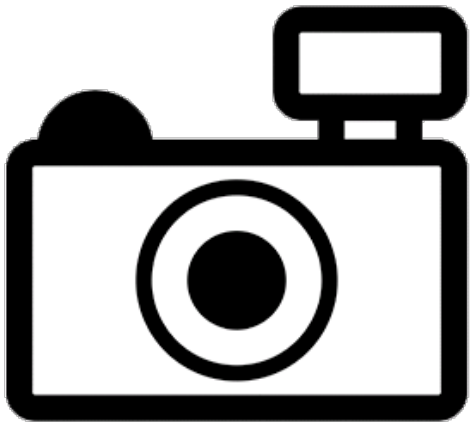
Paradoxoglanis cryptus (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, March 2012
Revised, January 2019
Web Version, 2/16/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"Africa: Kagala River near Aketi (Itimbiri tributary, middle Congo River basin) in Democratic Republic of the Congo [Norris 2002; Seegers 2008]."

Status in the United States

No records of *Paradoxoglanis cryptus* in the wild or in trade in the United States were found.

The Florida Fish and Wildlife Conservation Commission has listed the tilapia *P. cryptus* as a prohibited species. Prohibited nonnative species (FFWCC 2020), "are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities."

From Mississippi Secretary of State (2019):

"All species of the following animals and plants have been determined to be detrimental to the State's native resources and further sales or distribution are prohibited in Mississippi. No person shall import, sell, possess, transport, release or cause to be released into the waters of the state any of the following aquatic species [including all species of Family Malapteruridae] or hybrids thereof."

From Texas Parks and Wildlife (2020):

"The organisms listed here [including all species of Family Malapteruridae] are legally classified as exotic, harmful, or potentially harmful. No person may possess or place them into water of this state except as authorized by the department. Permits are required for any individual to possess, sell, import, export, transport or propagate listed species for zoological or research purposes; for aquaculture(allowed only for Blue, Nile, or Mozambique tilapia, Triploid Grass Carp, or Pacific White Shrimp); or for aquatic weed control (for example, Triploid Grass Carp in private ponds)."

Means of Introductions in the United States

No records of *Paradoxoglanis cryptus* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Paradoxoglanis cryptus* Norris, 2002 is the current valid name for this species, it is also the original name.

From ITIS (2018):

Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Malapteruridae
Genus *Paradoxoglanis*
Species *Paradoxoglanis cryptus* Norris, 2002

Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 11.9 cm SL male/unsexed; [Norris 2002]"

Environment
From Froese and Pauly (2018):

"Freshwater; demersal."

Climate
From Froese and Pauly (2018):

"Tropical"

Distribution Outside the United States
Native
From Froese and Pauly (2018):

"Africa: Kagala River near Aketi (Itimbiri tributary, middle Congo River basin) in Democratic Republic of the Congo [Norris 2002; Seegers 2008]."

Introduced
No records of introductions of *Paradoxoglanis cryptus* were found.

Means of Introduction Outside the United States
No records of introductions of *Paradoxoglanis cryptus* were found.

Short Description
From Froese and Pauly (2018):

"Anal spines: 0; Anal soft rays: 10 - 12; Vertebrae: 44 - 45. Diagnosis: 44-45 vertebrae; caudal saddle and bar pattern absent; 5 pelvic-fin rays; usually a single pore between inner mental barbels; lateral line rarely less than 33% SL, most commonly 33-36% SL; body faintly and sparsely spotted [Norris 2002]."

"Description: body elongate, fusiform, almost vermine; paired fins small; eyes small and inconspicuous; 18-19 abdominal vertebrae; 25-26 caudal vertebrae; 18 caudal-fin rays (arrangement ii-7-7-ii) [Norris 2002]."

"Coloration: body and head faintly bicolored; dorsum and flank brown, venter tan; relatively few small spots (up to 1-2 times an eye diameter) scattered across dorsum and flank; paired fins clear; caudal and anal fins pigmented in about the same shade as the dorsum/flank pigment, or

slightly darker; caudal fin with ill-defined pale distal margin in adults and no pale basal crescent; juveniles pigmented largely as adults, without caudal saddle and bar pattern [Norris 2002]."

Biology
No information on the biology of *Paradoxoglanis cryptus* was found.

Human Uses
From Moelants (2010):

"This species is harvested for human consumption."

Diseases
No information on diseases of *Paradoxoglanis cryptus* was found. **No records of OIE-reportable diseases (OIE 2021) were found for *Paradoxoglanis cryptus.***

Threat to Humans
From Froese and Pauly (2018):

"Harmless"

This species is classified within the electric catfish family of Malapteruridae but no reports were found indicating that this species could cause harm to humans.

3 Impacts of Introductions
No records of introductions of *Paradoxoglanis cryptus* were found.

4 History of Invasiveness
No records of introductions of *Paradoxoglanis cryptus* were found, so the history of invasiveness is no known nonnative population.

5 Global Distribution

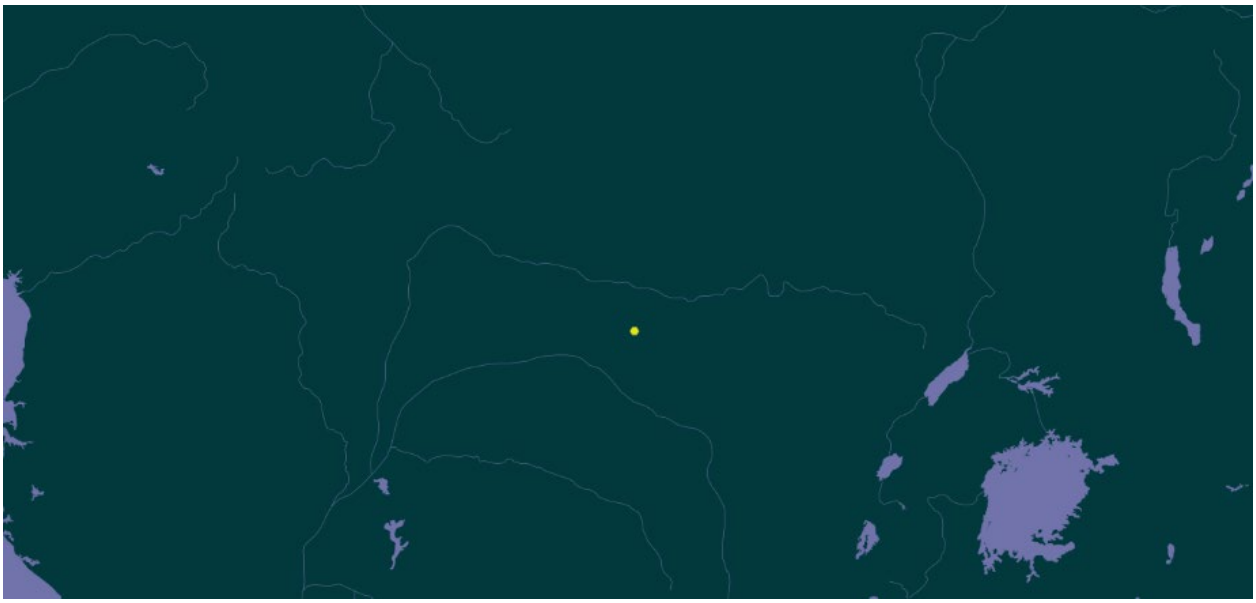


Figure 1. Known global distribution of *Paradoxoglanis cryptus*. The source point is located in the Congo River basin in the Democratic Republic of the Congo. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of *Paradoxoglanis cryptus* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Paradoxoglanis cryptus* was low for most of the entire contiguous United States. There were a few areas of medium match in southern Florida. There were no areas of high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low) with all States having a low individual climate score.

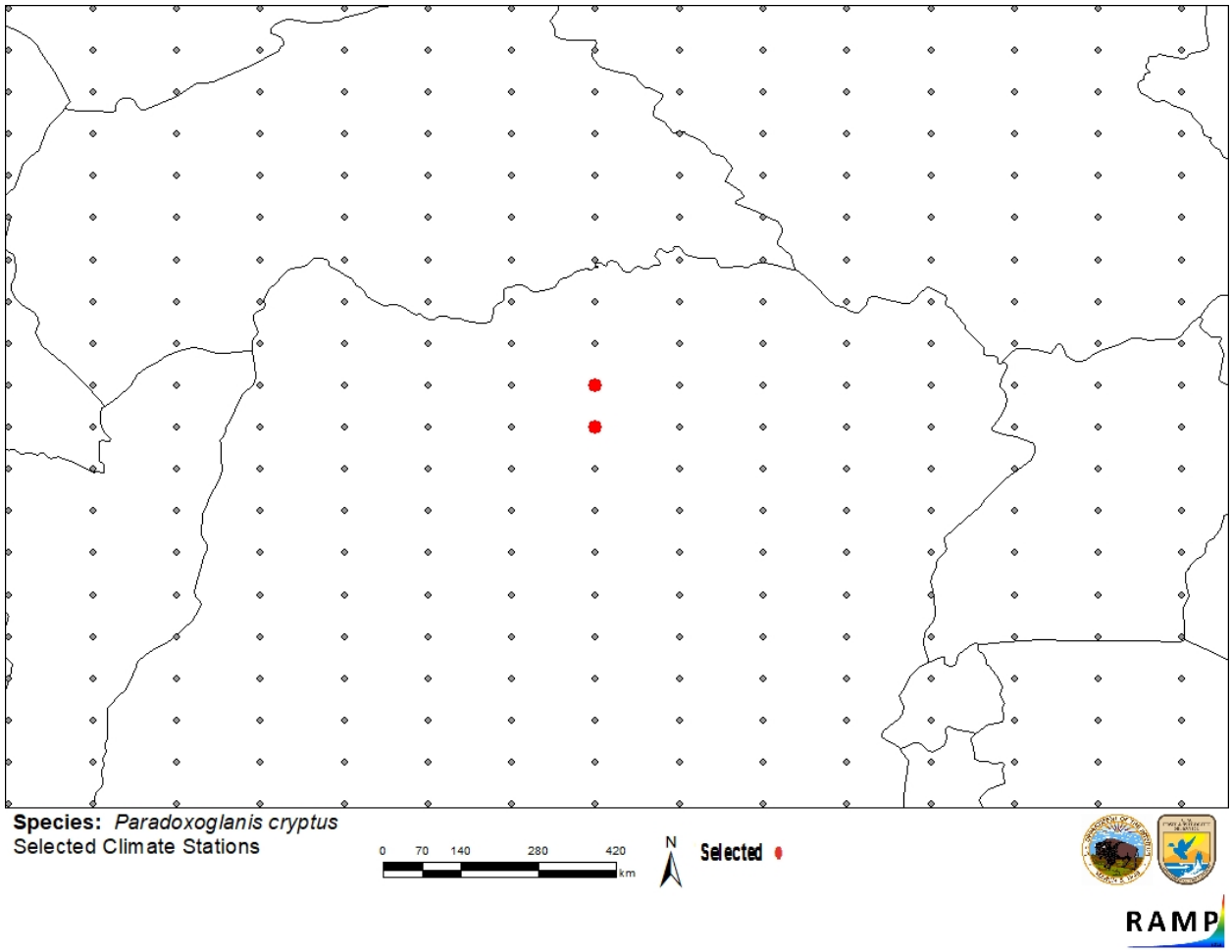


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Africa selected as source locations (red) and non-source locations (gray) for *Paradoxoglanis cryptus* climate matching. Weather stations are located in the Congo River basin in the Democratic Republic of the Congo. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.

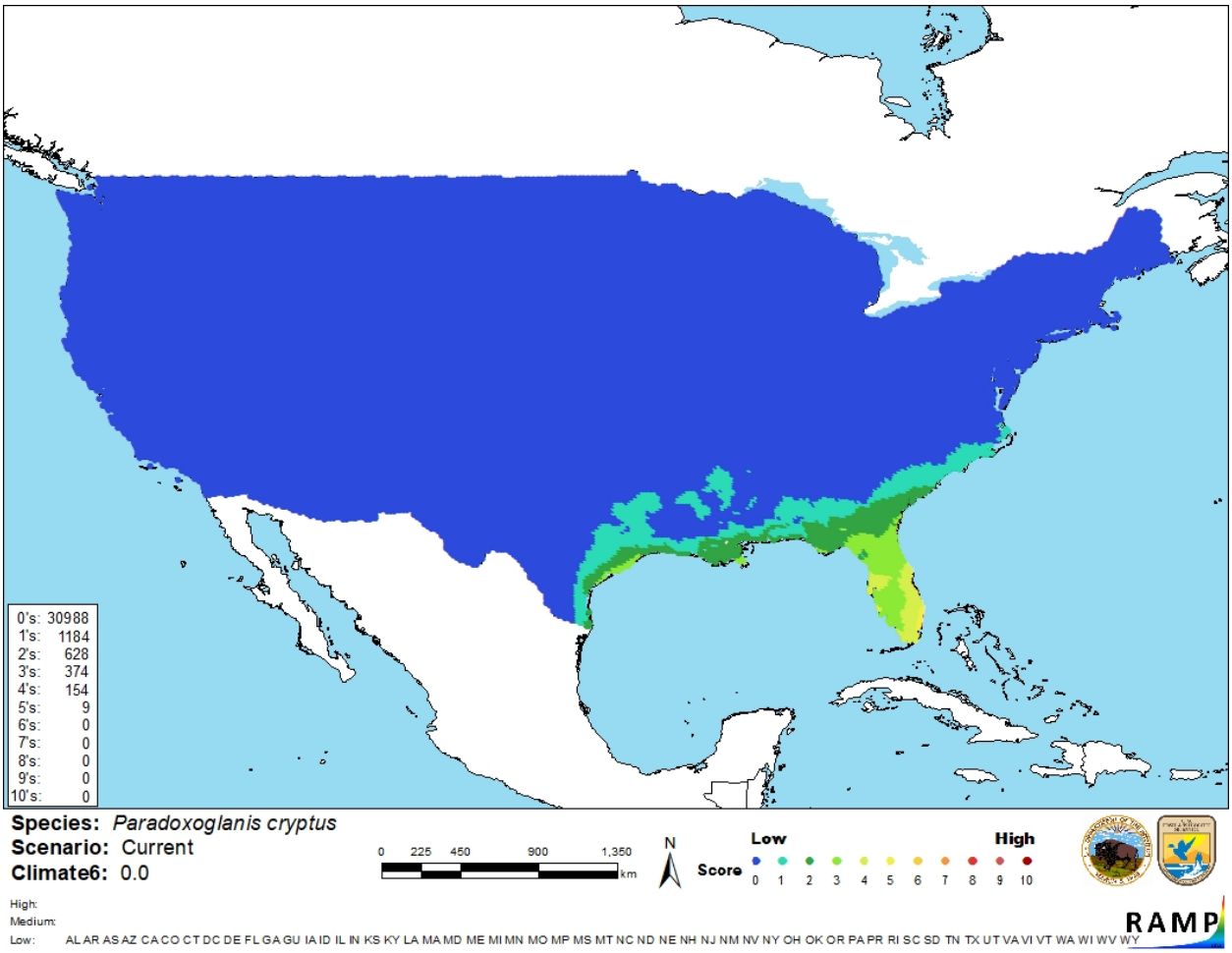


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Paradoxoglanis cryptus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

8 Certainty of Assessment

The certainty of assessment for *Paradoxoglanis cryptus* is low. There is minimal information available for this species. No information on introductions of *Paradoxoglanis cryptus* was found.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Paradoxoglanis cryptus is an African electric catfish native to the Congo River basin. The history of invasiveness is no nonnative population. *P. cryptus* has not been reported as introduced or established anywhere in the world outside of its native range. This species is not found in trade but is used for human consumption. The climate match for the contiguous United States was low. The only area that had a medium match was southern Florida; there were no areas of high match. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information:** No additional remarks
- **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.

[FFWCC] Florida Fish and Wildlife Conservation Commission. 2020. Prohibited species list. Tallahassee, Florida: Florida Fish and Wildlife Conservation Commission. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/ (October 2020).

Fricke R, Eschmeyer WN, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp (December 2018).

Froese R, Pauly D, editors. 2018. *Paradoxoglanis cryptus* Norris, 2002. FishBase. Available: http://www.fishbase.org/summary/Paradoxoglanis-cryptus.html (December 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Paradoxoglanis cryptus* Norris, 2002. Copenhagen: Global Biodiversity Information Facility. Available: https://www.gbif.org/species/2342053 (December 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Paradoxoglanis cryptus* Norris, 2002. Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=681512#null (December 2018).

Mississippi Secretary of State. 2019. Guidelines for aquaculture activities. Mississippi Administrative Code, Title 2, Part 1, Subpart 4, Chapter 11. Jackson, Mississippi: Regulatory and Enforcement Division, Office of the Mississippi Secretary of State.

Moelants T. 2010. *Paradoxoglanis cryptus*. The IUCN Red List of Threatened Species 2010: e.T182721A7951895. Available: https://www.iucnredlist.org/species/182721/7951895 (December 2018).

[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/ (February 2021).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

Texas Parks and Wildlife. 2020. Invasive, prohibited and exotic species. Austin, Texas: Texas Parks and Wildlife. Available: https://tpwd.texas.gov/huntwild/wild/species/exotic/prohibited_aquatic.phtml (November 2020).

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.

Norris SM. 2002 A revision of the African electric catfishes, family Malapteruridae (Teleostei, Siluriformes), with erection of a new genus and descriptions of fourteen new species, and an annotated bibliography. Annales, Musée Royal de l'Afrique Centrale, Tervuren, Série in 8o, Sciences Zoologiques 289:1–155.

Seegers L. 2008. The catfishes of Africa: A handbook for identification and maintenance. Germany: Aqualog Verlag A.C.S. GmbH.