

Firewood Catfish (*Sorubimichthys planiceps*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2011

Revised, April 2019

Web Version, 4/16/2021

Organism Type: Fish

Overall Risk Assessment Category: Uncertain

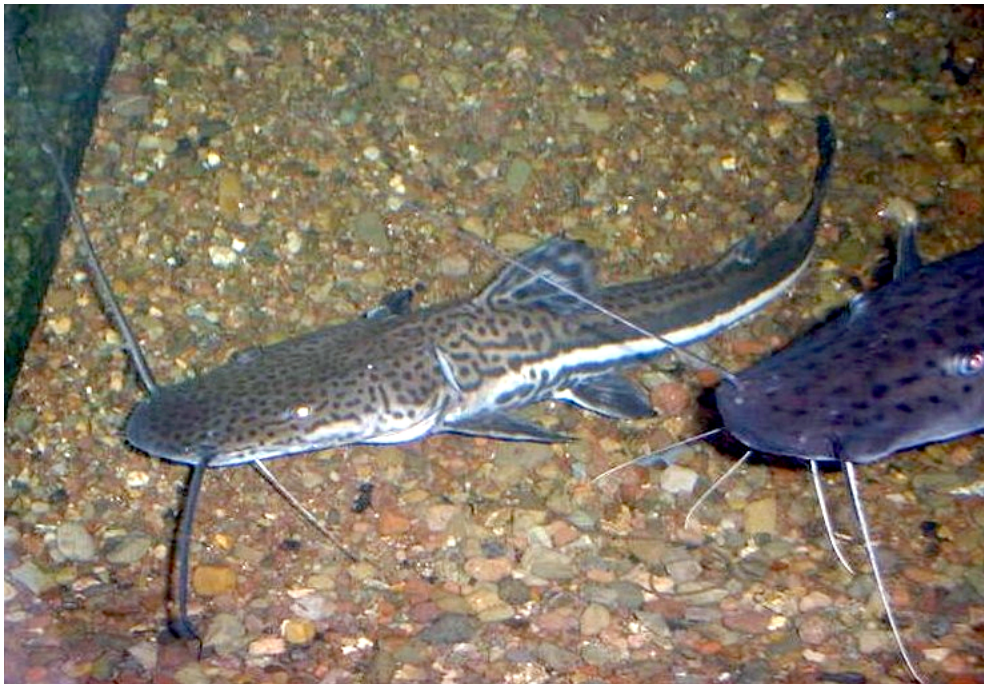


Photo: U.S. Geological Survey Archive, U.S. Geological Survey, Bugwood.org. Image is in the Public Domain. Available: https://commons.wikimedia.org/wiki/File:Firewood_catfish.jpg. (April 2019).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

“South America: Amazon and Orinoco River basins.”

Froese and Pauly (2019) lists *Sorubimichthys planiceps* as native to Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela and *S. planiceps* as questionable to Argentina.

Status in the United States

Neilson (2019) lists *Sorubimichthys planiceps* as introduced in San Francisco Bay. This introduction failed and does not indicate an established population.

S. planiceps is in trade in the United States (e.g. Aqua Imports 2021).

S. planiceps is listed on Hawaii's Conditional Animal List (Hawaii Department of Agriculture 2019).

S. planiceps 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."

Means of Introductions in the United States

Neilson (2019) lists *Sorubimichthys planiceps* as introduced in San Francisco Bay by aquarium release.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

"Current status: Valid as *Sorubimichthys planiceps* (Spix & Agassiz 1829)."

From ITIS (2019):

Kingdom Animalia

Subkingdom Bilateria

Infrakingdom Deuterostomia

Phylum Chordata

Subphylum Vertebrata

Infraphylum Gnathostomata

Superclass Actinopterygii

Class Teleostei

Superorder Ostariophysii

Order Siluriformes

Family Pimelodidae

Genus *Sorubimichthys*

Species *Sorubimichthys planiceps* (Spix and Agassiz, 1829)

Size, Weight, and Age Range

From Froese and Pauly (2019):

“Max length : 150 cm SL male/unsexed; [Lundberg and Littmann 2003]”

From Neilson (2019):

“**Identification:** This large size leatherskin catfish can reach more than 1.5 m (4.9 ft).”

Environment

From Froese and Pauly (2019):

“Freshwater; demersal.”

Climate

From Froese and Pauly (2019):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2019):

“South America: Amazon and Orinoco River basins.”

Froese and Pauly (2019) lists *Sorubimichthys planiceps* as native to Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela and *S. planiceps* as questionable to Argentina.

Introduced

Sorubimichthys planiceps has not been reported as introduced outside of the United States.

Means of Introduction Outside the United States

Sorubimichthys planiceps has not been reported as introduced outside of the United States.

Short Description

From Neilson (2019):

“The body is extremely elongated and round, with a flat head and round snout proportionally larger than the rest of the body – adorned with long barbels. Coloration is dark gray, which [sic] a long narrow clear section extending from the pectoral to the caudal fins. Typically the dorsal region and fins are covered with dark spots.”

Biology

From Froese and Pauly (2019):

“Mainly nocturnal. Feeds primarily on nekton [Guerra Flores et al. 1990].”

Human Uses

From Froese and Pauly (2019):

“Fisheries: minor commercial; aquarium: public aquariums”

From Barletta et al. (2016):

“When examining fish landings by species, the critical state of *Brachyplatystoma filamentosum*, *B. rousseauxii*, *C. macropomum* and *Sorubimichthys planiceps* becomes evident, with drastic declines in the volumes sold.”

S. planiceps is in trade in the United States (e.g. Aqua Imports 2021).

Diseases

No OIE-reportable diseases (OIE 2021) were found to be associated with *Sorubimichthys planiceps*.

Poelen et al. (2014) lists *Chambriella*, *Peltidocotyle lenha*, *Nomimoscolex lenha*, *Monticellia lenha*, and *Othinoscolex lenha* as parasites of *Sorubimichthys planiceps* and lists *Sorubimichthys planiceps* as a host of *Peltidocotyle lenha*, *Peltidocotyle rugosa*, and *Nomimoscolex lenha*.

From Chambrier and Scholz (2008):

“The following taxa parasitic in *S. planiceps* are redescribed on the basis of their type specimens and material collected recently in the Amazon River, near the type localities in Brazil, and in Iquitos, Peru: *Monticellia lenha* Woodland, 1933; *Nomimoscolex lenha* (Woodland, 1933) (syn. *Proteocephalus lenha* Woodland, 1933); and *Monticellia megacephala* Woodland, 1934, for which a new genus, *Lenhataenia*, is proposed, with *L. megacephala* (Woodland, 1934) comb. n. as its type and only species.”

Threat to Humans

From Froese and Pauly (2019):

"Harmless"

3 Impacts of Introductions

A single introduction of *Sorubimichthys planiceps* was reported; it failed to establish a population. Therefore, there is no information on impacts of introduction.

S. planiceps is regulated in Hawaii and New Mexico.

4 History of Invasiveness

A single introduction of *Sorubimichthys planiceps* was reported in San Francisco Bay. The introduction failed to establish a population. No other records of introductions were found. It is reported as present in the aquarium trade but no information on the volume of trade was found. The history of invasiveness for *S. planiceps* is classified as No Known Nonnative Population.

5 Global Distribution



Figure 1. Known global distribution of *Sorubimichthys planiceps*. Locations are in northern South America (Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela). Map from GBIF Secretariat (2019).

6 Distribution Within the United States

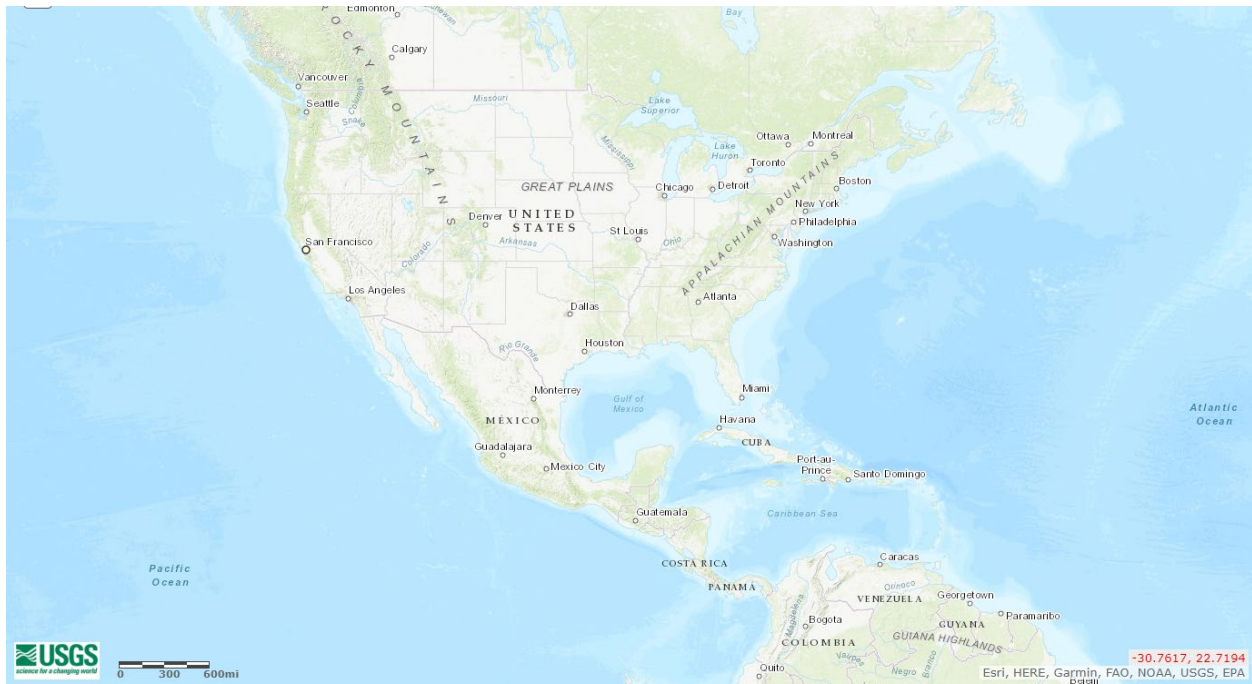


Figure 2. Known distribution of *Sorubimichthys planiceps* in the United States. The location is in San Francisco, California. Map from Neilson (2019). Neilson (2019) lists *Sorubimichthys planiceps* as introduced in San Francisco Bay. This introduction failed and does not indicate an established population; therefore, was not used to select source points for climate matching.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for the contiguous United States was low across the majority States with patches of medium climate match along in the Southeast and southern Texas and with high climate match in southern Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.009, medium (scores between 0.005 and 0.103, exclusive, are considered medium). All States received low individual climate scores except for Florida, which had an individually high climate score.

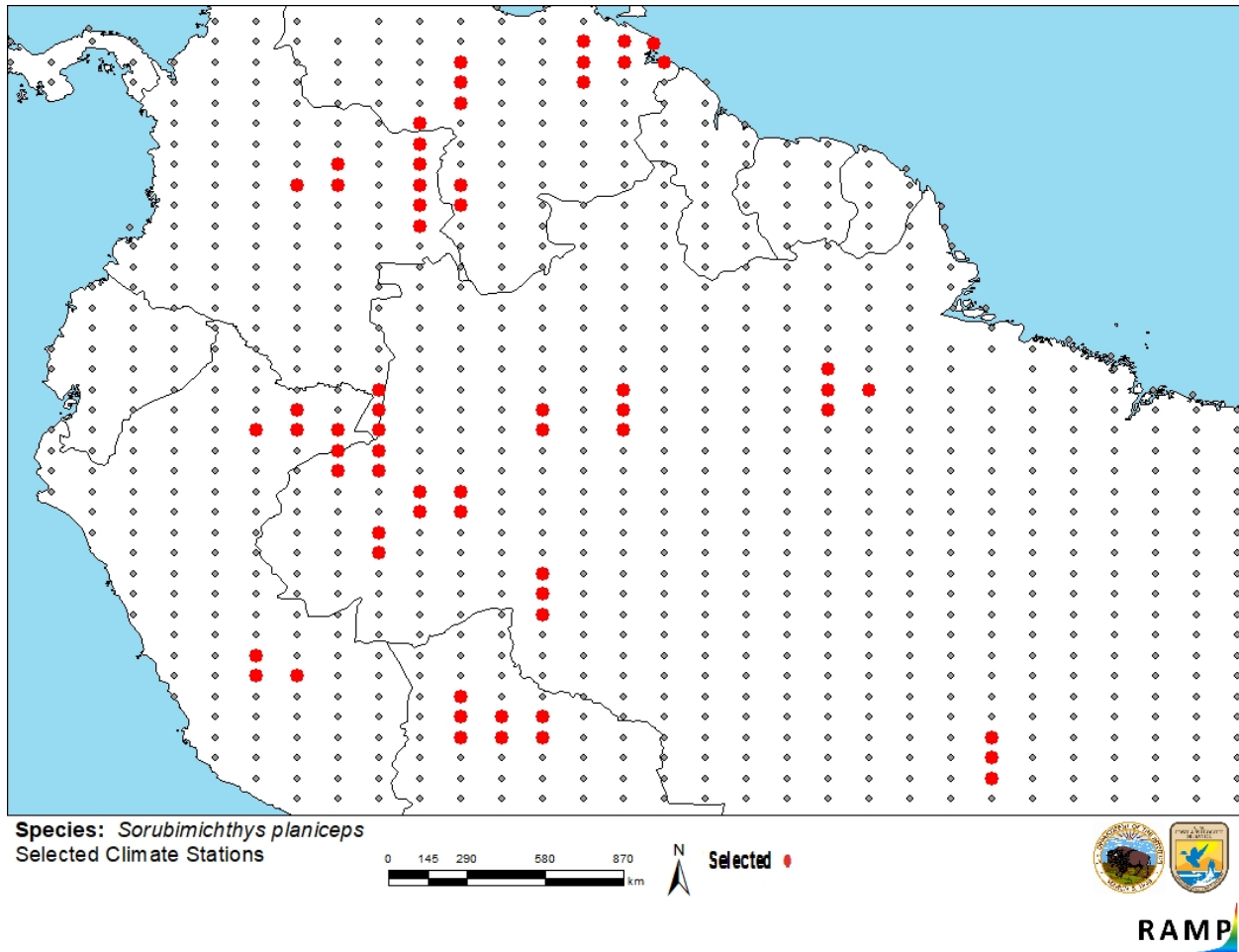


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations in northern South America selected as source locations (red; Bolivia, Brazil, Colombia, Peru, and Venezuela) and non-source locations (gray) *Sorubimichthys planiceps* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.

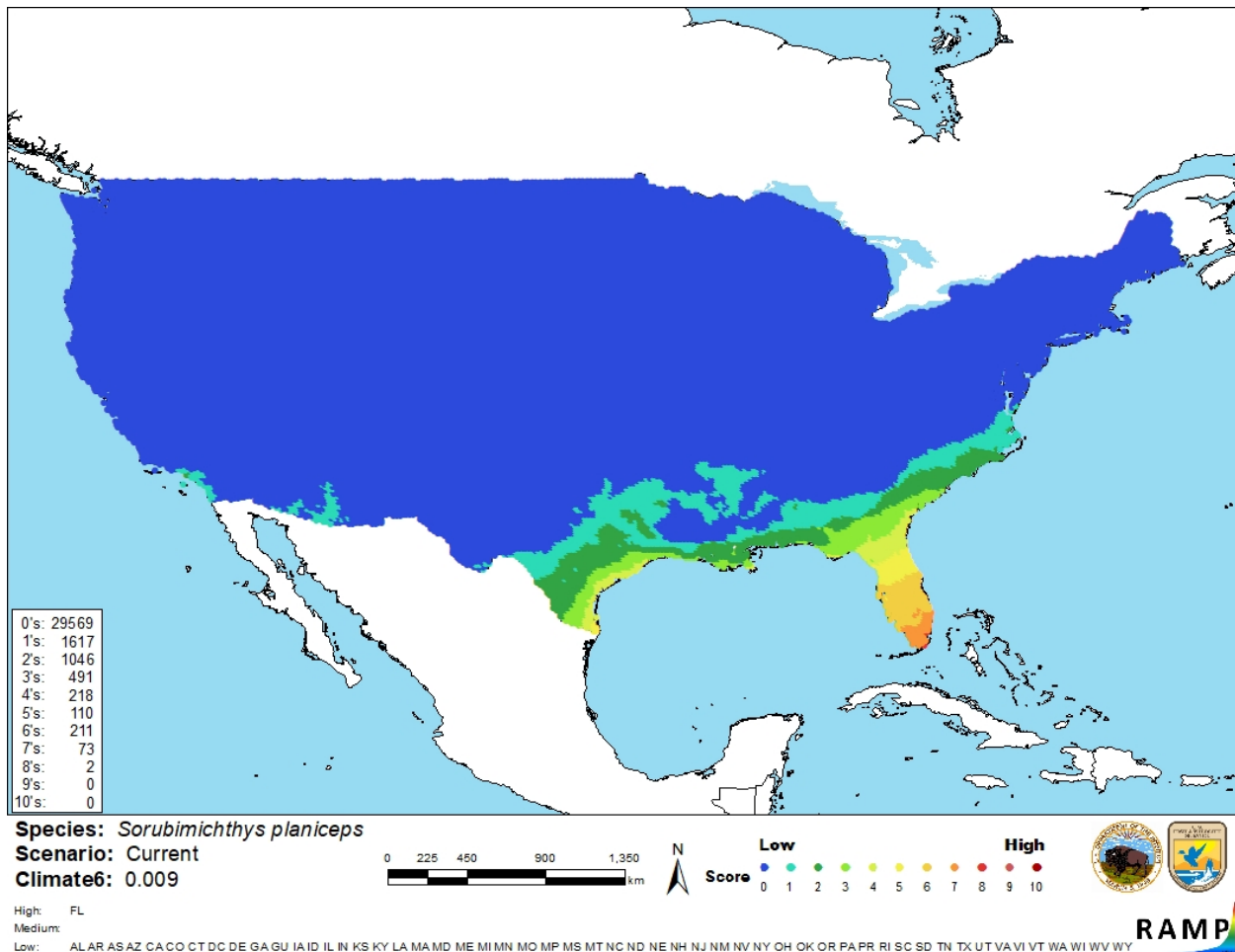


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Sorubimichthys planiceps* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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

Limited information is available for *Sorubimichthys planiceps*. A single record of introduction was found; the introduction did not result in an established population. *Sorubimichthys planiceps* has not been reported as introduced anywhere else outside of their native range; therefore there was no information regarding impacts of introduction. The certainty of assessment is low.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Firewood Catfish (*Sorubimichthys planiceps*) is a fish native to South America. *S. planiceps* is targeted in commercial fisheries and is present in the ornamental trade, including within the United States. *S. planiceps* is regulated in Hawaii and New Mexico. *Sorubimichthys planiceps* was introduced in San Francisco Bay. The introduction failed and does not indicate an established population. *S. planiceps* has not been reported as introduced anywhere else outside of its native range; therefore, the history of invasiveness is No Known Nonnative Population. The overall climate match for the contiguous United States is Medium, with patches of medium and high match along the Southeast and in Texas. The certainty of assessment is Low due to a lack of information regarding history of invasiveness. The overall risk assessment category for *Sorubimichthys planiceps* is Uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): No Known Nonnative Population**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** *S. planiceps* is regulated in Hawaii and New Mexico.
- **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.

- Aqua Imports. 2021. Firewood/planiceps catfish (*Sorubimichthys planiceps*). Boulder, Colorado: Aqua Imports. Available: <https://www.aqua-imports.com/product/firewood-planiceps-catfish-sorubimichthys-planiceps/> (April 2021).
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- Chambrier A de, Scholz T. 2008. Tapeworms (Cestoda: Proteocephalidea) of firewood catfish *Sorubimichthys planiceps* (Siluriformes: Pimelodidae) from the Amazon River. *Folia Parasitologica* 55:17–28.
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- [OIE] World Organisation for Animal Health. 2021. OIE-listed diseases, infections and infestations in force in 2021. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2021/> (April 2021).
- 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.

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- Kottelat M. 1988. Authorship, dates of publication, status and types of Spix and Agassiz's Brazilian fishes. *Spixiana* (München) 11:69–93.
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