

Saddle Cichlid (*Aequidens tetramerus*)

Ecological Risk Screening Summary

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2015):

“South America: widely distributed in the Amazon River basin in Peru, Colombia, Ecuador, Brazil and Bolivia. Also in the Tocantins and Parnaíba rivers, French Guiana, Suriname, Guyana, and in the Orinoco River basin of Venezuela and Colombia.”

Status in the United States

No records of *Aequidens tetramerus* in the United States were found.

Means of Introductions in the United States

No records of *Aequidens tetramerus* in the United States were found.

Remarks

No additional remarks

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2015):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Acanthopterygii
Order Perciformes
Suborder Labroidei
Family Cichlidae
Genus *Aequidens*
Species *Aequidens tetramerus* (Heckel, 1840)”

From Eschmeyer et al. (2017):

“*tetramerus*, *Acara* Heckel [J. J.] 1840:341 [...], Pl. 29 (figs. 1-4) [Annalen des Wiener Museums der Naturgeschichte v. 2] Rio Branco, Brazil. Syntypes: NMW 33757-58 (1, 1). Type catalog: Kullander 1986:346 [...]. •Valid as *Aequidens tetramerus* (Heckel 1840) -- (Ortega & Vari 1986:20 [...], Kullander 1986:339 [...], Kullander & Nijssen 1989:134 [...], Keith et al. 2000:212 [...], Lasso & Machado-Allison 2000:38 [...], Kullander in Reis et al. 2003:609 [...], Sarmiento et al. 2014:122, 188 [...], Ramos et al. 2014:5 [...], Hernández-Acevedo et al. 2015:105 [...], Melo et al. 2016:135 [...] as gr. *tetramerus*). **Current status:** Valid as *Aequidens tetramerus* (Heckel 1840). Cichlidae: Cichlinae.”

Size, Weight, and Age Range

From Froese and Pauly (2015):

“Max length: 16.2 cm SL male/unsexed; [Kullander 2003]”

“Maximum length 25 cm TL [Riehl and Baensch 1991].”

Environment

From Froese and Pauly (2015):

“Freshwater; benthopelagic; pH range: 4.9 - 7.5; dH range: 1 - 13.5. [...]; 24°C - 26°C [assumed to be recommended aquarium temperature range] [Riehl and Baensch 1991]”

Climate/Range

From Froese and Pauly (2015):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2015):

“South America: widely distributed in the Amazon River basin in Peru, Colombia, Ecuador, Brazil and Bolivia. Also in the Tocantins and Parnaíba rivers, French Guiana, Suriname, Guyana, and in the Orinoco River basin of Venezuela and Colombia.”

Introduced

No records of *Aequidens tetramerus* introductions were found.

Means of Introduction Outside the United States

No records of *Aequidens tetramerus* introductions were found.

Short Description

From Froese and Pauly (2015):

“One of the most colorful species of the genus, especially during its reproductive period.”

Biology

From Froese and Pauly (2015):

“Frequently occurs in zones with little current and over a substrate covered with vegetal debris [Boujard et al. 1997]. Caught frequently but not abundantly in most varied biotopes- in small creeks and flooded zones with clear, shallow and slow flowing water. Feeds primarily on insects, secondarily on fishes and plants. Very territorial. During reproduction, males attain a deeper coloration. About 1,000 eggs are released during spawning. Spawning takes place on stone or wood. Parents take care of juveniles [Keith et al. 2000].”

“Produces a minimum of 1000 eggs [Riehl and Baensch 1991].”

From Costa and Soares (2015):

“*Aequidens tetramerus* ingested a wide variety of food items, including material of plant origin, such as algae, seeds and leaves; material of animal origin, such as bryozoans, crustaceans, scales and terrestrial and aquatic insects at different stages of the life cycle; and undefined matter (detritus/mud).”

Human Uses

From Froese and Pauly (2015):

“Fisheries: minor commercial; aquarium: commercial”

From Costa and Soares (2015):

“*Aequidens tetramerus* (Heckel, 1840), also known as “saddle cichlid”, is a native neotropical fish (Moreira and Zuanon 2002) of ornamental importance (Regulatory Directive 001/2012-MPA/MMA) [...]”

Diseases

No records of OIE reportable diseases were found.

According to Bittencourt et al. (2014) *Tripartiella tetramerii*, *Trichodina nobilis*, *Ichthyophthirius multifiliis*, *Dolops longicauda*, *Gussevia disparoides*, *Gussevia alioides*, *Pseudoproleptus* sp., *Anisakidae* gen. sp. (larvae), *Proteocephalidae* gen. sp. (plerocercoid), *Digenea* gen. sp., and *Gorytocephalus spectabilis* are parasites of *Aequidens tetramerus*.

Threat to Humans

From Froese and Pauly (2015):

“Harmless”

3 Impacts of Introductions

No records of *Aequidens tetramerus* introductions were found.

4 Global Distribution



Figure 1. Known global distribution of *Aequidens tetramerus*. Locations are in Venezuela, Colombia, Ecuador, Guyana, Suriname, Peru, Brazil, Bolivia, and Paraguay. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

No records of *Aequidens tetramerus* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Aequidens tetramerus* was high in Florida, medium in the southeast and Gulf Coast with small pockets of medium climate match in the southwest. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.047, medium, and Florida, Georgia, Louisiana, South Carolina, and Texas all had individually high climate matches.

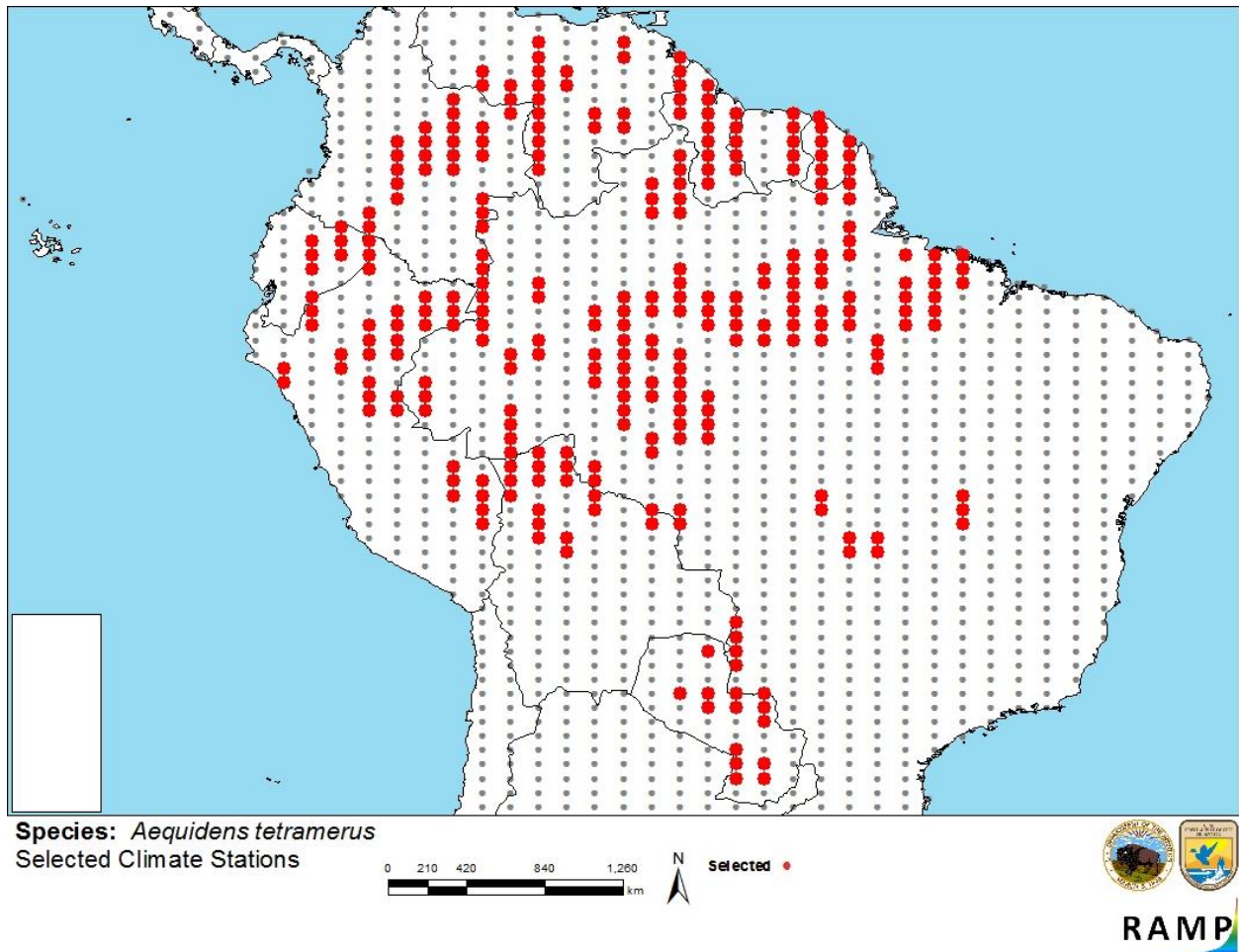


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in northern South America selected as source locations (red) and non-source locations (gray) for *Aequidens tetramerus* climate matching. Source locations from GBIF Secretariat (2017).

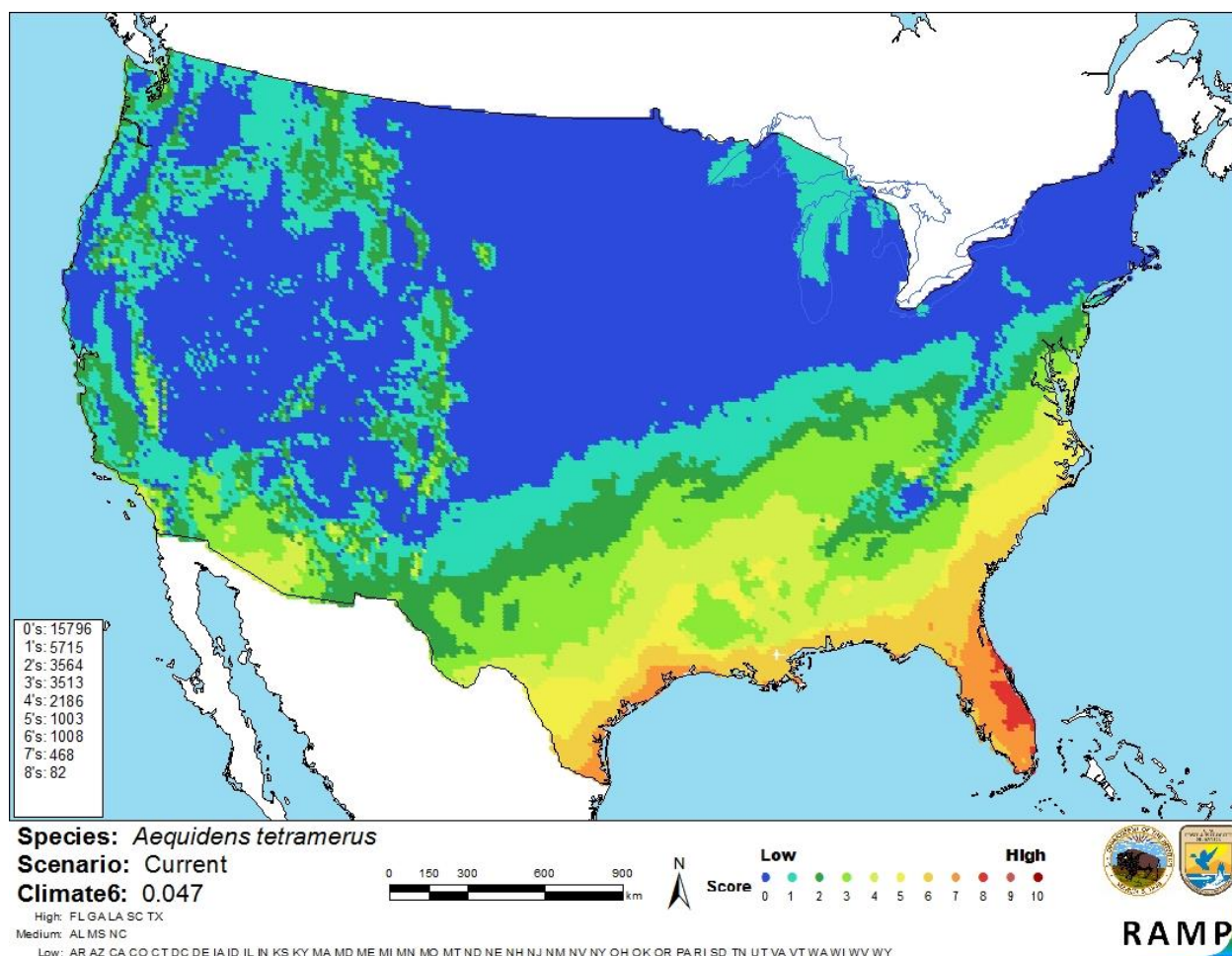


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Aequidens tetramerus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0 = Lowest match, 10 = Highest match.

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
≥ 0.103	High

7 Certainty of Assessment

The certainty of this assessment is medium. There was limited but adequate information available about *Aequidens tetramerus*. There was adequate distribution data and no records of introductions were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness of *Aequidens tetramerus* is uncertain. There were no records of introductions found for *Aequidens tetramerus*. Costa and Soares (2015) stated that the species was a fish “of ornamental importance”. The climate match is 0.047, medium. The highest matches occur in Florida. The certainty of assessment is medium. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Medium**
- **Remarks/Important additional information** Costa and Soares (2015) stated that the species was a fish “of ornamental importance”. Accidental release of *Aequidens tetramerus* may be possible due to its use in the aquarium trade.
- **Overall Risk Assessment Category: Uncertain**

9 References

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

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10 References Quoted But Not Accessed

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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