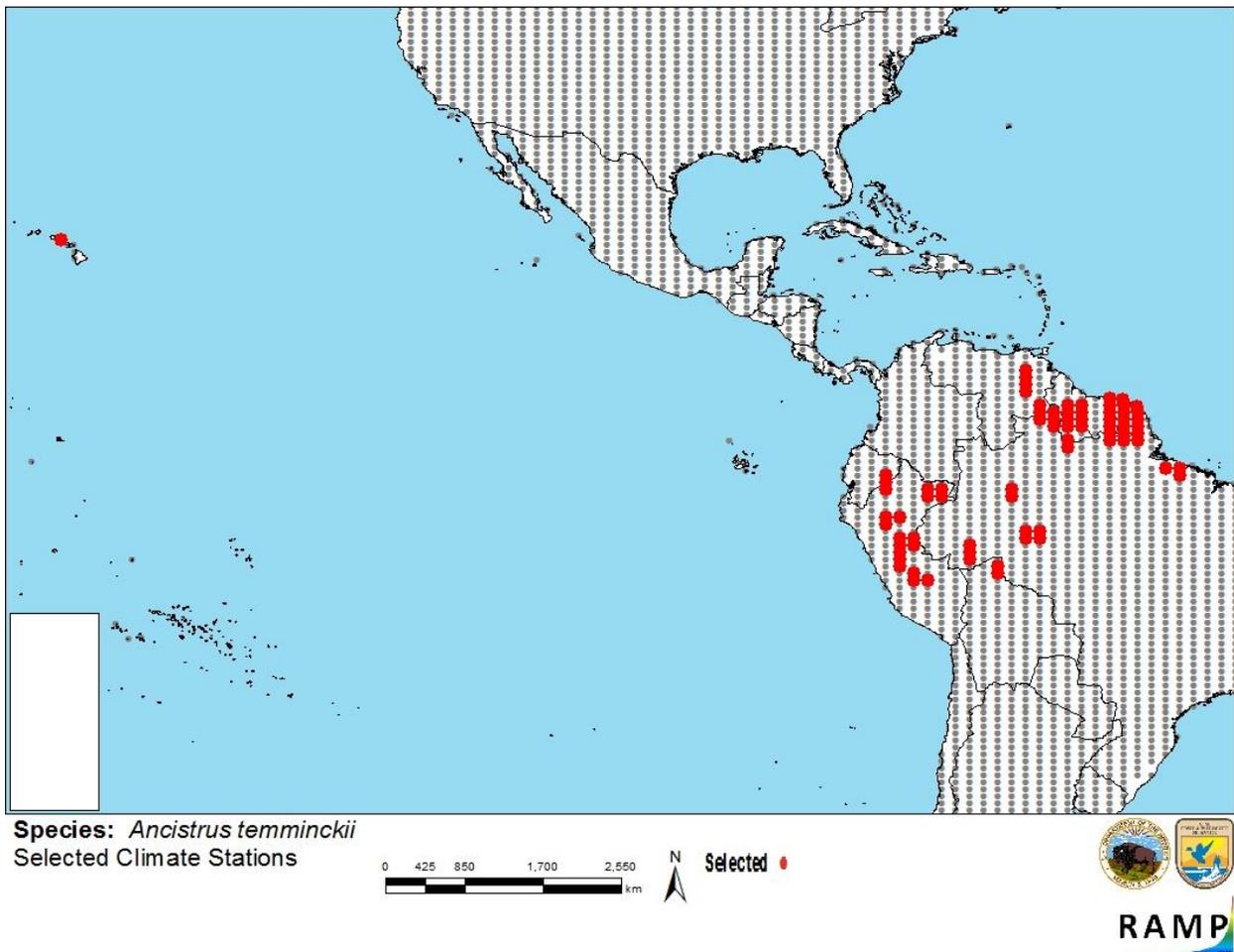


Figure 3. RAMP (Sanders et al. 2014) source map showing weather stations in the Americas selected as source locations (red) and non-source locations (gray) for *Ancistrus temminckii* climate matching. Source locations from GBIF (2016).

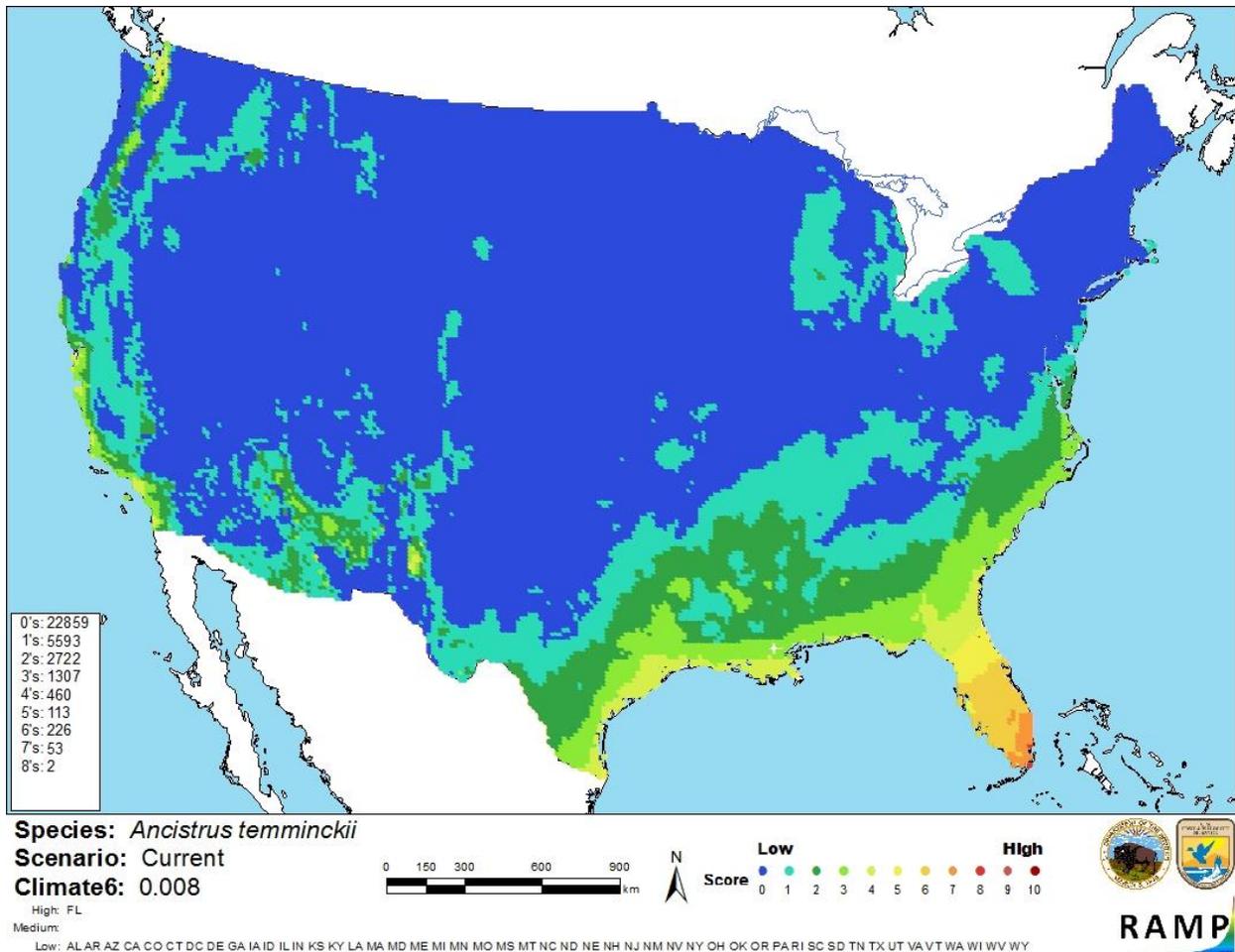


Figure 4. Map of RAMP (Sanders et al. 2014) climate matches for *Ancistrus temminckii* in the contiguous United States based on source locations reported in GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

7 Certainty of Assessment

Peer-reviewed literature on the biology, ecology and distribution of *Ancistrus temminckii* is limited as well as information on impacts of its introduction in Hawaii. Additional research on this species will be needed to strengthen the certainty of this assessment. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Ancistrus temminckii is a loricariid catfish native to Central and South America. The species was introduced to the island of Oahu, Hawaii, in the 1980s. It is now abundant in several water bodies on Oahu and is suspected of competing with native gobies, but data on species interactions are lacking. Climate match to the contiguous U.S. is medium, with highest climate match occurring in southern Florida. Overall risk posed by *A. temminckii* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec.6): Medium**
- **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.

Englund, R. A., K. Arakaki, D. J. Preston, S. L. Coles, and L. G. Eldredge. 2000. Nonindigenous freshwater and estuarine species introductions and their potential to affect sportfishing in the lower stream and estuarine regions of the south and west shores of Oahu, Hawaii. Final Report to the Hawaii Department of Land and Natural Resources, Division of Aquatic Resources, Honolulu, Hawaii. Bishop Museum Technical Report 17.

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GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Ancistrus temminckii* (Valenciennes, 1840). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/5961398>. (October 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Ancistrus temminckii* (Valenciennes in Cuvier and Valenciennes, 1840). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680036#null. (October 2016).

Nico, L., P. Fuller, and M. Neilson. 2016. *Ancistrus* cf. *temminckii*. USGS Nonindigenous Aquatic Species Database, Gainesville, Florida. Available: <https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=760>. (October 2016).

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USGS (U.S. Geological Survey). 2016. U.S. Geological Survey Nonindigenous Aquatic Species Database. Accessed through Biodiversity Information Serving Our Nation (BISON). Available: <https://bison.usgs.gov/#home>. (October 2016).

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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Baensch, H. and R. Riehl. 1985. Aquarien atlas. Band 2. Mergus, Verlag für Natur-und Heimtierkunde GmbH, Melle, Germany. 1216 p.

Devick, W. 1991. Patterns of introductions of aquatic organisms to Hawaiian freshwater habitats. 189-213 *in* new directions in research, management and conservation of Hawaiian freshwater stream ecosystems. Proceedings of the 1990 symposium on freshwater stream biology and fisheries management, Division of Aquatic Resources, Hawaii Department of Land and Natural Resources.

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Ferraris, C. J., Jr. 1991. Catfish in the aquarium. Tetra Press, Morris Plains, NJ.

Fisch-Muller, S. 2003. Loricariidae-Ancistrinae (Armored catfishes). p. 373-400. In R.E. Reis, S.O. Kullander and C.J. Ferraris, Jr. (eds.) Checklist of the Freshwater Fishes of South and Central America. Porto Alegre: EDIPUCRS, Brasil.

Mundy 2005 [Source did not provide full citation for this reference.]

Sabaj, M. and R. Englund. 1999. Preliminary identification and current distributions of two suckermouth armored catfishes (Loricariidae) introduced into O'ahu streams. Bishop Museum Occasional Papers 59:50-55.