U.S. Fish & Wildlife Service

Barred Sorubim (*Pseudoplatystoma fasciatum*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2011
Revised, November 2018
Web Version, 2/4/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain

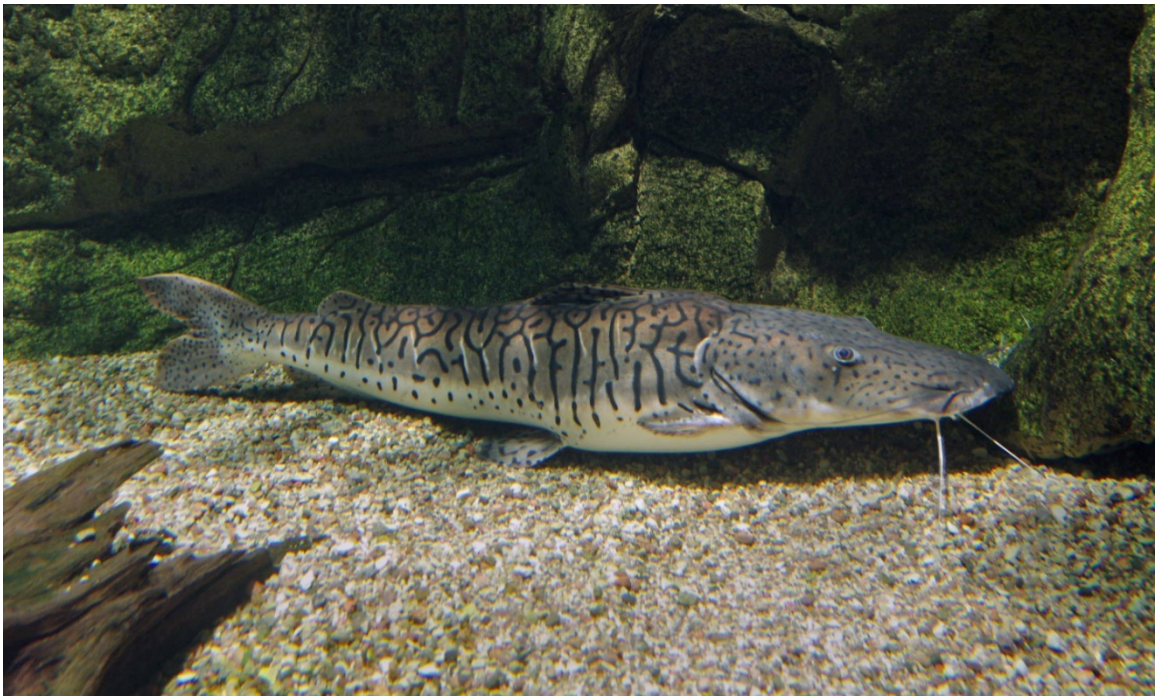

Photo: Chrumps. Licensed under CC BY-SA 4.0. Available: https://commons.wikimedia.org/wiki/File:Pseudoplatystoma-fasciatum.jpg. (October 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"South America: Amazon, Corantijn, Essequibo, Orinoco and Paraná River basins."

From Neilson (2018):

"South America: Guyana, Suriname, and French Guiana, including the Essequibo and Suriname rivers (Buitrago-Suárez and Burr 2007)."

Status in the United States

No established populations of *Pseduoplatystoma fasciatum* have been found in the wild in the United States. According to Neilson (2018), in Illinois, USA in 2002, a single specimen was found dead on the side of a pond. It is possible that it was a different species of *Pseudoplatystoma*.

From Neilson (2018):

"Photograph of the specimen reported from Illinois does not allow for accurate species identification, and could represent a different species of *Pseudoplatystoma*."

Pseudoplatystoma fasciatum falls within Group I of New Mexico's Department of Game and Fish Director's Species Importation List (New Mexico Department of Game and Fish 2010). Group I species "are designated semi-domesticated animals and do not require an importation permit."

Pseudoplatystoma fasciatum is in trade in the United States (e.g. Rainforest Farms International 2021).

Means of Introductions in the United States

From Neilson (2018):

"Probable aquarium release [of the specimen found in Illinois]."

Remarks

From Buitrago-Suárez and Burr (2007):

"Eigenmann and Eigenmann (1888, 1889) described four subspecies of *P. fasciatum* from the Amazon basin; *P. f. brevifile*, *P. f. nigricans*, *P. f. intermedium* and *P. f. reticulatum*"

From Neilson (2018)"

"[…] recent taxonomic revision of the genus by Buitrago-Suárez and Burr (2007) makes assessment of impact on the eight recognized species of *Pseudoplatystoma* difficult. Juvenile *Pseudoplatystoma* are widely sold as aquarium fishes, but at a size where positive identification is not possible. It is likely that multiple species are sold as *P. tigrinum* or *P. fasciatum* (Buitrago-Suárez and Burr 2007)."

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), the current valid name for this species is *Pseudoplatystoma fasciatum* (Linnaeus 1766); it was originally called *Silurus fasciatus* (Linnaeus 1766).

From ITIS (2018):

Kingdom Animalia
  Subkingdom Bilateria
    Infrakingdom Deuterostomia
      Phylum Chordata
        Subphylum Vertebrata
          Infraphylum Gnathostomata
            Superclass Actinopterygii
              Class Teleostei
                Superorder Ostariophysi
                Order Siluriformes
                Family Pimelodidae
                Genus *Pseudoplatystoma*
                Species *Pseudoplatystoma fasciatum* (Linnaeus 1766)

Size, Weight, and Age Range

From Froese and Pauly (2018):

"Max length : 105 cm SL male/unsexed; [Batista-Silva et al. 2015]; max. published weight: 70.0 kg [Le Bail et al. 2000]"

Environment

From Froese and Pauly (2018):

"Freshwater; demersal; pH range: 6.0 - 8.0; dH range: 4 - 30; potamodromous [Riede, 2004]; depth range 5 - ? m. […] 24°C - 28°C [assumed to be recommended aquarium temperature] [Riehl and Baensch, 1991]; […]."

Climate

From Froese and Pauly (2018):

"Tropical; […] 8°N - 11°S"

Distribution Outside the United States

Native

From Froese and Pauly (2018):

"South America: Amazon, Corantijn, Essequibo, Orinoco and Paraná River basins."

From Neilson (2018):

"South America: Guyana, Suriname, and French Guiana, including the Essequibo and Suriname rivers (Buitrago-Suárez and Burr 2007)."

Introduced

No records of introduction of *Pseduoplatystoma fasciatum* were found.

Means of Introduction Outside the United States

No records of introduction of *Pseduoplatystoma fasciatum* were found.

Short Description

From Buitrago-Suárez and Burr (2007):

"*P. fasciatum* (Eigenmann, 1922; Dahl, 1971), is distinguished by having unbranched rays in the caudal fin, and a distinctive notch in the suspensorium, […].The species of *Pseudoplatystoma* reach large sizes and are familiar due to their distinctively marked color pattern. They often are referred to in the vernacular as "Bagre rayado" or "Pintadillo" (tiger catfish or tiger– shovelnose). Species of the genus also are recognized by having a depressed head, an occipital process extending backward to contact the predorsal plate, and a very long fontanel."

"Posterior dorsal fin adipose. Anal fin with 13 rays, pelvics with 6 and spotted. Dorsal with 7 rays, caudal 17. Lower jaw short, rostrum flat and dark. Head long, flat, round anterior and reaching 1/2 the length of the body. Dorsum with black and white stripes on each side. Abdomen white. All fins sprinkled with black spots. Dorsal fin near the head, adipose near the tail."

Biology

From Froese and Pauly (2018):

"Occurs throughout the principal riverbeds and sometimes in the flooded areas of forests. Its biology is similar to that of *P. tigrinum* but it appears to be more fond of shady streams. Feeds at night on fish (loricariids, cichlids and characoids) as well as crabs [Burgess 1989]. Confines its foraging activities to riverbeds. Its yellowish flesh is succulent and like that of other silurids, it is without bones [Boujard et al. 1997]. Females reach a more notable size. They become sexually mature at 56 cm, males at 45 cm. Fecundity is estimated at 8 million eggs per kg [Le Bail et al. 2000]."

Human Uses

From Froese and Pauly (2018):

"Utilized for human consumption."

"Fisheries: commercial; gamefish: yes; aquarium: public aquariums"

From Neilson (2018):

"Species of *Pseudoplatystoma* are harvested in both commercial and ornamental fisheries in South America. However, recent taxonomic revision of the genus by Buitrago-Suárez and Burr (2007) makes assessment of impact on the eight recognized species of *Pseudoplatystoma* difficult. Juvenile *Pseudoplatystoma* are widely sold as aquarium fishes, but at a size where positive identification is not possible. It is likely that multiple species are sold as *P. tigrinum* or *P. fasciatum* (Buitrago-Suárez and Burr 2007)."

Pseudoplatystoma fasciatum is in trade in the United States (e.g. Rainforest Farms International 2021).

Diseases

No OIE-reportable diseases (OIE 2021) have been associated with *Pseudoplatystoma fasciatum*.

According to Froese and Pauly (2018), *Pseudoplatystoma fasciatum* were susceptible to Eustronglides Infestation and Dichelyne Infestation.

Threat to Humans

From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions

No records of introductions of *Pseudoplatystoma fasciatum* were found; therefore, there is no information on impacts of introductions.

4 History of Invasiveness

No records of introductions of *Pseudoplatystoma fasciatum* were found, therefore the history of invasiveness is classified as "no known nonnative population."

5 Global Distribution

Figure 1. Map of South America showing known locations where *Pseudoplatystoma fasciatum* has been reported. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of established populations of *Pseudoplatystoma fasciatum* within the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

Across the contiguous United States, states scored in all three categories of the climate match. States in the southeast scored higher climate matches while the states in the northwest scored lower climate matches. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.080, a medium score (scores greater than 0.005, but less than 0.103, are classified as medium). The following states had high individual climate scores: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas. Arizona, Oklahoma, and Virginia each had medium individual scores. All other States had low individual climate scores.

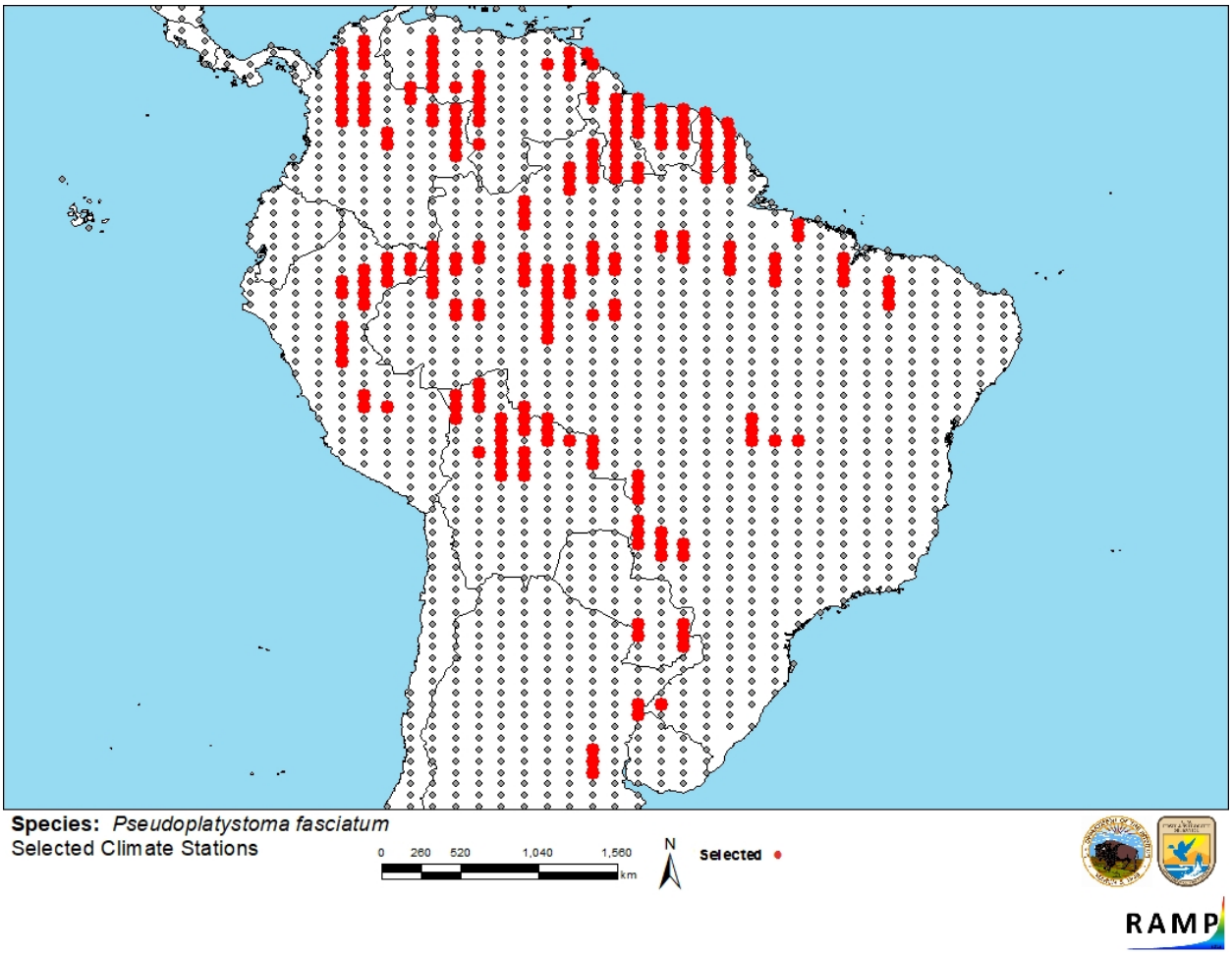

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Argentina, Bolivia, Brazil, Colombia, French Guiana, Guyana, Paraguay, Peru, Suriname, Venezuela) and non-source locations (gray) for *Pseudoplatystoma fasciatum* climate matching. 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.

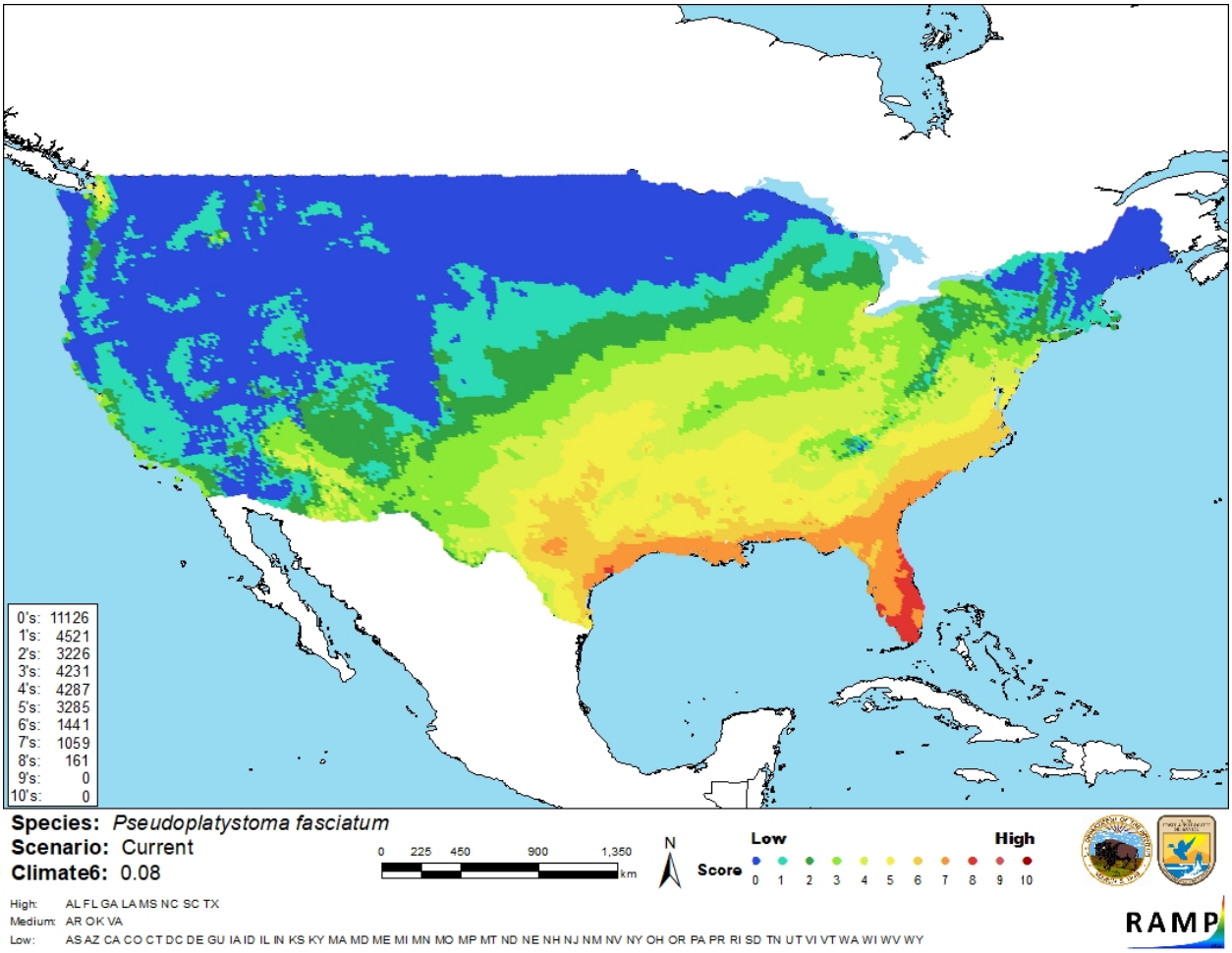

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Pseudoplatystoma fasciatum* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

8 Certainty of Assessment

Limited information is available on *Pseudoplatystoma fasciatum.* Information is known about their native range yet there are no documented reports on their history of invasion. Without reports of invasion, no impacts of introduction have been identified. The certainty of assessment is low.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pseudoplatystoma fasciatum is a freshwater catfish native to South America. *P. fasciatum* is both a commercial and ornamental species. It is in trade in the United States. No established populations have been documented outside of the native range. The history of invasiveness is classified as "no known nonnative population." The overall climate match for the contiguous United States was a medium score with high climate matches found in coastal areas of the southeast. The certainty of assessment is low. The overall risk of assessment for *Pseudoplatystoma fasciatum* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Medium**
- **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.

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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.

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