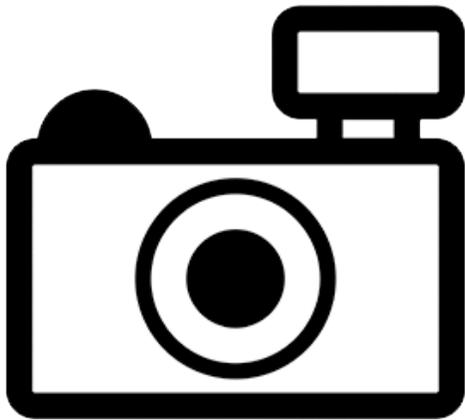


***Malapterurus leonensis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2012
Revised, June 2018
Web Version, 8/6/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: known from coastal river basins in Sierra Leone [Roberts 2000].”

Status in the United States

No indication of *Malapterurus leonensis* in the United States in the wild or in trade was found.

The Florida Fish and Wildlife Conservation Commission has listed the electric catfish *M. leonensis* as a prohibited species. Prohibited nonnative species (FFWCC 2018), “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.”

Means of Introductions in the United States

No indication of *Malapterurus leonensis* in the United States in the wild was found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Malapterurus leonensis* Roberts 2000 is the 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 *Malapterurus*
Species *Malapterurus leonensis* Roberts, 2000”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 15.5 cm SL male/unsexed; [Roberts 2000]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: known from coastal river basins in Sierra Leone [Roberts 2000].”

Introduced

No records of introductions of *Malapterurus leonensis* were found.

Means of Introduction Outside the United States

No records of introductions of *Malapterurus leonensis* were found.

Short Description

From Froese and Pauly (2018):

“Vertebrae: 38 - 43. Diagnosis: rather small, no specimen larger than 25 TL known [Seegers 2008]. 38-43 [Seegers 2008] or 39-43 [Roberts 2000] vertebrae. Narrower head, mouth and oral tooth bands than *M. electricus*; body with moderately large scattered black spots; narrow pale bars on anterior part of caudal peduncle and caudal fin base; caudal and anal fins darkened centrally, with sharply defined pale margins; may attain 300 mm [Roberts 2000].”

“Description: 8-9 anal fin rays [Seegers 2008].”

“Coloration: body grey, darker on upper part and light on belly; scattered dark dots the size of the eye or smaller; juveniles have black stripe across caudal peduncle; proximal half of caudal fin white, followed by half-moon-shaped spot and white edge to the fin; white band runs from posterior half of adipose fin to anal fin; in front of this a dark saddle-like spot extends across body and anterior half of adipose fin, becoming broader from flanks upwards [Seegers 2008].”

Biology

No information on the biology of *Malapterurus leonensis* was found.

Human Uses

No information on human uses of *Malapterurus leonensis* was found.

Diseases

No records of OIE-reportable diseases were found for *Malapterurus leonensis*.

Poelen et al. (2014) list *Electrotaenia malopteruri* as a parasite of *M. leonensis*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Malapterurus leonensis* were found.

The Florida Fish and Wildlife Conservation Commission (2018) has listed the electric catfish *M. leonensis* as a prohibited species.

4 Global Distribution



Figure 1. Map of Africa showing the location of Sierra Leone. Map from Google, Inc. (2018). Froese and Pauly (2018) state that *Malapterurus leonensis* is native to the coastal drainages of Sierra Leone.

5 Distribution Within the United States

No indication of *Malapterurus leonensis* in the United States in the wild was found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Malapterurus leonensis* was low across the contiguous United States. There were no areas of medium or high matches. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. The range for a low climate match is from 0.0 to 0.005, inclusive. All states had low individual climate scores. There were no georeferenced locations to use as source points for the climate match. The native range is described as coastal drainages in Sierra Leone (Froese and Pauly 2018). All climate stations within Sierra Leone were chosen as source points for the climate match. The lack of georeferenced observations for this species lowers the confidence in the results of the climate match.

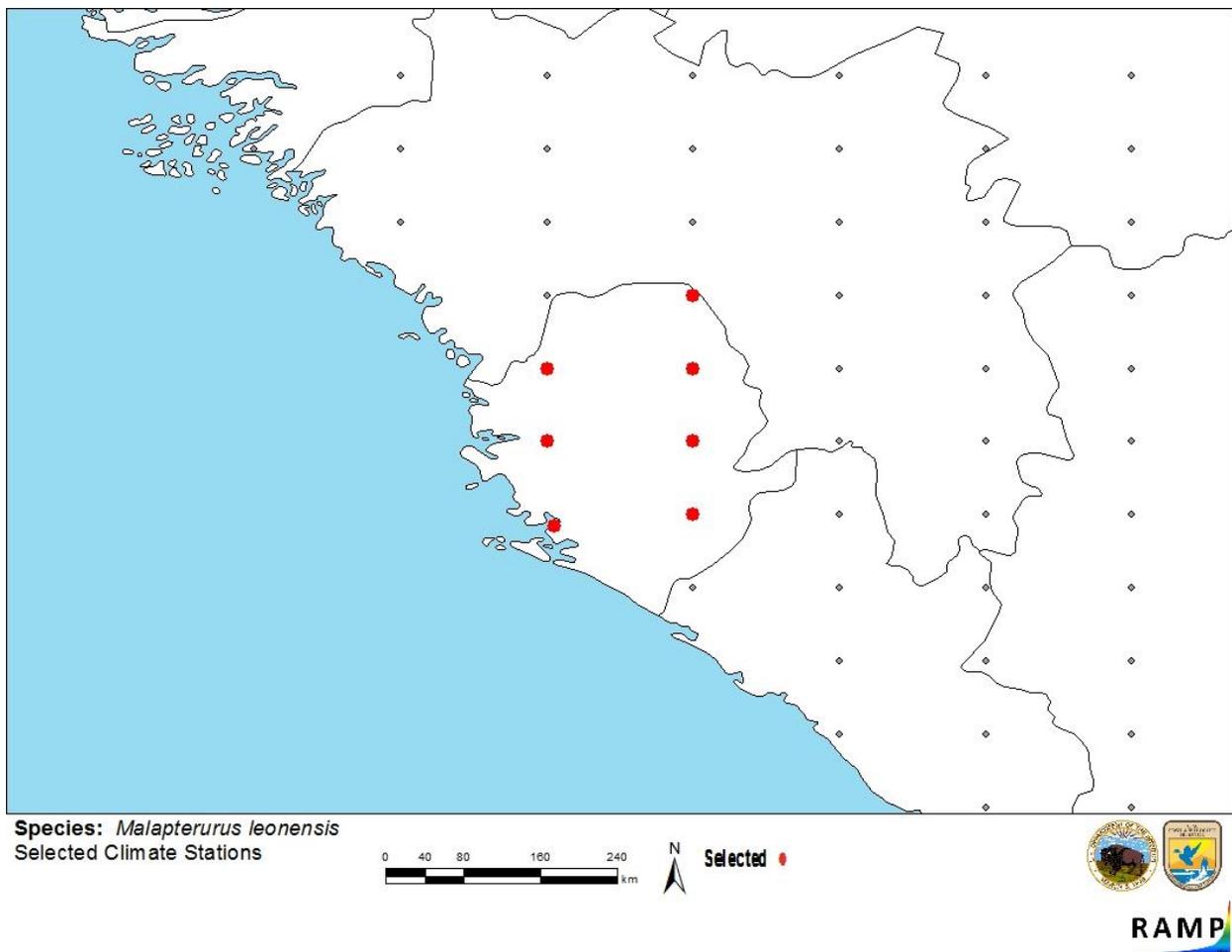


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Sierra Leone) and non-source locations (gray) for *Malapterurus leonensis* climate matching. Source locations from descriptions in Froese and Pauly (2018). No georeferenced locations were available to use as source points.

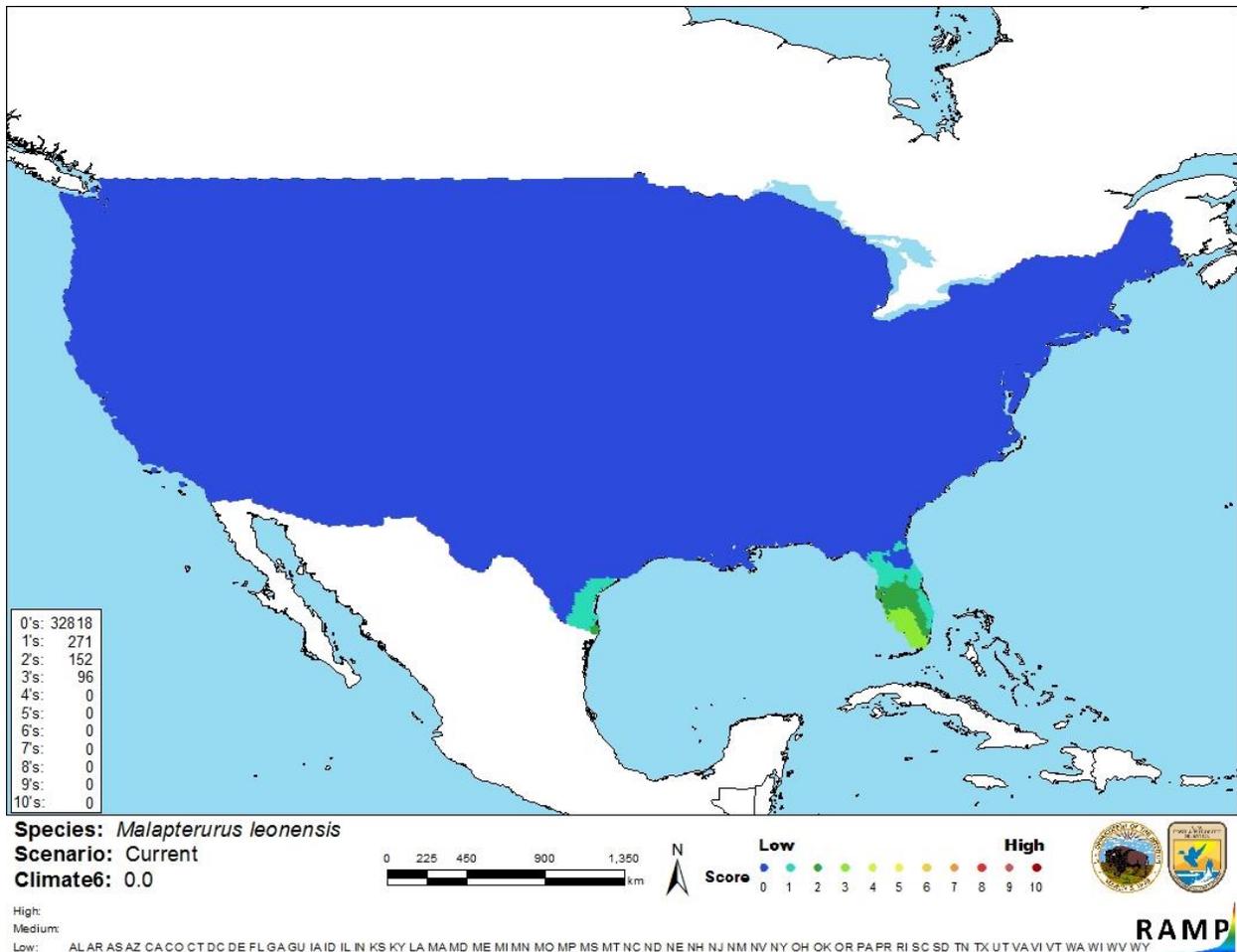


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Malapterurus leonensis* in the contiguous United States based on source locations reported by Froese and Pauly (2018). 0 = Lowest match, 10 = Highest match.

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

The certainty of assessment for *Malapterurus leonensis* is low. There is a general lack of information for this species. No records of introductions were found, so impacts of introduction are unknown. There were no georeferenced locations to use as source points for the climate match, lowering confidence in the climate match results.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Malapterurus leonensis is an electric catfish native to the coastal drainages of Sierra Leone. The history of invasiveness for *M. leonensis* is uncertain. There were no records of introduction found. The Florida Fish and Wildlife Conservation Commission (2018) has listed the electric catfish *M. leonensis* as a prohibited species. The climate match was low and all states had low individual climate scores. The lack of georeferenced observations to use as source locations for the climate match lowers the confidence in the results. The certainty of assessment is low. The overall risk assessment 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 information
- **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.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (June 2018).

FFWCC (Florida Fish and Wildlife Conservation Commission). 2018. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/>. (June 2018).

Froese, R., and D. Pauly, editors. 2018. *Malapterurus leonensis* Roberts, 2000. FishBase. Available: <http://www.fishbase.org/summary/Malapterurus-leonensis.html>. (June 2018).

Google, Inc. 2018. Google Maps. Map data: Google, INEGI, ORION-ME. Available: <https://www.google.com/maps/place/Sierra+Leone/@6.5860894,-5.3369199,4z/data=!4m5!3m4!1s0xf0106183aabf343:0x5369e9cdc72cf719!8m2!3d8.460555!4d-11.779889>. (June 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Malapterurus leonensis* Roberts, 2000. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=681501. (June 2018).

Poelen, J. H., J. D. Simons, and C. J. Mungall. 2014. Global Biotic Interactions: an open infrastructure to share and analyze species-interaction datasets. *Ecological Informatics* 24:148–159.

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

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.

Roberts, T. R. 2000. A review of the African electric catfish family Malapteruridae, with descriptions of new species. *Occasional Papers in Ichthyology* 1:1–15.

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