Homodiaetus anisitsi (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, November 2016
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Photo: C. H. Eigenmann, W. L. McAtee, and D. P. Ward; public domain.

1 Native Range, and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: Paraná-Paraguay River basin [Brazil, Paraguay, and Argentina]. Reported from Uruguay River [Burgess 1989; Uruguay River basin is located in Brazil and Uruguay]."

Status in the United States

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

Means of Introductions in the United States

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

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

"Kingdom Animalia
Phylum Chordata
Subphylum Vertebrata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Stegophilinae
Genus *Homodiaetus*
Species *Homodiaetus anisitsi* - Eigenmann and Ward in Eigenmann, McAtee and Ward, 1907"

"Taxonomic Status: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 4.2 cm SL male/unsexed; [de Pínna et al. 2003]"

Corrêa et al. (2015) report that total length ranges from 2.6 cm to 4.9 cm, and total weight ranges from 0.10 g to 0.70 g.

Environment

From Froese and Pauly (2016):

"Freshwater; demersal."

Climate/Range
From Froese and Pauly (2016):

"Tropical"

Distribution Outside the United States
Native
From Froese and Pauly (2016):

"South America: Paraná-Paraguay River basin [Brazil, Paraguay, and Argentina]. Reported from Uruguay River [Burgess 1989; Uruguay River basin is located in Brazil and Uruguay]."

Introduced
No introductions of this species outside of its native range have been reported.

Means of Introduction Outside the United States
No introductions of this species outside of its native range have been reported.

Short Description
From Koch (2002):

"*Homodiaetus* is currently distinguished from other genus of Stegophilinae by the combination of the following characters: origin of ventral-fin at midlength between the snout tip and the caudal-fin origin; opercle with three or more odontodes; and gill membranes confluent with the istmus. *Homodiaetus anisitsi* Eigenmann & Ward, 1907, is diagnosed by the caudal-fin with black middle rays, margin of upper and lower procurrent caudal-fin rays with dark stripes extending to the caudal-fin, and 3-6 opercular odontodes […]"

Biology
From Bozzetti and Schulz (2004):

"Trophic level: C[arnivore]"

Human Uses
No information available.

Diseases
No information available.

Threat to Humans
No information available.

3 Impacts of Introductions

This species has not been documented as introduced outside of its native range.

From FFWCC (2016):

"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. […]
Freshwater Aquatic Species […]
Parasitic catfishes […]
Homodiaetus anisitsi"

4 Global Distribution

Figure 1. Distribution of *Homodiaetus anisitsi*. Map from GBIF (2016). Location reported in GBIF (2016) in northern South America was not used for climate matching as it is likely incorrect given the known range of the species (see Native Range and Distribution Outside the United States, above, for description of the known range).

5 Distribution Within the United States

This species has not been documented as introduced or established 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 high in southeastern and eastern states such as Florida, Georgia, Texas, Louisiana, Delaware, Maryland, Virginia, North Carolina, and South Carolina. The climate match was low in the West and Northeast. Climate 6 proportion indicated that the contiguous U.S. has a medium climate match. The range of scores indicating a medium climate match is greater than 0.005 and less than 0.103; the Climate 6 proportion of *Homodiaetus anisitsi* is 0.075.

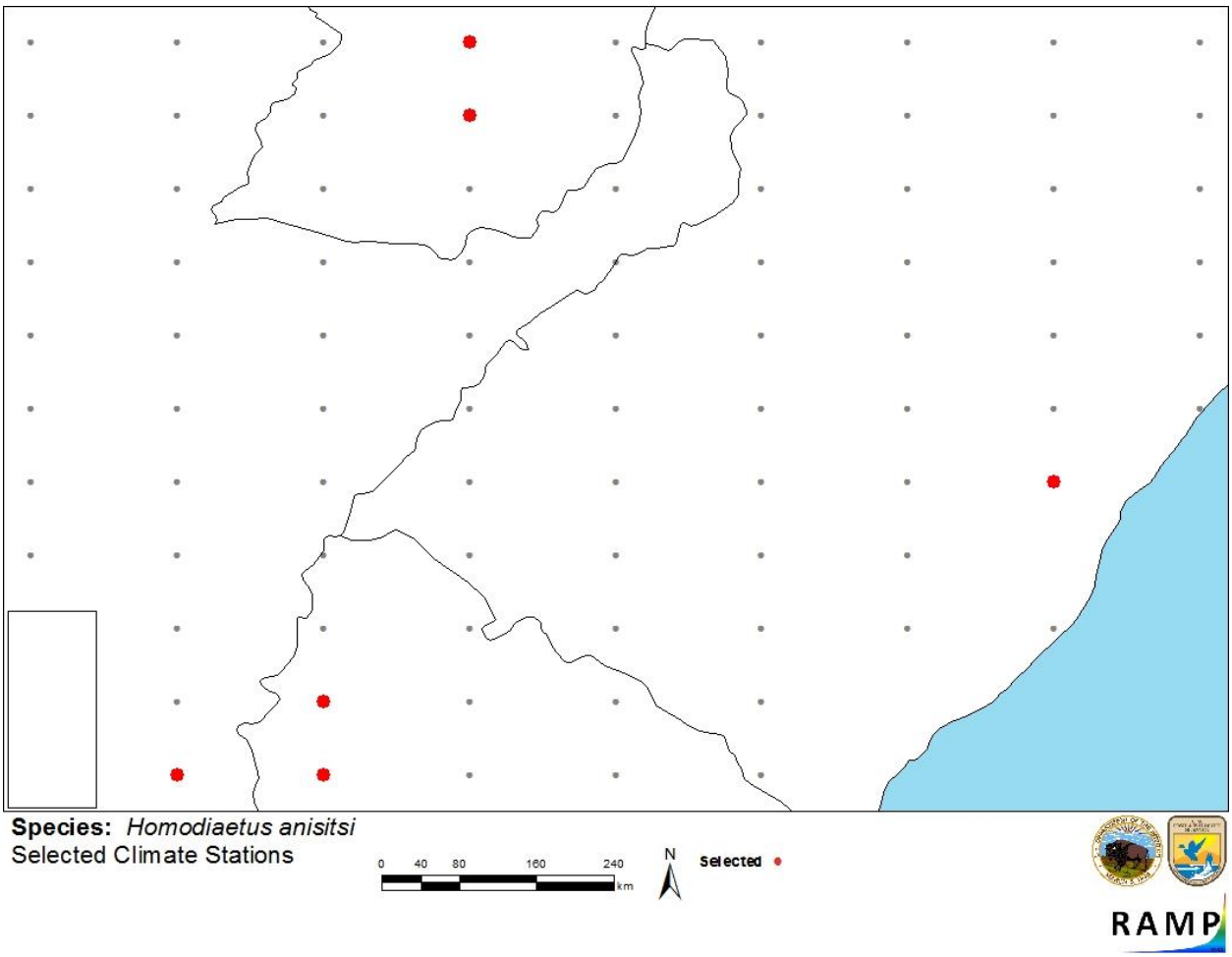

Figure 2. RAMP (Sanders et al. 2014) source map of southern Brazil, southern Paraguay, northern Argentina, and northern Uruguay showing weather stations selected as source locations (red) and non-source locations (gray) for *Homodiaetus anisitsi* climate matching. Source locations from GBIF (2016).

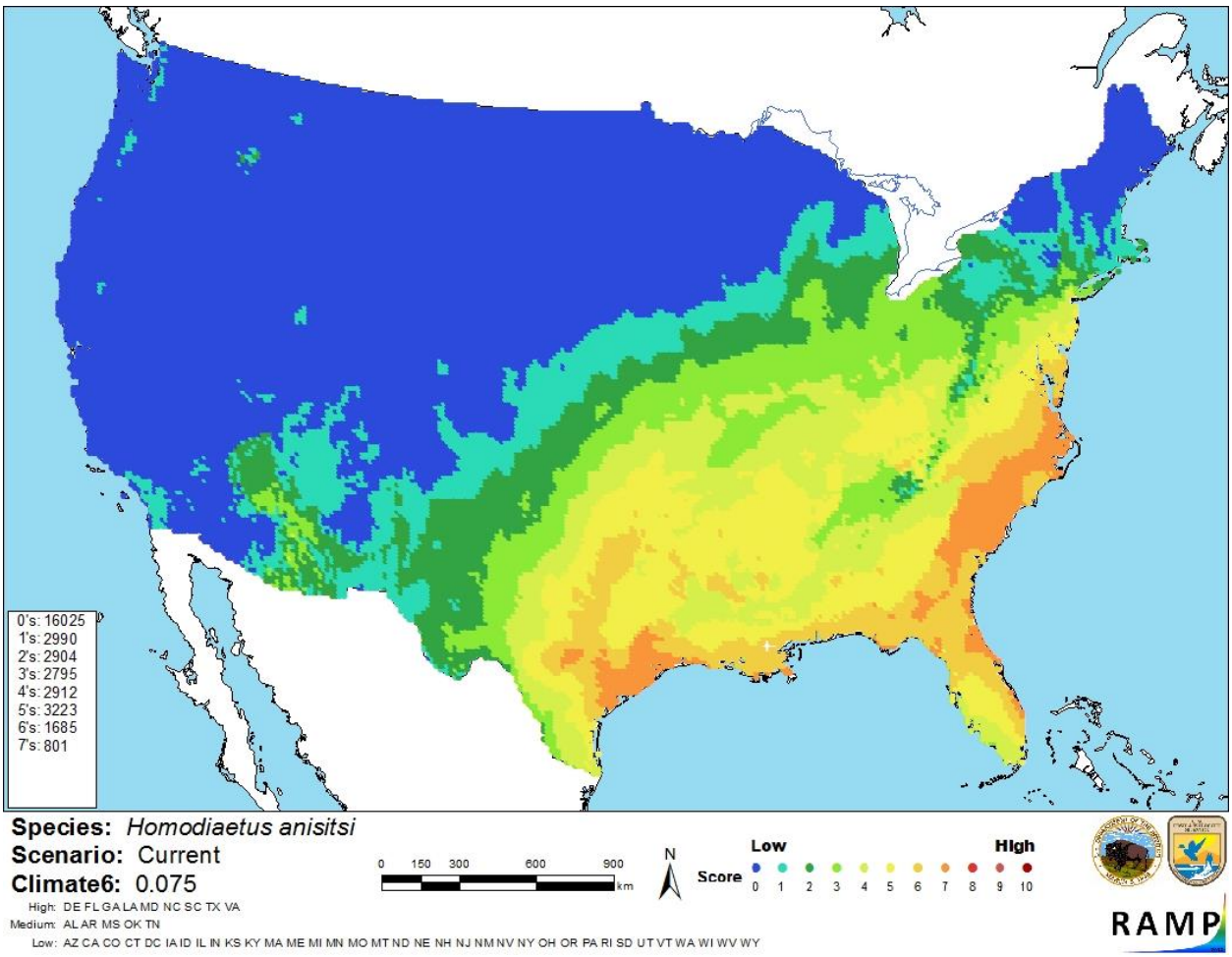

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Homodiaetus anisitsi* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 little information available on the biology and ecology of *Homodiaetus anisitsi*. There is no information on which to base a history of invasiveness. Further information is needed to evaluate the risk and potential negative impacts of this species. The certainty of this assessment is low because the lack of information about this species, and therefore the potential impacts of its introduction.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Homodiaetus anisitsi is a catfish native to the Paraná-Paraguay and Uruguay River basins in Brazil, Paraguay, Uruguay, and Argentina. It is classified as a prohibited nonnative species in the State of Florida. There is not enough information available on *H. anisitsi* from which to base a thorough risk assessment. The species has not been reported as introduced outside its native range, so its capacity for invasiveness is uncertain. *H. anisitsi* has a medium climate match with the contiguous United States. 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

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

Bozzetti, M., and U. H. Schulz. 2004. An index of biotic integrity based on fish assemblages for subtropical streams in southern Brazil. Hydrobiologia 529:133-144.

Corrêa, F., E. F. de Oliveira, J. Pouey, and S. Piedras. 2015. Length-weight relationships of 18 fish species from the Siluriformes order in a hydrographic subtropical basin in southern Brazil. Journal of Applied Ichthyology 31(5):948-950.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2016. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: http://m.myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo. (December 2016).

Froese, R., and D. Pauly, editors. 2016. *Homodiaetus anisitsi* (Eigenmann and Ward, 1907). FishBase. Available: http://www.fishbase.org/summary/Homodiaetus-anisitsi.html. (November 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Homodiaetus anisitsi* Eigenmann & Ward, 1907. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2342947. (November 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Homodiaetus anisitsi* (Eigenmann and Ward, 1907). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682112#null. (November 2016).

Koch, W. R. 2002. Taxonomic revision of genus *Homodiaetus* (Teleostei, Siluriformes, Trichomycteridae). Iheringia, Série Zoologia 92(3):33-46.

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US 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.

Burgess, W. E. 1989. An atlas of freshwater and marine catfishes. A preliminary survey of the Siluriformes. T.F.H. Publications, Neptune City, New Jersey.

de Pínna, M. C. C., and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270-290 *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.