

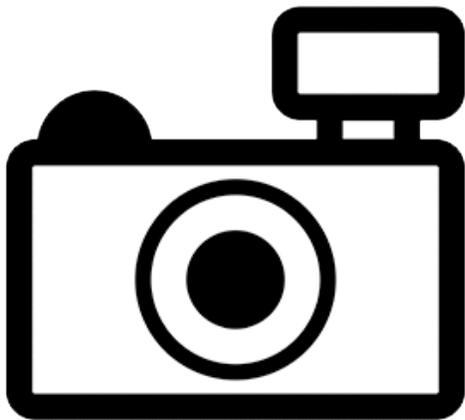
## ***Ituglanis macunaima* (a catfish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, January 2017

Revised, February 2018

Web Version, 8/6/2018



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

From Froese and Pauly. (2016)

“South America: Rio Araguaia basin in Brazil.”

### **Status in the United States**

This species has not been reported in the United States. No information on trade of this species in the United States was found.

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Ituglanis macunaima* as a prohibited species. Prohibited nonnative species (FFWCC 2018), “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.”

## Means of Introductions in the United States

This species has not been reported in the United States.

## Remarks

No additional remarks.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From GBIF Secretariat (2018):

“Kingdom     Animalia  
Phylum     Chordata  
Class         Actinopterygii  
Order        Siluriformes  
Family       Trichomycteridae  
Genus        *Ituglanis* Costa & Bockmann, 1993  
Species      *Ituglanis macunaima* Datovo & Landim, 2005”

According to Eschmeyer et al. (2018), *Ituglanis macunaima* Datovo & Landim 2005 is the currently valid and original name for this species.

### Size, Weight, and Age Range

Datovo and Landim (2005) report the standard length to be 30.50 mm.

From Froese and Pauly (2016):

“Max length : 3.2 cm SL male/unsexed; [Datovo and Landim 2005]”

### 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: Rio Araguaia basin in Brazil.”

### Introduced

No records of *Ituglanis macunaima* being introduced into the wild were found.

## Means of Introduction Outside the United States

No records of *Ituglanis macunaima* being introduced into the wild were found.

## Short Description

From Datovo and Landim (2005):

“Body elongate. Dorsal and ventral profiles of body straight or slightly convex in trunk and straight on caudal peduncle. Cross section of trunk nearly oval and becoming gradually more compressed posterior to pectoral girdle.

Head wide and strongly depressed, often slightly concave with swollen lateral cephalic musculature (*adductor mandibulae* and *dilatator operculi* muscles); cordiform in dorsal view. Dorsal profile of head straight; ventral profile ranging from straight to somewhat convex. Eyes slightly anteroposteriorly elongated and dorsally placed on anterior half of head; orbital rim not free. Thin and translucent skin covering eye, not adhered to surface of eyeball. Anterior nostril surrounded by tubular flap continuous with nasal barbel base; posterior nostril opening slightly larger than anterior one and with crescent thin flap on its anterior border.

Mouth subterminal and curved. Inferior lip with lateral tegumentar folds continuous with rictal barbel base. Nasal barbel emerging from lateral region of anterior nostril and usually reaching center of cranial crown. Maxillary barbel reaching pectoral-fin base. Rictal barbel usually somewhat shorter than nasal and crossing posterior edge of interopercular patch of odontodes. Branchial membranes thick, united to isthmus only anteriorly and forming small free fold across isthmus. Median most branchiostegal rays barely visualized through skin.

Opecular patch of odontodes rounded, posteriorly detached from head surface and dorsolaterally placed. Inter-opercular patch of odontodes narrow, elongate, posteriorly curved, and placed fully anterior to opercular patch. Odontodes markedly erected from integument in most specimens.

Pectoral-fin rays i,4 (two specimens i,3 on one side of body; two i,5 on one side and two on both sides). Origin of pectoral fin just posterior to branchial membrane. First pectoral-fin ray distinctly longer than remaining rays and continued distally as filament. Remaining rays gradually shorter than lateral one, making distal margin of pectoral fin obliquely straight. Inconspicuous axillary pore present. Pelvic-fin rays, i,4 (three specimens i,3 on one side of body), origin anterior to origin of dorsal fin; posterior margin convex. Bases of pelvic fins close to each other. Tip of adpressed pelvic fin not reaching anal-fin origin. Urogenital and anal

openings at posterior half of pelvic-fin length. Dorsal-fin rays ii,6 (one specimen ii,5, two ii,7, one iii,5, three iii,6), located on posterior one-third of trunk; distal margin convex. Anal-fin rays ii,5 (one specimen ii,4, one iii,4), origin of fin approximately at vertical through origin of dorsal fin; distal margin convex. Caudal fin with posterior margin ranging from convex to nearly straight. Principal caudal-fin rays 12: i,5 on both dorsal and ventral lobes (two specimens i,4 on dorsal lobe). Unsegmented rays of unpaired fins hardly visible through skin.”

“*Ituglanis macunaima* is distinguished from all congeners by the following characters in combination: posterior fontanel absent (*vs.* present in all other *Ituglanis* except some *I. epikarsticus*); pectoral-fin rays usually i,4 (*vs.* i,5 or more in all other *Ituglanis* except *I. parahybae*); pelvic-fin rays usually i,4 (*vs.* i,3 or pelvic fin absent in *I. parahybae*); branched caudal-fin rays usually 5,5 (*vs.* 5,6 or more in all other *Ituglanis* except *I. nebulosus*); mottled color pattern formed by irregular to roughly roundish dark brown spots distributed on whitish background (*vs.* distinct color pattern in all other *Ituglanis* except some *I. eichorniarum*, *I. gracilior*, and *I. proops*). Although data were not available from all other *Ituglanis* species, the following reductive characters in combination further diagnose *I. macunaima*: reduced supraorbital canal with pores s1 and s2 lacking (*vs.* s1 present in *I. amazonicus*, *I. eichorniarum*, *I. gracilior*, *I. herberti*, *I. nebulosus*, *I. parkoi*, and *I. proops*; and s2 present in *I. proops*; not seen in *I. guayaberensis*, *I. laticeps*, and *I. metae*); reduced infraorbital canal with pores i1 and i3 lacking (*vs.* both present in *I. proops*; not seen in *I. guayaberensis*, *I. laticeps*, and *I. metae*); 2-3 pleural ribs (*vs.* 5 or more in *I. bambui*, *I. epikarsticus*, *I. parahybae*, *I. passensis*, *I. proops*, and *I. ramiroi*; not seen in *I. guayaberensis* and *I. laticeps*); 35-38 vertebrae (*vs.* 39 or more in *I. amazonicus*, *I. eichorniarum*, *I. gracilior*, *I. herberti*, *I. metae*, *I. parahybae*, *I. parkoi*, *I. proops*; not seen in *I. guayaberensis* and *I. laticeps*)”.

## Biology

From Datovo and Landim (2005):

“The new species was found always associated with leaf litter, or other decomposing vegetal matter, accumulated in shallow (not deeper than 1 m), slow flowing portions of the river. At the type-locality, specimens where found also associated with a partially decomposed log, resting on the litter bed. These specimens were found more externally on crevices in the bark, together with an undescribed species of *Microglanis*. Several specimens of an undescribed species of *Centromochlus* were found more deeply associated in the log.”

## Human Uses

No information on human uses of *Ituglanis macunaima* was found.

## Diseases

No information on diseases of *Ituglanis macunaima* was found. **No records of OIE-reportable diseases were found.**

## Threat to Humans

From Froese and Pauly (2016):

“Harmless”

### 3 Impacts of Introductions

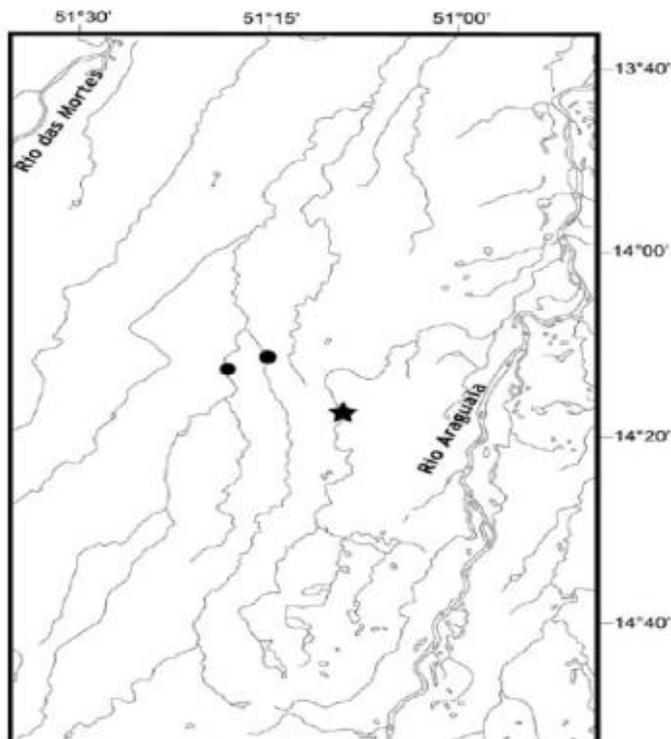
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No introduction of this species has been reported.

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Ituglanis macunaima* as a prohibited species. Prohibited nonnative species (FFWCC 2018), “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.”

### 4 Global Distribution

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**Figure 1.** Known global distribution in Brazil of *Ituglanis macunaima*. Map from Datovo and Landim (2005). Symbols: star, holotype; circles, paratypes.



**Figure 2.** Additional known global distribution of *Ituglanis macunaima*. Location is in Brazil. Map from GBIF Secretariat (2018).

## 5 Distribution Within the United States

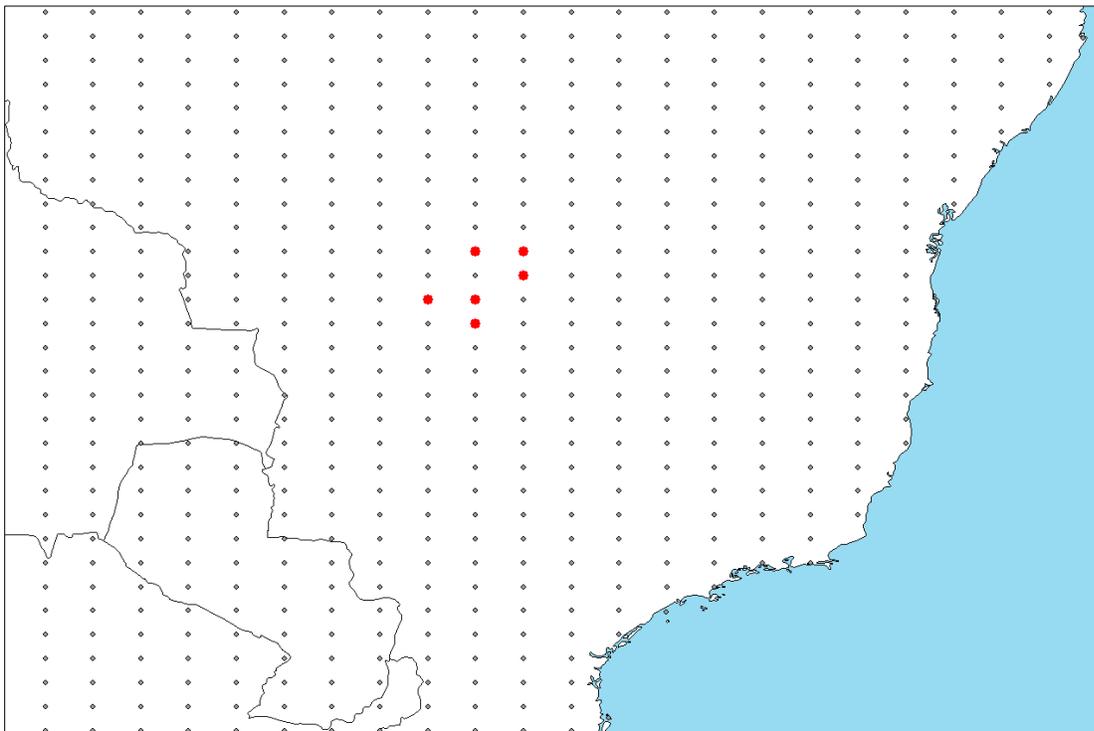
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This species has not been reported in the United States.

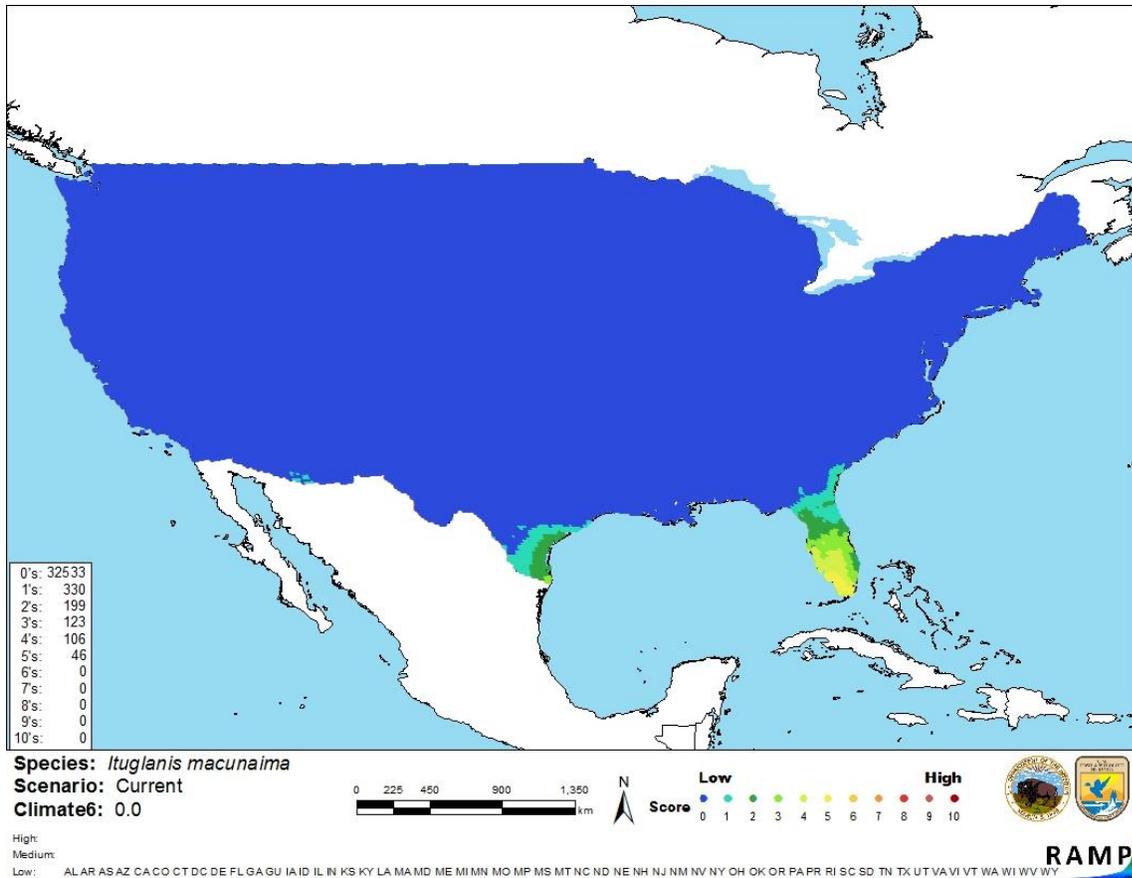
## 6 Climate Matching

### Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean Distance) for *Ituglanis macunaima* was low for most of the contiguous United States. There was an area of medium match in southwest Florida. Scores of 0.005 or below indicate a low climate match; the Climate 6 score for *Ituglanis macunaima* was 0.000. No states had an individually high climate score.



**Figure 3.** RAMP (Sanders et al. 2018) source map of Brazil and surrounding countries showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Ituglanis macunaima* climate matching. Source locations from Datovo and Landim (2005) and GBIF Secretariat (2018).



**Figure 4.** Map of RAMP (Sanders et al. 2018) climate matches for *Ituglanis macunaima* in the contiguous United States based on source locations reported by Datovo and Landim (2005) and 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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

The certainty of this assessment is low. There is some information available about the biology and morphology of *Ituglanis macunaima*. No records of introductions into the wild were found so impacts of introduction are unknown.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Ituglanis macunaima* is a little studied catfish from the Rio Araguaia river basin in Brazil. No records of this species being introduced into the wild were found. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *I. macunaima* as a prohibited species. The climate match to the contiguous United States was low. The certainty of assessment is low because of the limited amount of data available for the species. Due to a paucity of information, the overall risk assessment category for this species is uncertain at this time.

### 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 results
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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

Datovo, A., and M. I. Landim. 2005. *Ituglanis macunaima*, a new catfish from the rio Araguaia basin, Brazil (Siluriformes: Trichomycteridae). *Neotropical Ichthyology* 3(4):455–464.

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>. (February 2018).

FFWCC (Florida Fish and Wildlife Conservation Commission). 2018. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (August 2018).

Froese, R., and D. Pauly, editors. 2018. *Ituglanis macunaima* Datovo & Landim, 2005. FishBase. Available: <http://www.fishbase.org/summary/62695>. (February 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Ituglanis macunaima* Datovo & Landim, 2005. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2342921>. (August 2018).

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

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**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.**

Costa, W. J. E. M., and F.A. Bockmann. 1993. Un nouveau genre Néotropical de la famille des Trichomycteridae (Siluriformes: Loricarioidei). *Revue Française d'Aquariologie* 20(2):43–46.