

Corydoras ellisae

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, July 2017

Revised, September 2017

Web Version, 11/30/2017



Photo: el acuarista. Licensed under Creative Commons BY-NC-SA. Available: <http://atlas.elacuarista.com/peces/ficha/corydoras-ellisae-gosline-1940>. (September 2017).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“South America: Paraguay River basin [Reis 2003]. Reported from the upper Paraña [López et al. 2005].”

Status in the United States

This species has not been reported as introduced or established in the United States.

Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Callichthyidae
Subfamily Corydoradinae
Genus *Corydoras*
Species *Corydoras ellisae* Gosline, 1940”

“Taxonomic Status:
Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 5.0 cm SL male/unsexed; [Britski et al. 2007]”

Environment

From Froese and Pauly (2017):

“Freshwater; demersal; pH range: 6.0 - 8.0; dH range: 2 - 25.”

Climate/Range

From Froese and Pauly (2017):

“Subtropical; 22°C - 26°C [Riehl and Baensch 1996]”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“South America: Paraguay River basin [Reis 2003]. Reported from the upper Paraña [López et al. 2005].”

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reported.

Short Description

From PlanetCatfish (2017):

“*Corydoras* are identified by their twin rows of armour plates along the flanks and by having fewer than 10 dorsal fin rays.”

From Fuller (1999):

“[Seven-day-old fry of] *C. ellisae* and *C. treitlii* have exactly the same patterns as each other, differing from the other five species [*C. acutus*, *C. amapaensis*, *C. blochi blochi*, *C. septentrionalis*, and *C. stenocephalus*] by having no markings along the sides of the body.”

“By the time the fry of all seven species are aged between eight and ten weeks old, they will all have attained the colour pattern shown by adult females [...]”

“With the seven species [...] there were no discerning colour differences between the sexes that could be readily recognised. The first visual signs of maturing males are in the fin spines, the pectoral and ventral fins being the most prominent; becoming thicker and more elongated.”

Biology

From Froese and Pauly (2017):

“The female holds 2-4 eggs between her pelvic fins, where the male fertilizes them for about 30 seconds. Only then the female swims to a suitable spot, where she attaches the very sticky eggs. The pair repeats this process until about 100 eggs have been fertilized and attached [Riehl and Baensch 1991].”

Human Uses

This species is present in the aquarium trade.

From Tropical Fish Finder (2017):

“Abacus Aquatics [U.K.] have currently got a total of 29 different species of *Corydoras* Catfish in stock, including quite a few very rarely available. Just some of the rarer ones include [...] *Corydoras ellisae* [...] Please note Abacus Aquatics does not ship fish [...]”

From Schäfer (2014):

“A beautiful, but sadly only rarely available cory from Paraguay.”

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

No introductions of this species have been reported.

4 Global Distribution

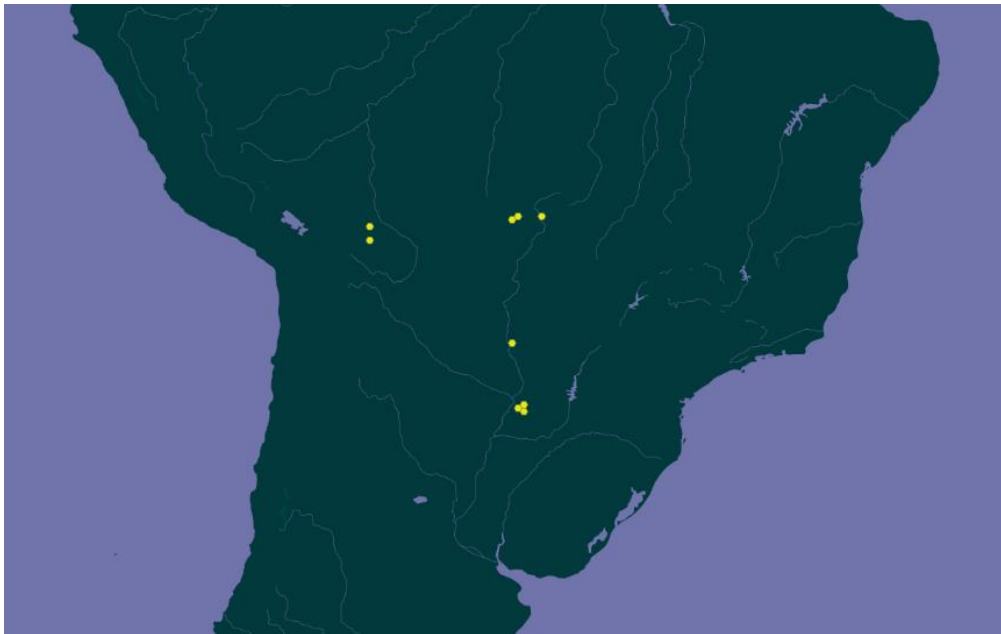


Figure 1. Known global distribution of *C. ellisae*. Map from GBIF (2017). Only established populations were used as source locations for climate matching. The locations reported in Bolivia are outside the described range of *C. ellisae* (see Distribution Outside the United States, above) and are incomplete records (GBIF 2017), so they were omitted from the climate matching analysis.

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean distance) was high in eastern Florida, medium throughout the southeastern U.S. except in the Appalachian Mountains, and low elsewhere. Climate 6 score for *C. ellisae* was 0.041, indicating a medium climate match overall for the contiguous U.S.

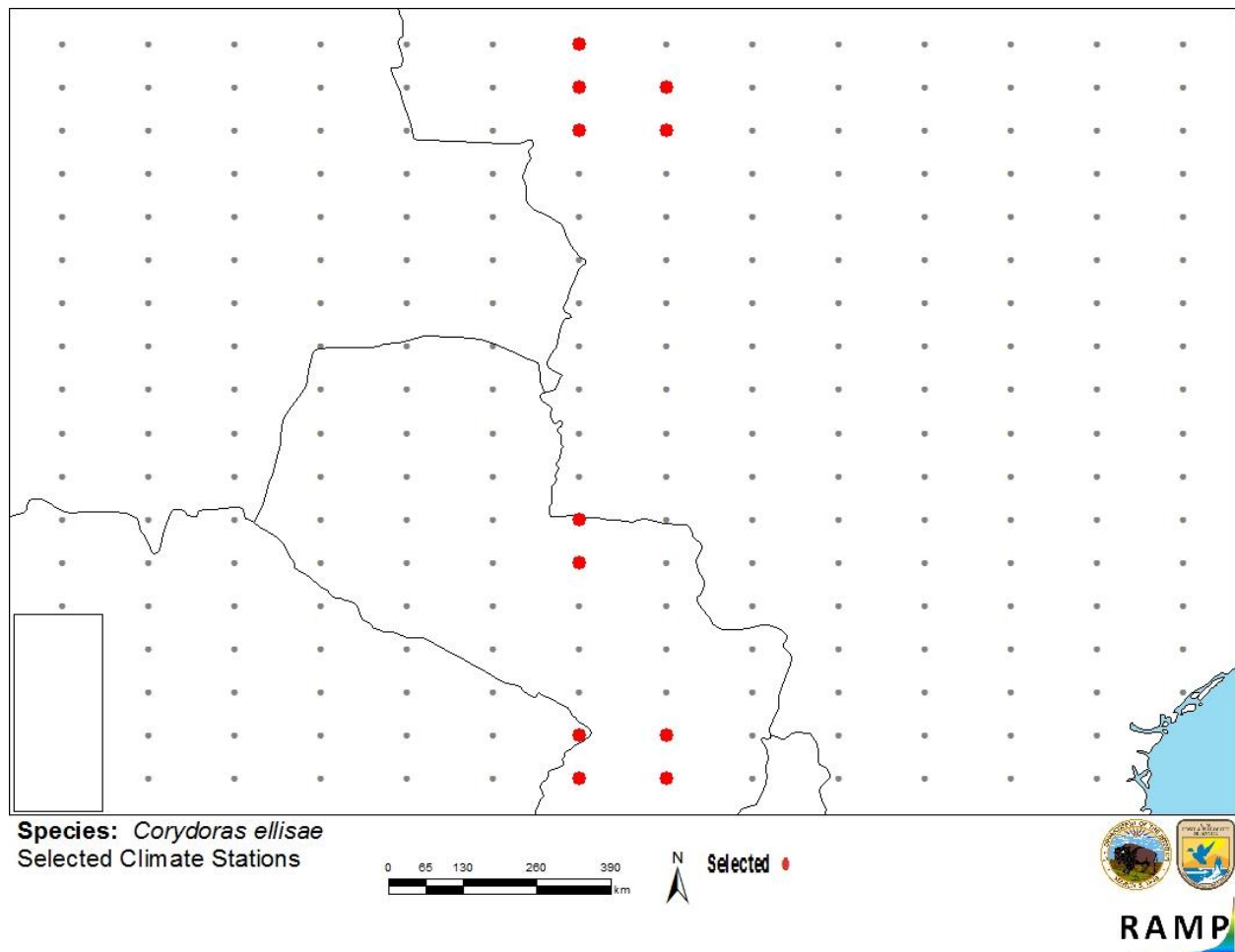


Figure 2. RAMP (Sanders et al. 2014) source map of central South America showing weather stations selected as source locations (red) and non-source locations (gray) for *C. ellisae* climate matching. Source locations from GBIF (2017).

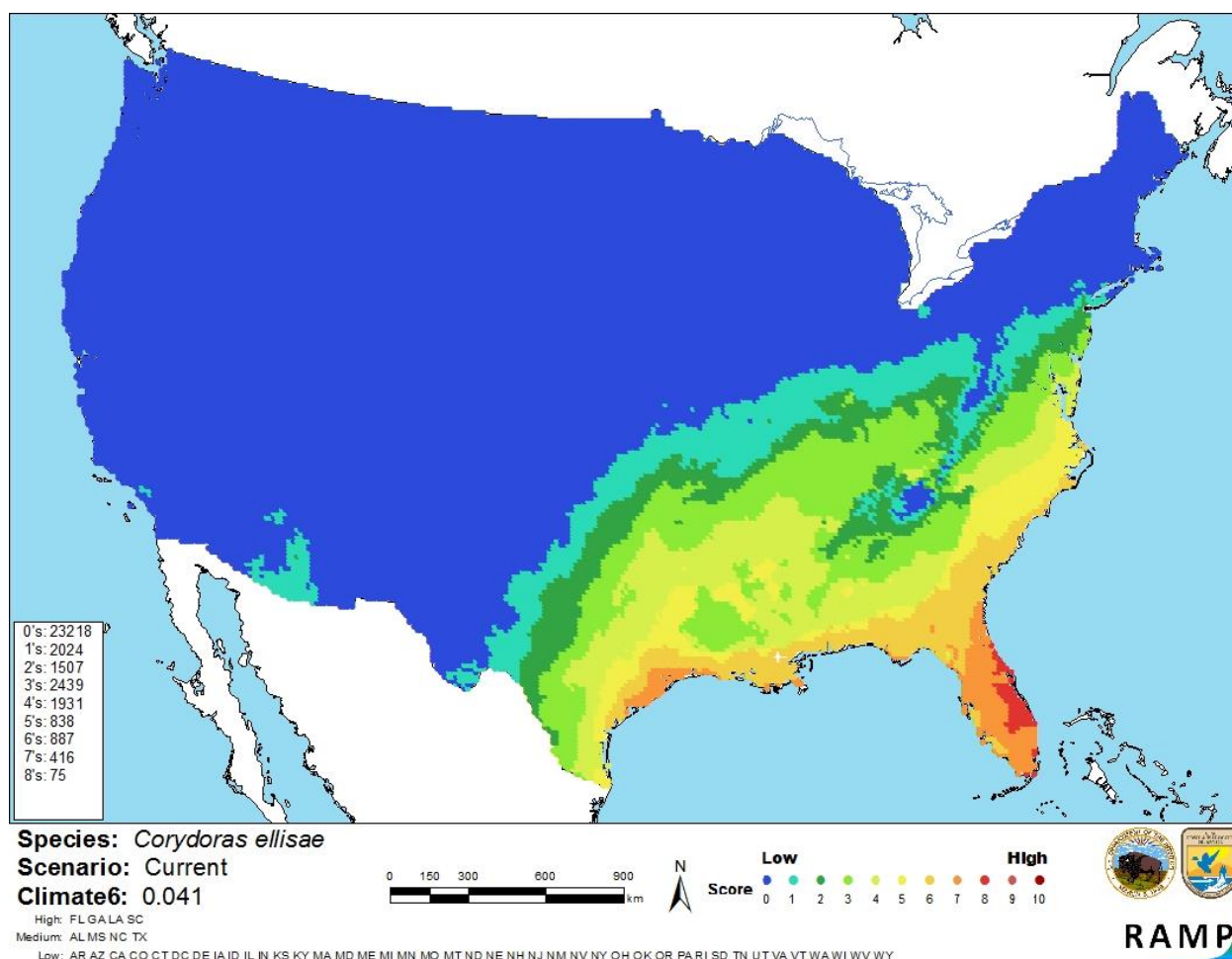


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *C. ellisae* in the contiguous United States based on source locations reported by GBIF (2017). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Some information is available on the biology, ecology, and distribution of *C. ellisae*. The majority of the information collected for this assessment was descriptive in nature or sourced from hobbyist websites. No introductions of this species have been reported, so potential impacts of introduction remain unknown. Therefore, the certainty of this assessment for *C. ellisae* is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Corydoras ellisae is a small catfish native to the Paraguay River basin in South America. *C. ellisae* has a medium climate match to the contiguous United States, with the strongest matches occurring in parts of Florida and Gulf of Mexico coastal areas. While the species is known to be in possession of hobbyists outside its native range, it has never been reported in waterways outside of its native range. Without a history of invasiveness, it is difficult to ascertain the impacts that would occur if the species were introduced to the United States. Therefore, the overall risk posed by *C. ellisae* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **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.

Froese, R., and D. Pauly, editors. 2017. *Corydoras ellisae* Gosline, 1940. FishBase. Available: <http://www.fishbase.se/summary/Corydoras-ellisae.html>. (September 2017).

Fuller, I. 1999. The fry patterns in the South-American catfish genus *Corydoras* (Pisces, Siluriformes, Callichthyidae). *Bulletin Zoologisch Museum* 17(4):33-39.

GBIF (Global Biodiversity Information Facility). 2017. GBIF backbone taxonomy: *Corydoras ellisae* Gosline, 1940. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2342776>. (September 2017).

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Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

Schäfer, F. 2014. *Corydoras ellisae*. Aquarium Glaser GmbH. Available: http://www.aquariumglaser.de/en/fish-archives/corydoras_ellisae_en/. (September 2017).

Tropical Fish Finder. 2017. Rare *Corydoras* catfish at Abacus Aquatics. Available: <http://www.tropicalfishfinder.co.uk/news-article?id=3302>. (September 2017).

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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Reis, R. E. 2003. Callichthyidae (armored catfishes). Pages 291-309 *in* R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.

Riehl, R., and H. A. Baensch. 1996. *Aquarien Atlas*, volume 1, 10th edition. Mergus Verlag GmbH, Melle, Germany.