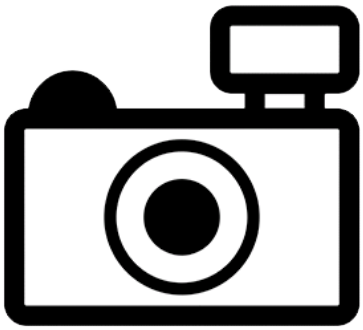
Ituglanis ramiroi (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2017
Revised, February 2017
Web Version, 1/31/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: pool formed by infiltration of water in the São Bernardo Cave in Brazil."

Status in the United States

This species has not been reported in the United States.

From FFWCC (2017):

"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 […]
Ituglanis ramiroi"

Means of Introductions in the United States

This species has not been reported in the United States.

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 Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Trichomycterinae
Genus *Ituglanis*
Species *Ituglanis ramiroi* Bichuette and Trajano, 2004"

"Taxonomic Status: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 3.1 cm SL male/unsexed; [Bichuette and Trajano 2004]"

Environment

From Bichuette and Trajano (2004):

"*Ituglanis ramiroi* has been found in a side pool five meters above the main stream level, formed by water percolating from the rock. The water current in the pool was slow, depth varied from 10 to 40 cm and the bottom was formed basically by silt and gravel, with some boulders. […] Environmental variables measured in May 1999, July 2000 and August 2001 (dry seasons): […] pH 6.76, 7.5 and 7.3; and dissolved oxygen 5.1, 4.7 and 5.4 $mg \cdot l^{-1}$. The relatively low values of dissolved oxygen are probably related to the slow movement of water in the pool."

Climate/Range

From Froese and Pauly (2016):

"Tropical […]"

From Bichuette and Trajano (2004):

"Environmental variables measured in May 1999, July 2000 and August 2001 (dry seasons): water temperature 23.1, 23.0 and 22.5 °C […]"

Distribution Outside the United States

Native

From Froese and Pauly (2016):

"South America: pool formed by infiltration of water in the São Bernardo Cave in Brazil."

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Froese and Pauly (2016):

"Dorsal soft rays (total): 9; Anal soft rays: 6; Vertebrae: 36. Distinguished from its epigean and cave congeners by the combination of the following characters: small size (max. 3.13 cm SL); reduced body pigmentation, with very small chromatophores. Dorsal region of head darker than remaining body parts; small integument fold anterior to dorsal fin and prominent posterior to dorsal fin; eye size intermediate between *I. bambui* and *I. epikarsticus*, 3.7-4.7% HL; nine pectoral-fin rays; base of laminar surface of urohyal 1.5 times larger than distal extremity, dorsal process long; posterior process of palatine 3/4 of palatine length, with medial concavity slightly rounded; maxilla straight, without medial-posterior projection; fronto-lachrymal as long as maxilla, posteriorly pointed; opercle with 12-13 odontodes, interopercle with 24-25 odontodes; caudal skeleton with the upper hypural plate trapezoidal and the lower trapezoidal to rectangular, neural spine of preural centrum with acute extremity, dorsal procurrent rays 16 and ventral 12 [Bichuette and Trajano 2004]."

Biology

From Bichuette and Trajano (2004):

"Density of fish in the pool (around 18 m x 1.3 m) was estimated around 0.3 individuals per m^2. […] In all occasions, the individuals were observed solitary, swimming on the bottom and displaying rare events of surface swimming. *Ituglanis ramiroi* showed weak cryptobiotic habits, sometimes hiding under boulders, but not burying in the silt."

Human Uses

No information available.

Diseases
No information available.

Threat to Humans
From Froese and Pauly (2016):

"Harmless"

3 Impacts of Introductions
This species has not been reported as introduced outside of its native range.

From FFWCC (2017):

"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 […]
Ituglanis ramiroi"

4 Global Distribution

Figure 1. Known global established locations of *Ituglanis ramroi* in Brazil. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported within the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in extreme southern Florida and extreme southern Texas; the climate match was low elsewhere in the contiguous U.S. Climate 6 proportion indicated a low climate match for the contiguous U.S. overall. The range of proportions signifying a low climate match is 0.000-0.005; the Climate 6 proportion of *Ituglanis ramiroi* was 0.0.

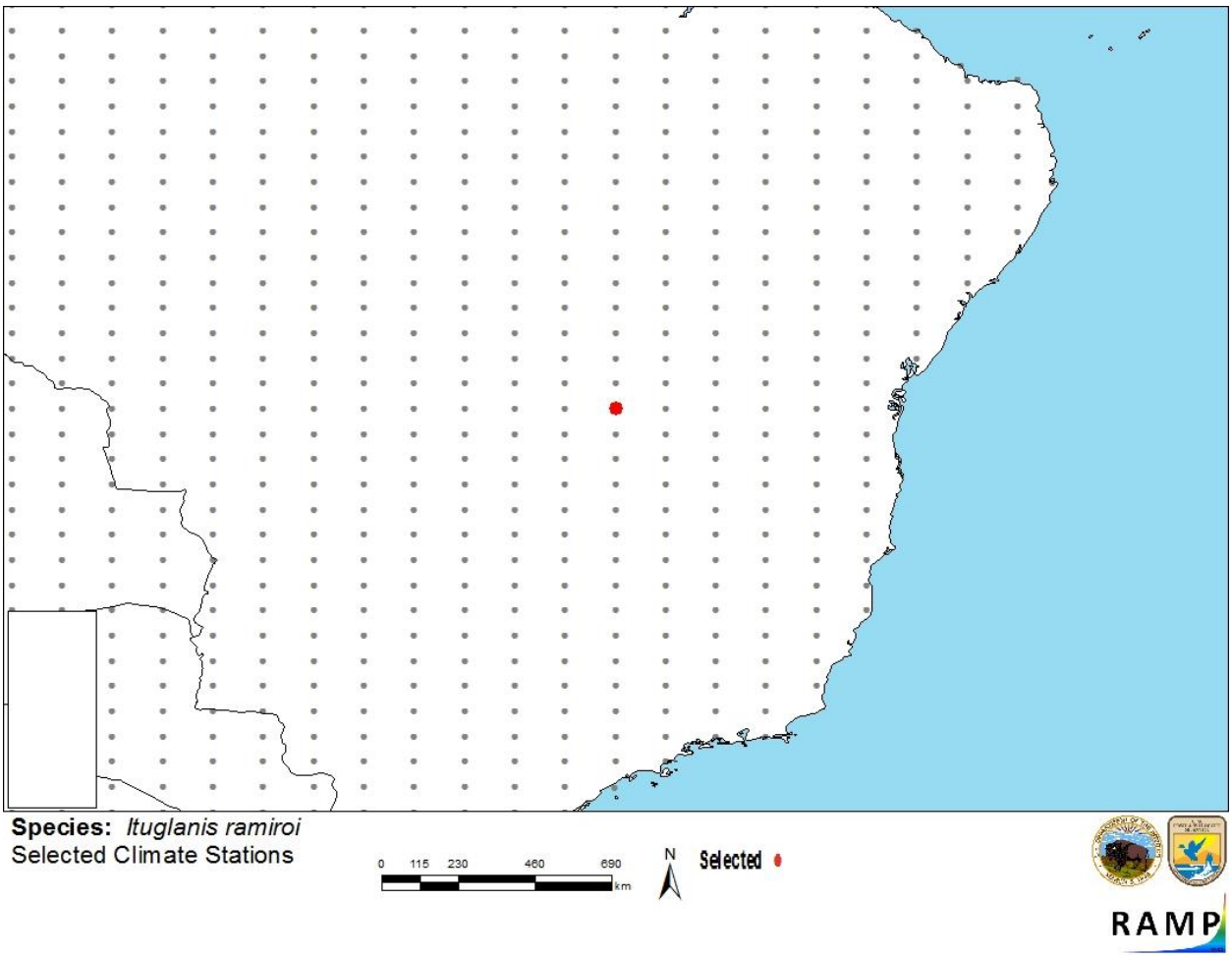


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in Brazil selected as source locations (red) and non-source locations (gray) for *Ituglanis ramiroi* climate matching. Source locations from GBIF (2016).

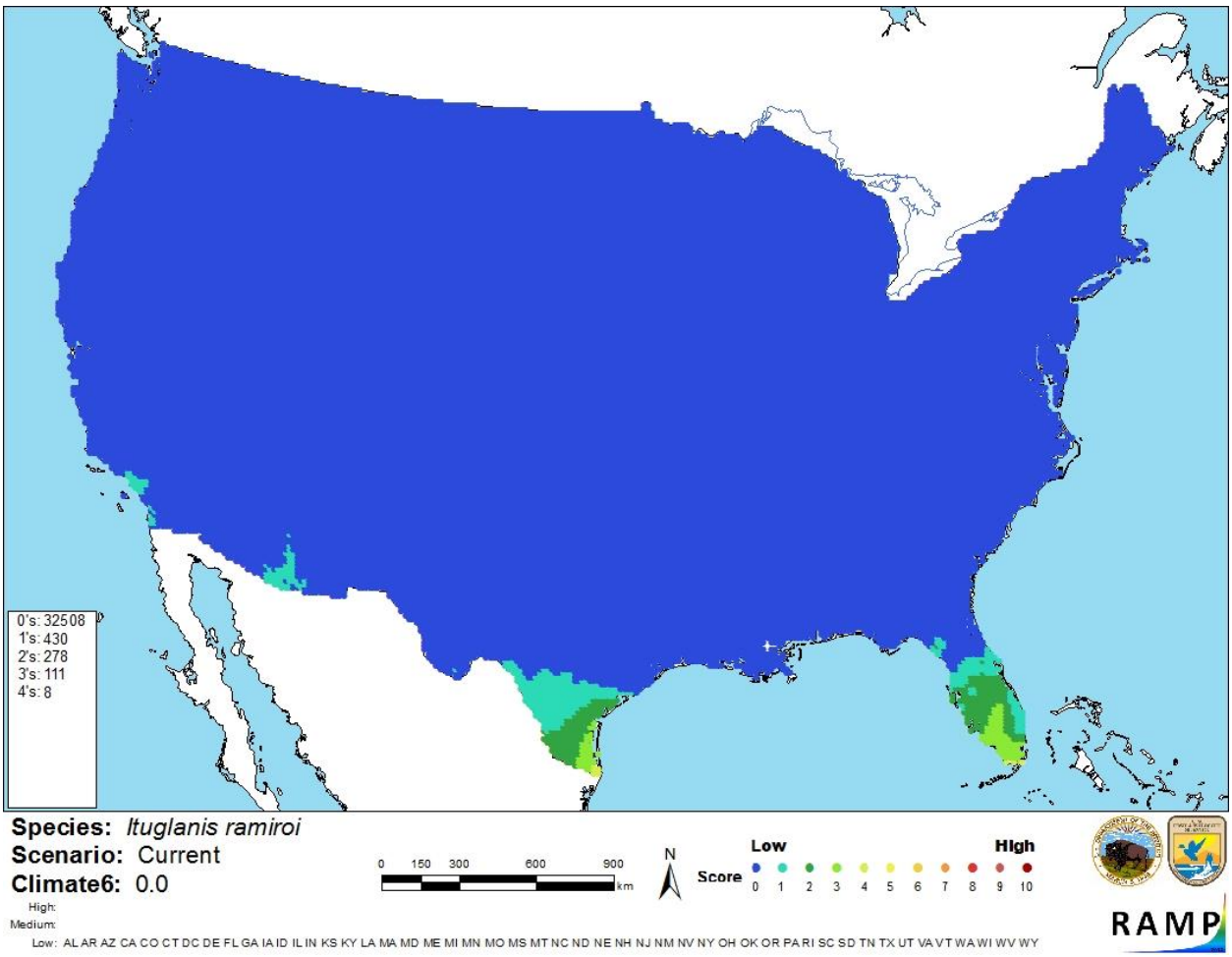


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Ituglanis ramiroi* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 was limited information available on the biology of *Ituglanis ramiroi*. This species has not been reported outside of its native range so impacts of introduction are unknown. With such little information available, the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Ituglanis ramiroi is a South American trichomycterid catfish found only in São Bernardo Cave in Brazil. There have been no reports of *I. ramiroi* outside of its native range. Possession and trade of this species is prohibited in the state of Florida. Due to a low climate match and absence of introduction history, the overall risk posed by *I. ramiroi* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

Bichuette, M. E., and E. Trajano. 2004. Three new subterranean species of *Ituglanis* from central Brazil (Siluriformes: Trichomycteridae). Ichthyological Exploration of Freshwaters 15(3):243-256.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo. (January 2017).

Froese, R., and D. Pauly, editors. 2017. *Ituglanis ramiroi* Bichuette & Trajano, 2004. FishBase. Available: http://www.fishbase.org/summary/Ituglanis-ramiroi.html. (January 2017).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Ituglanis ramiroi* Bichuette & Trajano, 2004. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2342896. (January 2017).

ITIS (Integrated Taxonomic Information System). 2017. *Ituglanis ramiroi* Bichuette & Trajano, 2004. Integrated Taxonomic Information System, Reston,Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682130#null. (January 2017).

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.