

Hog-nosed Brochis (*Corydoras multiradiatus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, March 2014
Revised, December 2015, November 2017
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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2014):

“South America: western Amazon River basin.”

From Nijssen and Isbrücker (1983):

“*Brochis multiradiatus* was hitherto only known from the type-locality, the Napo river system in Ecuador. The senior author recently participated in collecting additional specimens in the Ucayali river system in Peru. Another specimen from the Madeira river system in Brazil was available.”

From Eschmeyer et al. (2017):

“Distribution: Western Amazon River basin: Bolivia, Ecuador and Peru.”

From Jimenez-Prado (2016):

“This species occurs in the Amazon basin in Peru (Ortega et al. 2012), in the Mamoré river basin in Bolivia (Lauzanne et al. 1991, Chernoff et al. 2000, Carvajal-Vallejos and Zeballos Fernández 2011), and in tributaries of the Morona-Santiago basin (Barriga 2012) and in the Napo River basin in Ecuador (Orcés 1960). Its type locality is a tributary of the Lagartococha River near the town of Garza-Cocha, in the upper Napo River system, Napo Province, Ecuador (Orcés 1960).”

Status in the United States

No records of *Corydoras multiradiatus* in the United States were found.

Means of Introductions in the United States

No records of *Corydoras multiradiatus* in the United States were found.

Remarks

The accepted name for this species recently changed from *Brochis multiradiatus* to *Corydoras multiradiatus*. Many databases have not yet incorporated this name change. Information was sought using both names.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2017), the valid name for this species is *Corydoras multiradiatus* (Orcés V. 1960). It was originally described as *Chaenothorax multiradiatus* Orcés V. 1960, and has been previously known as *Brochis multiradiatus*.

The accepted name for this species recently changed from *Brochis multiradiatus* to *Corydoras multiradiatus*. Many databases have not yet incorporated this name change. Information was sought using both names.

From ITIS (2014):

“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 Callichthyidae
Subfamily Corydoradinae
Genus *Brochis* Cope 1871
Species *Brochis multiradiatus* (Orcés V., 1960)”

Size, Weight, and Age Range

From Froese and Pauly (2014):

“Max length : 6.7 cm SL male/unsexed; [Ries 2003]”

Environment

From Froese and Pauly (2014):

“Freshwater; demersal; pH range: 6.0 - 7.2; dH range: ? - 15. [...]; 21°C - 24°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1985]”

Climate/Range

From Froese and Pauly (2014):

“Tropical; [...]”

From Jimenez-Prado (2016):

“It occurs at elevations between 100 m and 400 m.”

Distribution Outside the United States

Native

From Froese and Pauly (2014):

“South America: western Amazon River basin.”

From Nijssen and Isbrücker (1983):

“*Brochis multiradiatus* was hitherto only known from the type-locality, the Napo river system in Ecuador. The senior author recently participated in collecting additional specimens in the Ucayali river system in Peru. Another specimen from the Madeira river system in Brazil was available.”

From Eschmeyer et al. (2017):

“Distribution: Western Amazon River basin: Bolivia, Ecuador and Peru.”

From Jimenez-Prado (2016):

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Introduced

No records of *Corydoras multiradiatus* introductions were found.

Means of Introduction Outside the United States

No records of *Corydoras multiradiatus* introductions were found.

Short Description

From Nijssen and Isbrücker (1983):

“*B. multiradiatus* has a long and acute snout”

“They have 15-17 branched dorsal fin rays.”

From Nijssen and Isbrücker (1970):

“Morphometric and meristic data based on the holotype: bd 32.7 mm (2.3); bw 18.9 mm (4.0); lds 17.2 mm (4.4); lps 23.1 mm (3.3); sop 34.5 mm (2.2); snp 25.0 mm (3.0); hl 28.3 mm (2.7); sn 17.9 mm (1.6); lbo 6.6 mm (4.3); wi 11.1 mm (2.6); dcp 10.5 mm (2.7); fontanel length 8.8 mm; dbs/vbs 25/23; pas I; D I,17; A ii,5; P₁ i,5; P₂ I,11; C 7/7; two pairs of rictal barbels and one pair of mental barbels.”

“Skin of intercoracoid area covered by mosaic plates (fig. 11 [in source material]).”

“*B. multiradiatus* differs from *B. splendens* mainly in having supernumerous soft dorsal fin rays, a longer snout, a narrower interorbital width, and a less deep caudal peduncle.”

Biology

From Jimenez-Prado (2016):

“This species inhabits black waters streams and lakes with vegetation in the banks.”

Human Uses

From Froese and Pauly (2014):

“Aquarium: commercial”

From Jimenez-Prado (2016):

“*Brochis multiradiatus* "jumbo cat" is listed in Peru’s ornamental fish report (Sánchez et al. 2006), and it is exported from this country (Campos 2005, Prang 2007), but not from Ecuador.”

Diseases

Information on diseases of *Corydoras multiradiatus* was not available.

Threat to Humans

From Froese and Pauly (2014):

“Harmless”

3 Impacts of Introductions

No records of *Corydoras multiradiatus* introductions were found.

4 Global Distribution

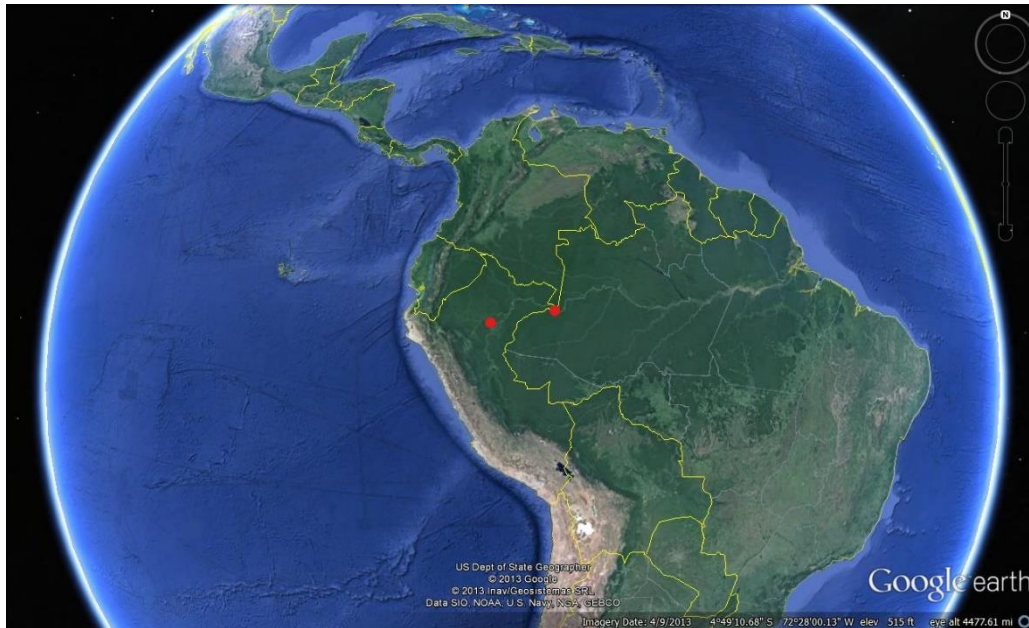


Figure 1. Known global distribution of *Corydoras multiradiatus* in South America. Locations are in Brazil and Peru. Map adapted from Froese and Pauly (2014).



Figure 2. Known global distribution of *Corydoras multiradiatus* in South America. Locations are in Bolivia and Peru. Map from GBIF Secretariat (2015).

5 Distribution Within the United States

No records of *Corydoras multiradiatus* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Corydoras multiradiatus* was medium for the very southern tips of Florida and Texas and low everywhere else. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.001, low, and no states had an individually high climate match.

RAMP (Sanders et al. 2014) is tied directly to GBIF. Since GBIF has not yet incorporated the name *Corydoras multiradiatus* into the database and still lists the species as *Brochis multiradiatus*, the output maps produced by RAMP, below, are labeled with the name *Brochis multiradiatus*.

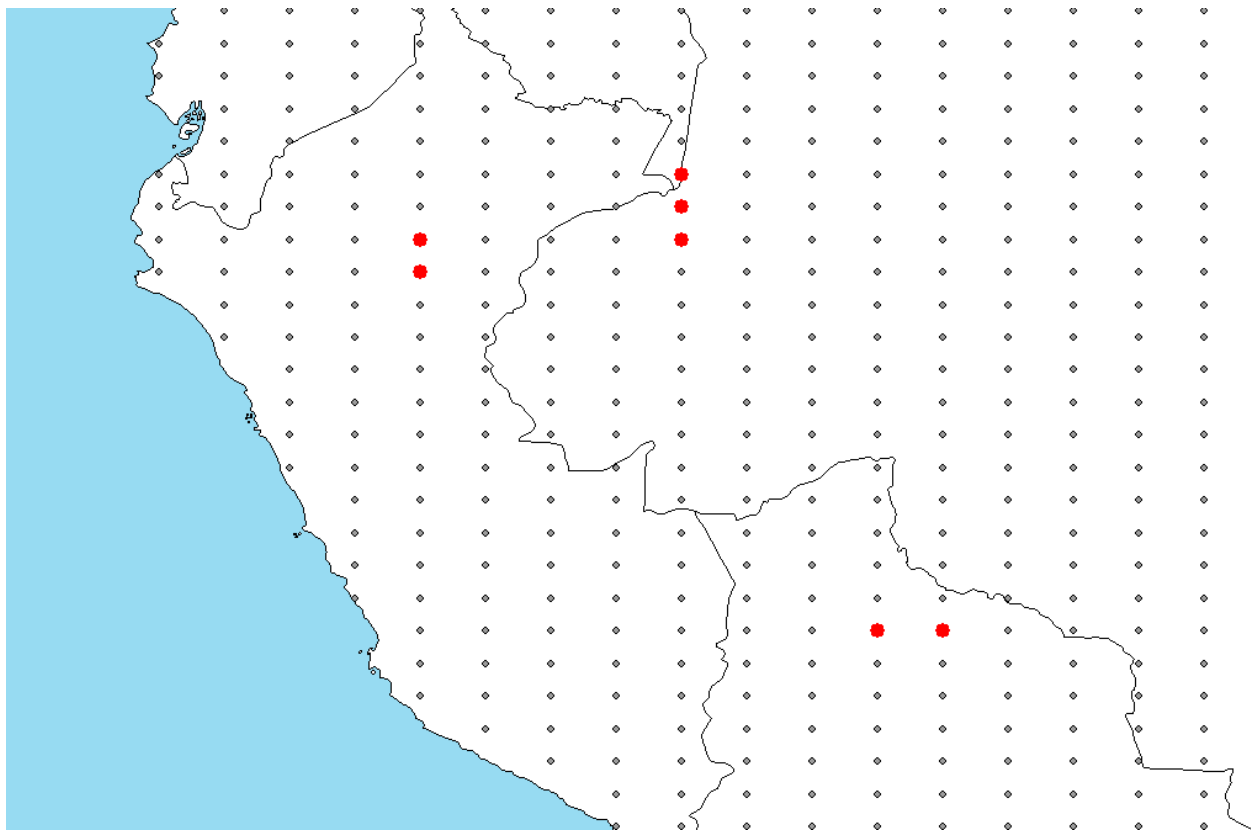


Figure 3. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Bolivia, Brazil, Peru) and non-source locations (grey) for *Corydoras multiradiatus* climate matching. Source locations from Froese and Pauly (2014) and GBIF Secretariat (2015).

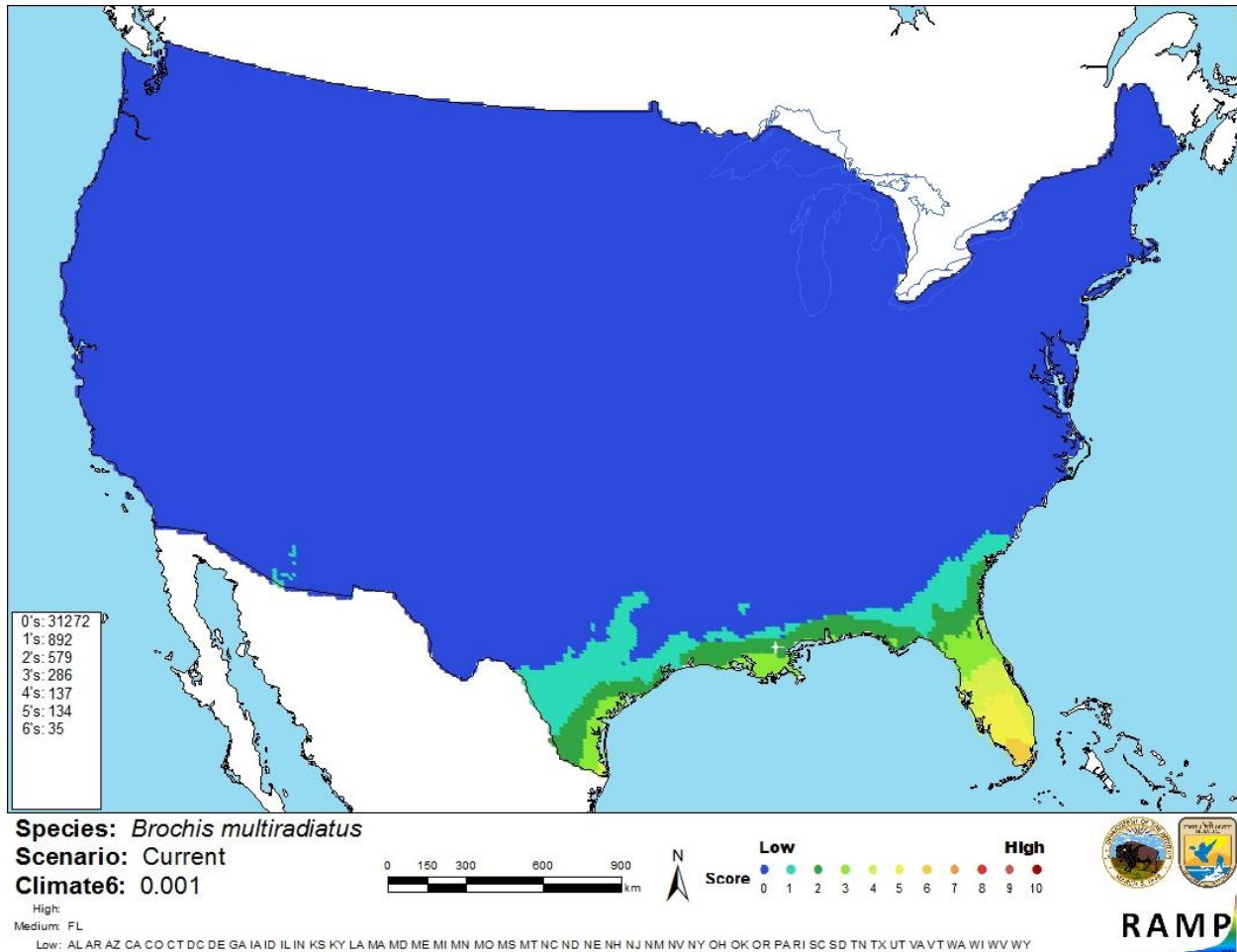


Figure 4. Map of RAMP (Sanders et al. 2014) climate matches for *Corydoras multiradiatus* in the contiguous United States based on source locations reported by Froese and Pauly (2014) and GBIF Secretariat (2015). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the 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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

The certainty of this assessment is low. There was minimal information available about *Corydoras multiradiatus*. No records of introductions were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Corydoras multiradiatus* is uncertain. No records of introductions were found. The climate match is low; the Climate 6 score was 0.001. The farthest southern portions of Florida and Texas had a medium match. The certainty of assessment is low. The overall risk assessment category is uncertain.

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 remarks.
- **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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