

***Mesoheros ornatus* (a fish, no common name)**

Ecological Risk Screening Summary

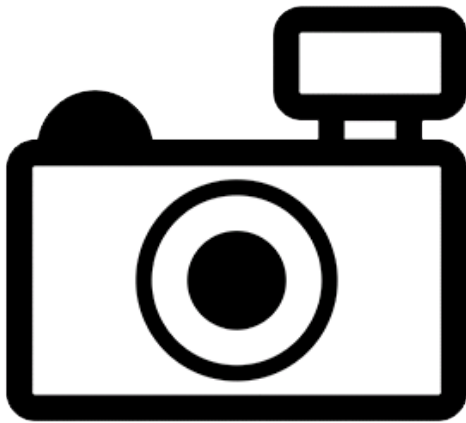
U.S. Fish & Wildlife Service, August 2011

Revised, November 2018

Web Version, 5/1/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Patia River basin in Colombia, Durango and St. Javier rivers in Ecuador, all draining to the Pacific Ocean.”

GBIF Secretariat (2018) also report *Mesoheros ornatus* observed from the Peruvian side of the border between Ecuador and Peru.

Status in the United States

From Froese and Pauly (2018):

“This fish is rarely kept in the aquarium but it was once imported from its native range to Florida for experimental breeding [Axelrod 1993]”

Means of Introductions in the United States

From Froese and Pauly (2018):

“This fish is rarely kept in the aquarium but it was once imported from its native range to Florida for experimental breeding [Axelrod 1993]”

Remarks

Information searches were conducted using *Mesoheros ornatus* and the synonym *Cichlosoma ornatum*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Mesoheros ornatus* (Regan 1905) is the current valid name of this species. *Mesoheros ornatus* was originally described as *Cichlosoma ornatum* Regan 1905.

From GBIF Secretariat (2018):

Kingdom Animalia
Phylum Chordata
Class Actinopterygii
Order Perciformes
Family Cichlidae
Genus *Mesoheros*
Species *Mesoheros ornatus* (Regan, 1905)

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 26.0 cm SL male/unsexed; [Kullander 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; pH range: 7.0 - ?. [...] 24°C - 27°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1991]”

Climate

From Froese and Pauly (2018):

“Tropical; [...]”

Distribution Outside the United States

Native

From Kullander (2003):

“Distribution: South America: Orinoco River basin, in left bank tributaries of the Orinoco River from the Meta River in Colombia to about Ciudad Bolívar in Venezuela.”

GBIF Secretariat (2018) also report *Mesoheros ornatus* observed from the Peruvian side of the border between Ecuador and Peru.

Introduced

No records of introductions of *Mesoheros ornatus* were found.

Means of Introduction Outside the United States

No records of introductions of *Mesoheros ornatus* were found.

Short Description

No information on a short description of *Mesoheros ornatus* was found.

Biology

From Froese and Pauly (2018):

“The stomachs of the type material contained broken shells of snails. Oviparous [Breder and Rosen 1966].”

From Jimenez-Prado and Arguello (2016):

“This species frequently inhabits the edges of backwaters in large rivers with gentle slopes (Maldonado-Ocampo et al. 2012). It is mainly a carnivorous species, feeding on invertebrates, small fishes and, to a lesser extent, plant matter (Maldonado-Ocampo et al. 2012).”

Human Uses

From Froese and Pauly (2018):

“Aquarium: potential”

From Jimenez-Prado and Arguello (2016):

“This species is fished for consumption by local communities (Lasso et al. 2011, Maldonado-Ocampo et al. 2012).”

Diseases

No information on diseases of *Mesoheros ornatus* was found. **No records of OIE-reportable diseases were found for *M. ornatus*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Mesoheros ornatus* were found.

4 History of Invasiveness

The history of invasiveness for *Mesoheros ornatus* is No Known Nonnative Population. There are no established populations of *M. ornatus* outside its native range. This species is not common in trade, so it cannot be considered to have Low history of invasiveness.

5 Global Distribution

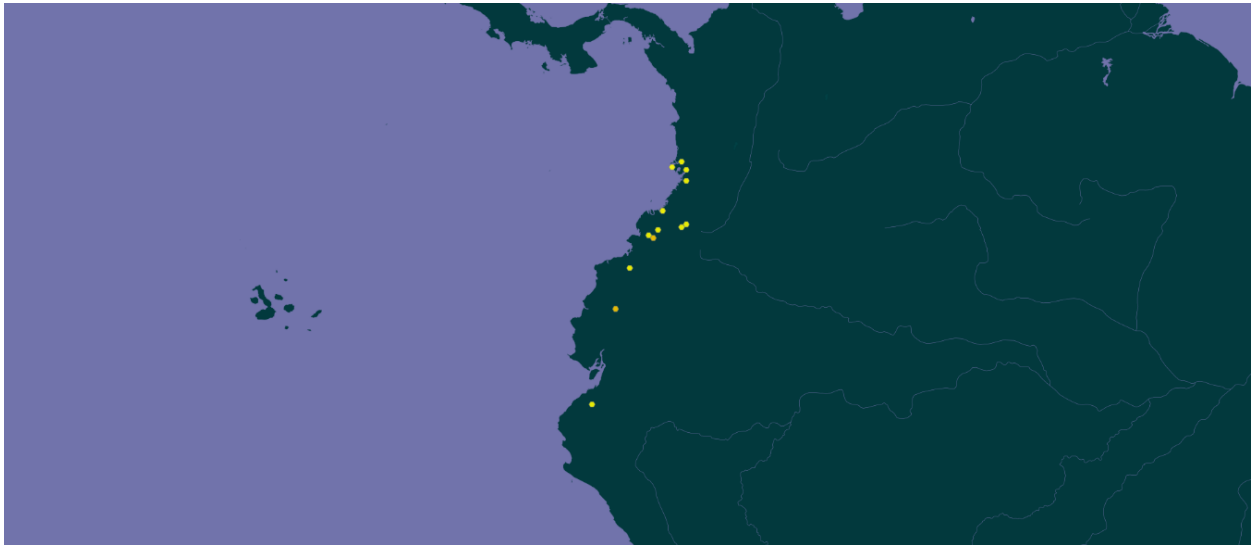


Figure 1. Known global distribution of *Mesoheros ornatus*. Observations are reported from Ecuador, Peru, and Colombia. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of *Mesoheros ornatus* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Mesoheros ornatus* was low for the majority of the contiguous United States with patches of medium match in southern Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. (Scores of 0.005 and below are classified as low.) All States had low individual climate scores except for Florida, which had a medium individual climate score.

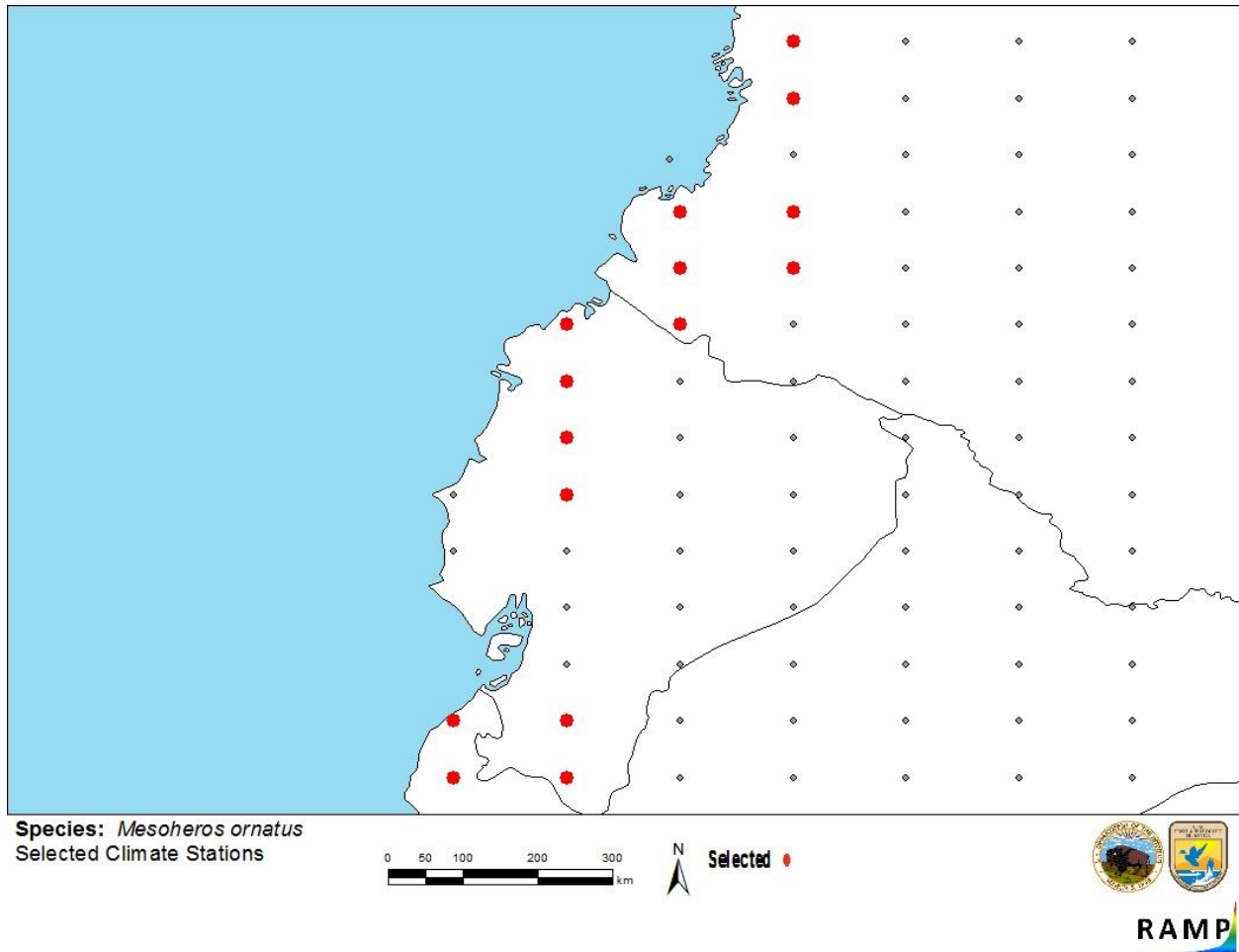


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in northwestern South America selected as source locations (red; Colombia, Ecuador, and Peru) and non-source locations (gray) for *Mesoheros ornatus* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

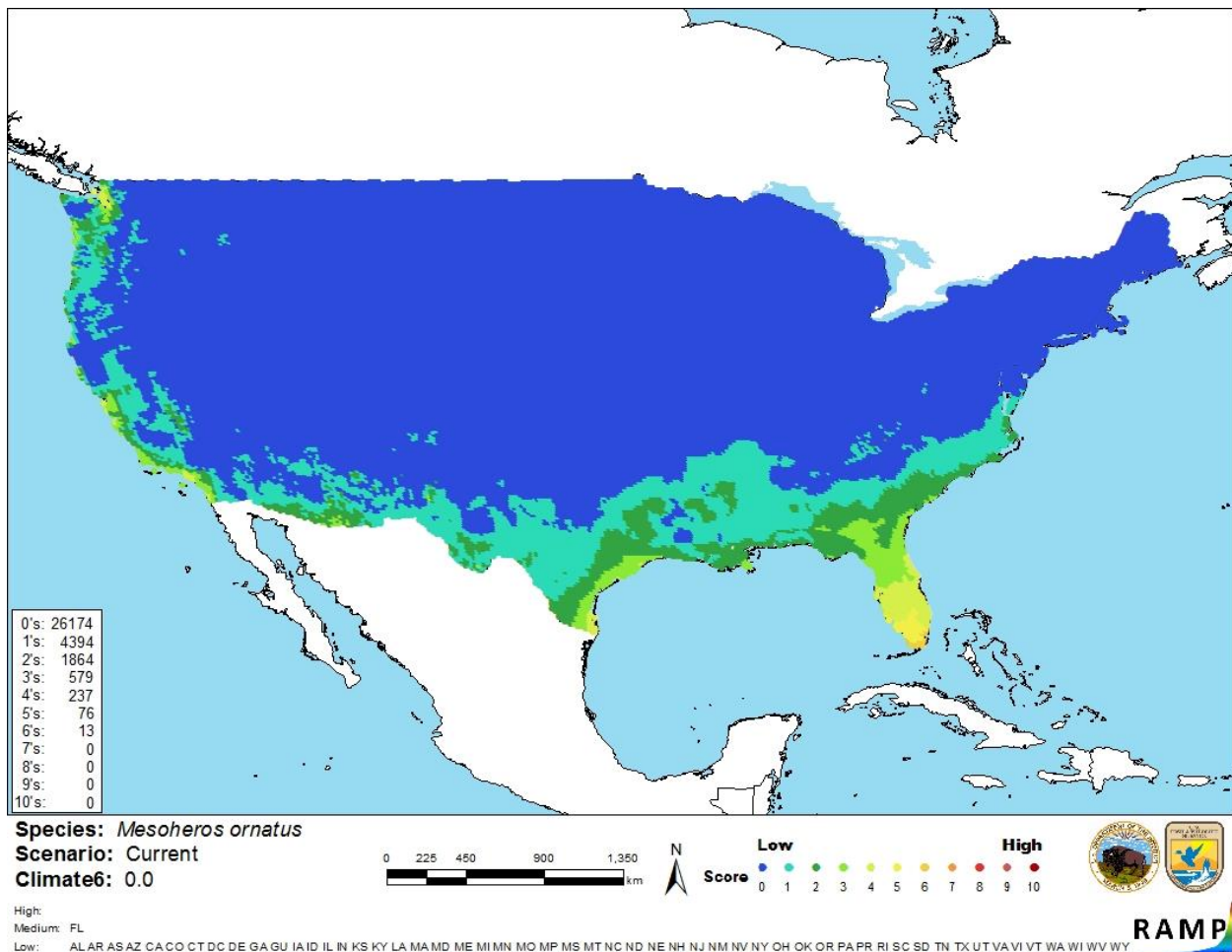


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Mesoheros ornatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment for *Mesoheros ornatus* is low. There is minimal information available for this species. *Mesoheros ornatus* was introduced to Florida through the aquarium industry; however, no additional information was found.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Mesoheros ornatus is a Neotropical cichlid fish native to Colombia, Ecuador, and Peru (Patia River basin in Colombia, Durango and St. Javier rivers in Ecuador, all draining to the Pacific Ocean). The history of invasiveness is No Known Nonnative Population. *Mesoheros ornatus* was introduced to Florida through the aquarium industry; however, no additional information was found. The climate match for the contiguous United States was low with Florida having a medium individual climate match. The certainty of assessment is low. The overall risk assessment category for *Mesoheros ornatus* is Uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks, Important additional information:** No additional remarks.
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Fricke R, Eschmeyer WN, Van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. Available:
<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>
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Froese R, Pauly D, editors. 2018. *Mesoheros ornatus* (Regan, 1905). FishBase. Available:
<https://www.fishbase.de/summary/Mesoheros-ornatus.html> (November 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Mesoheros ornatus* (Regan, 1905). Copenhagen: Global Biodiversity Information Facility. Available:
<https://www.gbif.org/species/9530025> (November 2018).

Jimenez-Prado P, Arguello P. 2016. *Cichlasoma ornatum*. The IUCN Red List of Threatened Species 2016: e.T49829715A66395134. Available:
<https://www.iucnredlist.org/species/49829715/66395134> (November 2018).

Kullander SO. 2003. Cichlidae (cichlids). Pages 605–654 in Reis RE, Kullander SO, Ferraris CJ Jr., editors. Checklist of the freshwater fishes of South and Central America. Porto Alegre, Brazil: EDIPUCRS.

[OIE] World Organisation for Animal Health. 2019. OIE-listed diseases, infections and infestations in force in 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/> (June 2019).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

11 Literature Cited in Quoted Material

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.

Axelrod HR. 1993. The most complete colored lexicon of cichlids. Neptune City, New Jersey: T. F. H. Publications.

Baensch HA, Riehl R. 1991. Aquarien atlas. Volume 3. Melle, Germany: Mergus, Verlag für Natur-und Heimtierkunde.

Breder CM, Rosen DE. 1966. Modes of reproduction in fishes. Neptune City, New Jersey: T. F. H. Publications.

Lasso CA, Agudelo Córdoba E, Jiménez-Segura LF, Ramírez-Gil H, Morales-Betancourt M, Ajiaco-Martínez RE, Paula Gutiérrez F, Usma Oviedo JS, Muñoz Torres SE, Sanabria Ochoa AI, editors. 2011. I. Catálogo de los recursos pesqueros continentales de Colombia. Serie Editorial Recursos Hidrobiológicos y Pesqueros Continentales de Colombia. Bogotá, Colombia: Instituto de Investigación de Recursos Biológicos Alexander von Humboldt.

Maldonado-Ocampo JA, Usma JS, Villa-Navarro FA, Ortega-Lara A, Prada-Pedrerros S, Jimenez LF, Jaramillo-Villa U, Arango A, Rivas T, Sánchez GC. 2012. Peces Dulceacuícolas del Chocó Biogeográfico de Colombia. Bogotá, Colombia: WWF Colombia, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt, Universidad del Tolima, Autoridad Nacional de Acuicultura y Pesca, Pontificia Universidad Javeriana.

Regan CT. 1905. A revision of the fishes of the American cichlid genus *Cichlosoma* [sic] and of the allied genera. Annals and Magazine of Natural History (Series 7) 16(91–94):60–77, 225–243, 316–340, 433–445.