

Emerald Catfish (*Corydoras splendens*)

Ecological Risk Screening Summary

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2014):

“South America: Amazon River basin [Brazil, Colombia, Ecuador, and Peru].”

Status in the United States

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

GBIF Secretariat (2017) shows a single record of this species in a pet store in Alabama.

Means of Introductions in the United States

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

Remarks

Searches were conducted using the names: *Corydoras splendens* and *Brochis splendens*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Eschmeyer et al. (2017):

“**splendens**, *Callichthys* Castelnau [F. L.] 1855:39, Pl. 18 (fig. 3) [Animaux nouveaux or rares v. 2[...]] Rio Tocantins, Brazil. Holotype (unique): MNHN 0000-4291. Type catalog: Bertin & Estève 1950:65[...], Ferraris 2007:125[...]. •Valid as *Brochis splendens* (Castelnau 1855) -- (Nijssen & Isbrücker 1970:157[...], Ortega & Vari 1986:16[...], Burgess 1989:364[...], Britski et al. 1999:127[...], Isbrücker 2001:218[...], Reis in Reis et al. 2003:293[...]). •Valid as *Corydoras splendens* (Castelnau 1855) -- (Ferraris 2007:125[...], Tencatt et al. 2013:258[...], Tencatt et al. 2014:78[...], Sarmiento et al. 2014:190[...], Tencatt & Ohara 2016:[13] [...], Tencatt & Evers 2016:[12] [...], Tencatt et al. 2016:[18] [...]). **Current status:** Valid as *Corydoras splendens* (Castelnau 1855).”

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 splendens* (Castelnau, 1855)”

Size, Weight, and Age Range

From Froese and Pauly (2014):

“Max length : 6.1 cm SL male/unsexed; [Tencatt et al. 2013]”

Environment

From Froese and Pauly (2014):

“Freshwater; demersal; pH range: 5.8 - 8.0; dH range: 2 - 30. [...]; 22°C - 28°C [assumed to be recommended aquarium water temperature] [Riehl and Baensch 1991]”

Climate/Range

From Froese and Pauly (2014):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2014):

“South America: Amazon River basin [Brazil, Colombia, Ecuador, and Peru].”

Introduced

No records of *Corydoras splendens* introductions were found.

Means of Introduction Outside the United States

No records of *Corydoras splendens* introductions were found.

Short Description

From Nijssen and Isbrücker (1970):

“Description. — Morphometric and meristic data based on the holotype: bd [body depth] 23.3 mm (2.3); bw [body width] 13.2 mm (4.1); Ids [length of dorsal spine] 12.5 mm (4.3); lps [length of pectoral spine] damaged; sop [snout tip to posterior edge of occipital process] 24.5 mm (2.2); snp [snout tip to articulation of pectoral spine] 15.9 mm (3.4); hl [head length] 18.5 mm (2.9); sn [snout length] 10.6 mm (1.8); lbo [length of bony orbit] 4.9 mm (3.8); wi [least width of interorbital] 8.5 mm (2.2); dcp [least depth of caudal peduncle] 8.1 mm (2.3); fontanel length 5.1 mm; dbs [dorsolateral body scutes]/vbs [ventrolateral body scutes] 25/22; pas [preadipose middorsal scutes] 2; D I, 11; A i,5; i,6; P 2 I,— (damaged); C 7/7; two pairs of rictal barbels and one pair of mental barbels.”

“According to condition, the pigmented areas are dull brownish-grey, bluish or greenish metallic coloured. The lower half of the ventrolateral body scutes may be light yellow or light pink. In some of the specimens (imported for aquarial purposes) there is a number of darker grey spots on the dorsal fin rays, sometimes forming one or a few more horizontal rows.”

Biology

From Froese and Pauly (2014):

“Inhabits sluggish waters with dense vegetation. Occurs in shallow muddy waters. Feeds on insect larvae, worms and small crustaceans [Burgess 1989].”

“In captivity, female collects the eggs in her pelvic fin basket and pastes them individually to plants and other objects. The two pairs reportedly produce about 900-1100 eggs. Another female spawned about 830 eggs.”

Human Uses

From Froese and Pauly (2014):

“Fisheries: of no interest; aquarium: commercial”

Diseases

No records of OIE reportable diseases were found.

From Ferraz and Sommerville (1998):

“*Piscinoodinium* sp (Protozoa, Dinoflagellida) was commonly found on routine smears of samples of *Brochis splendens* and *Corydoras* spp imported into Britain from South America, and on samples of the same group of fish examined at the exporters holding facilities in Brazil”

Threat to Humans

From Froese and Pauly (2014):

“Harmless”

3 Impacts of Introductions

No records of *Corydoras splendens* introductions were found.

4 Global Distribution



Figure 1. Global distribution of *Corydoras splendens*. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

GBIF Secretariat (2017) gives a record in Alabama but it is the result of a pet shop and not a wild collection. That record was not used as a source point in the climate match.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Corydoras splendens* was high in southern Florida, medium in the rest of Florida and southern Texas. The climate match was low everywhere else. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for the contiguous United States was 0.010, medium. Florida had a high individual Climate 6 score.

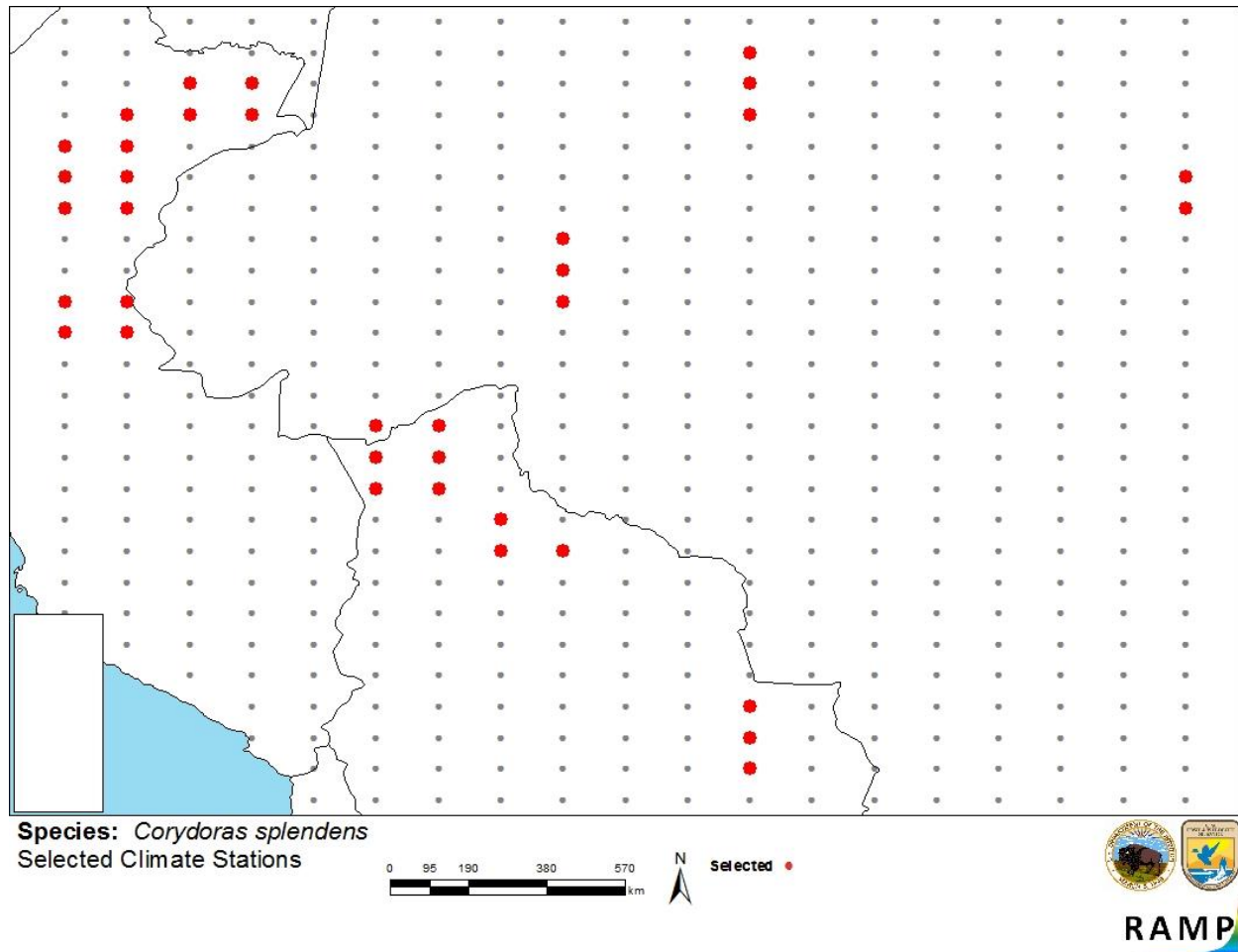


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (grey) for *Corydoras splendens* climate matching. Source locations from GBIF Secretariat (2017).

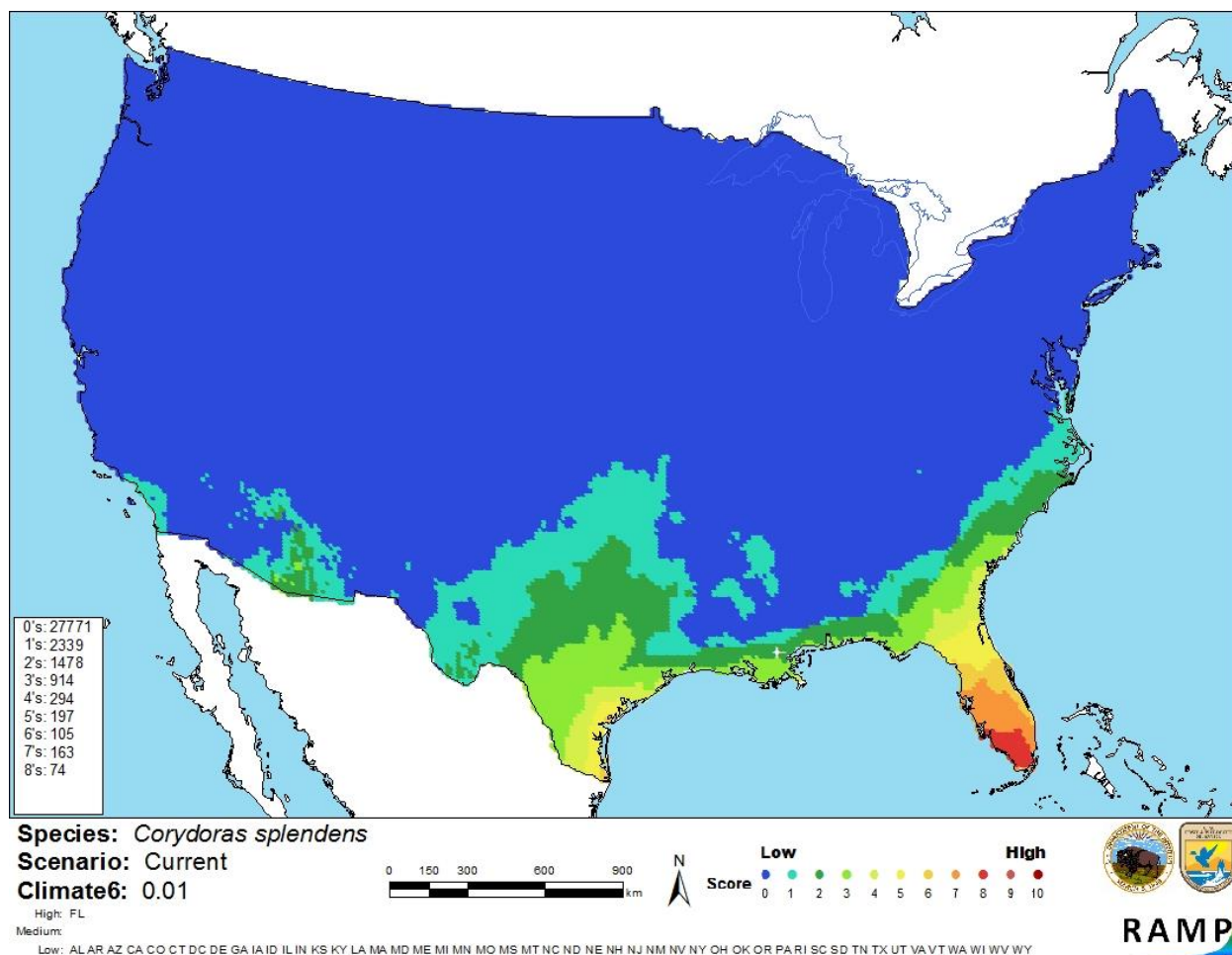


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Corydoras splendens* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0 = Lowest match, 10 = Highest match.

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
$0.000 < X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

The certainty of assessment is medium. There was adequate information available for *Corydoras splendens*. No records of introduction were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Corydoras splendens* is uncertain. There were no records of introductions but this species has been present in the pet trade since before 1970. No information on the volume of this species in trade was found. The climate match is medium. 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
- **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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