

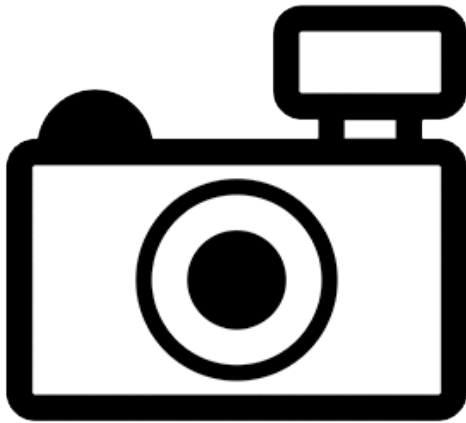
***Malapterurus tanganyikaensis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2012

Revised, August 2018

Web Version, 9/11/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: widely distributed in Lake Tanganyika [Burundi, Democratic Republic of the Congo, Tanzania, Zambia] [Roberts 2000; Norris 2002] and present in the Malagarasi River basin [Burundi] [Seegers 2008; Banyankimbona et al. 2012].”

Status in the United States

No records of *Malapterurus tanganyikaensis* in trade or in the wild in the United States were found.

The Florida Fish and Wildlife Conservation Commission has listed the family of electric catfishes, including the genus and species *Malapterurus tanganyikaensis*, 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 records of *Malapterurus tanganyikaensis* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Malapterurus tanganyikaensis* 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 tanganyikaensis* Roberts, 2000”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 49.5 cm SL male/unsexed; [Norris 2002]”

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: widely distributed in Lake Tanganyika [Burundi, Democratic Republic of the Congo, Tanzania, Zambia] [Roberts 2000; Norris 2002] and present in the Malagarasi River basin [Burundi] [Seegers 2008; Banyankimbona et al. 2012].”

Introduced

No records of introduction were found for *Malapterurus tanganyikaensis*.

Means of Introduction Outside the United States

No records of introduction were found for *Malapterurus tanganyikaensis*.

Short Description

From Froese and Pauly (2018):

“Anal spines: 0; Anal soft rays: 9 - 12; Vertebrae: 38 - 45. Diagnosis: tooth patches broad; 9-12 anal-fin rays; 38-41 vertebrae; 19-20 caudal-fin rays (ii-7-8-ii-iii); stout, cylindrical head; broad, square snout; body finely spotted [Norris 2002].”

Biology

From Froese and Pauly (2018):

“Limnetic electric catfish [Norris 2002]. Voracious piscivore [Poll 1953; Norris 2002; Seegers 2008] feeding on cichlids [Poll 1953; Norris 2002]. Encountered in the littoral zone down to a depth of 50 m; especially common in bays or near the mouths of rivers [Poll 1953].”

Human Uses

From Froese and Pauly (2018):

“Fisheries:”

Diseases

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

Poelen et al. (2014) lists *Electrotaenia malopteruri* as a parasite of *Malapterurus tanganyikaensis*.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

Although Froese and Pauly (2018) list *Malapterurus tanganyikaensis* as harmless, some species in this genus are able to produce electric discharges in the range of hundreds of volts (Alves-Gomes 2001), which have the potential to inflict harm.

3 Impacts of Introductions

No records of introduction were found for *Malapterurus tanganyikaensis*, therefore there is no information on impacts of introduction.

Members of the genus *Malapterurus* use electric discharges to stun prey and for defense (Alves-Gomes 2001), it is unknown how that would impact native fish.

4 Global Distribution

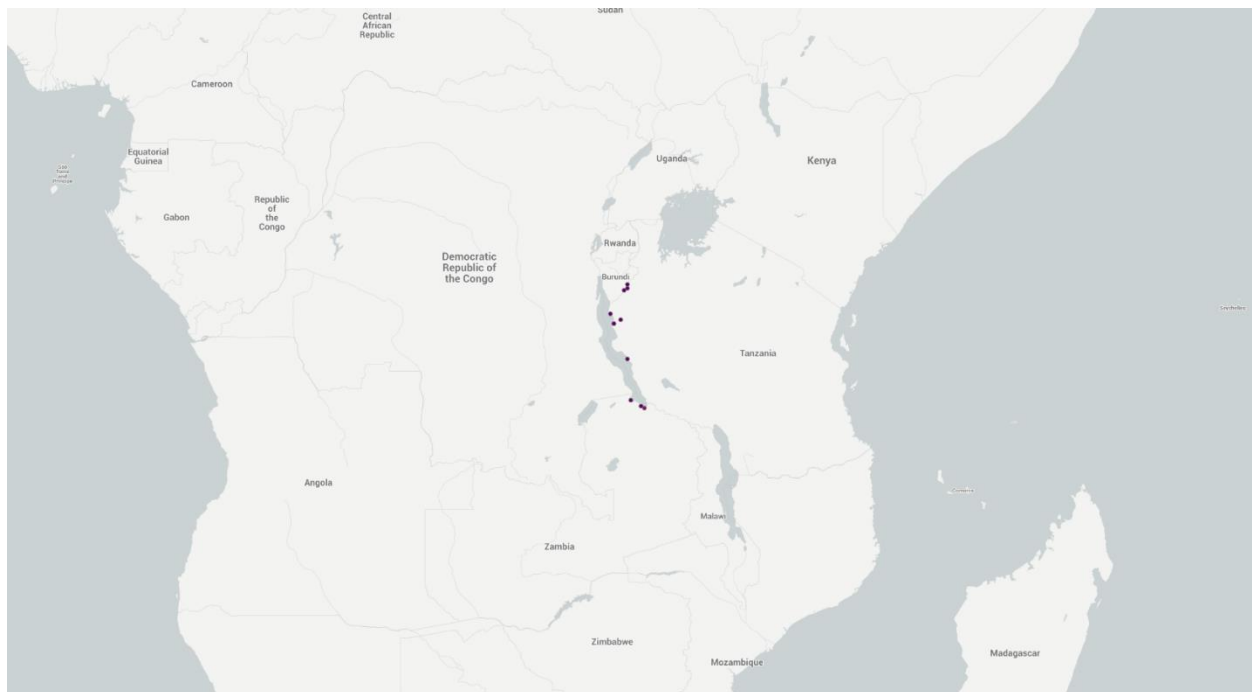


Figure 1. Known global distribution of *Malapterurus tanganyikaensis*. Locations are in Burundi, Tanzania, Democratic Republic of the Congo, and Zambia. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

No records of *Malapterurus tanganyikaensis* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Malapterurus tanganyikaensis* was low for the majority of the contiguous United States with a small patch of medium match in southern Texas and southern Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. All states had low individual climate scores.

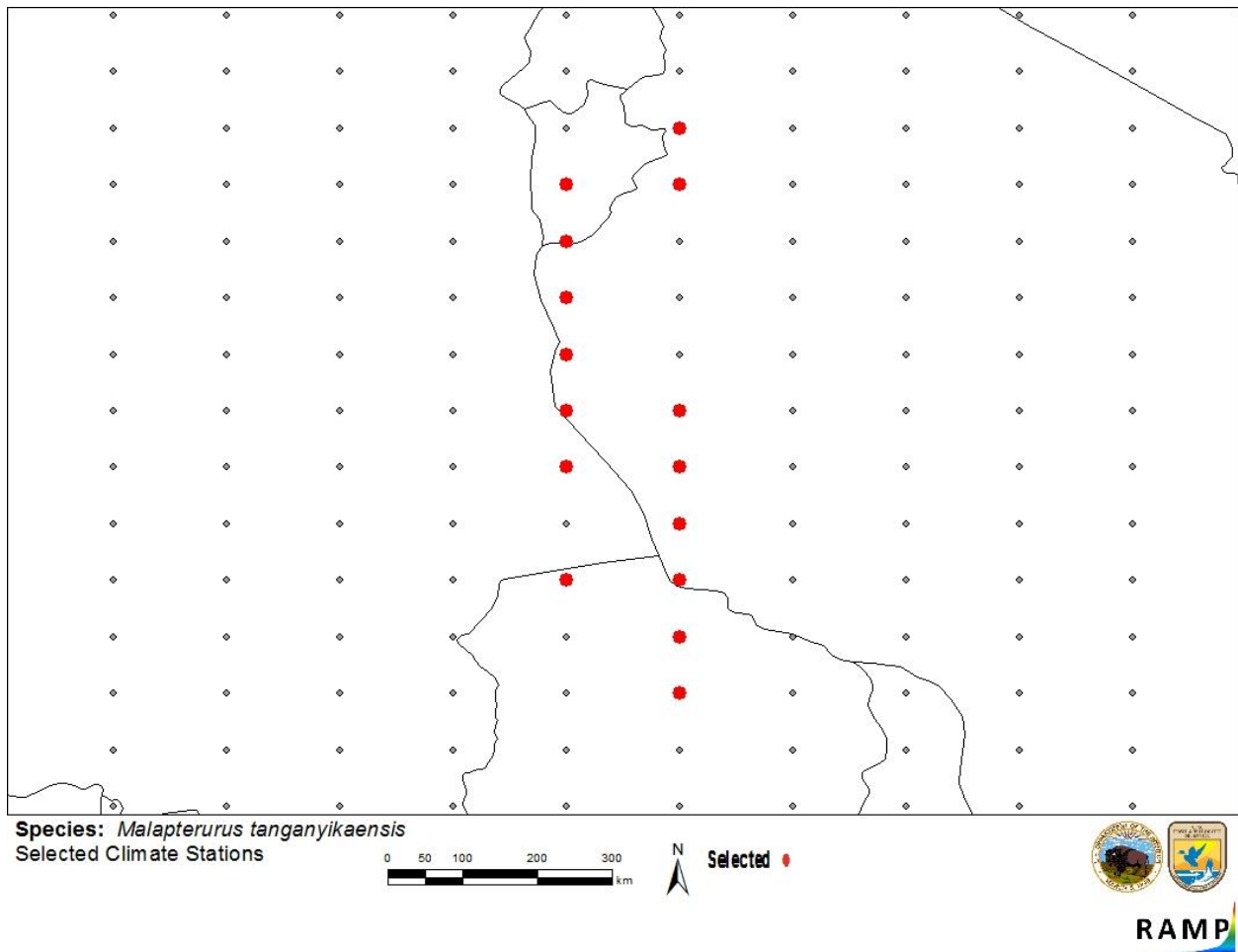


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in central Africa selected as source locations (red; Burundi, Tanzania, Democratic Republic of the Congo, Zambia) and non-source locations (gray) for *Malapterurus tanganyikaensis* climate matching. Source locations from GBIF Secretariat (2018).

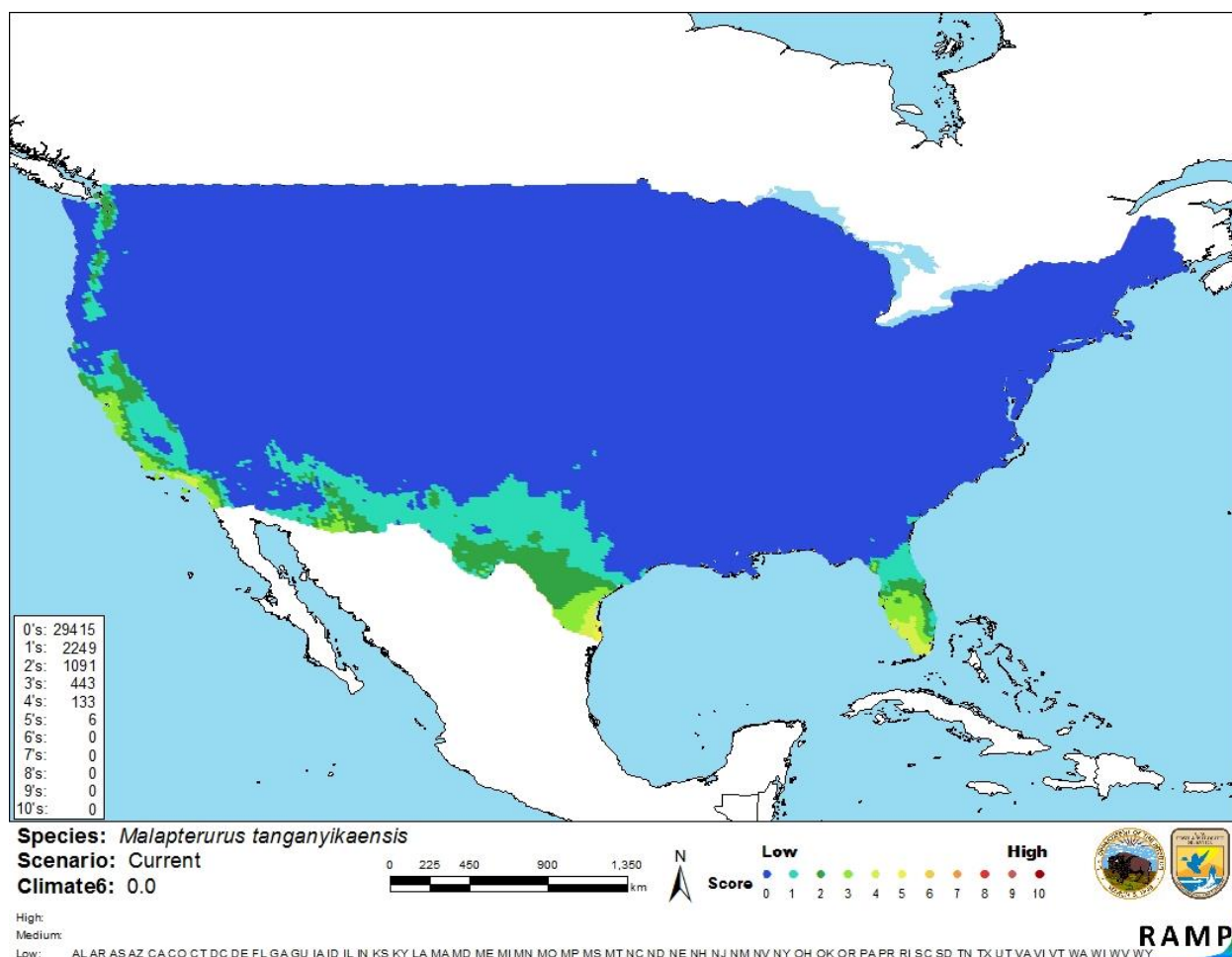


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Malapterurus tanganyikaensis* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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 is low. There was minimal biological information available for this species and a lack of peer-reviewed literature. There were no records of introductions found and therefore there is no information on impacts of introductions.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Malapterurus tanganyikaensis is an electric catfish native to Lake Tanganyika and Malagarasi River basin. Some species in this genus are able to produce electric discharges in the range of hundreds of volts to stun prey and for defense. The history of invasiveness is uncertain. No records of introductions were found. The Florida Fish and Wildlife Conservation Commission has listed *M. tanganyikaensis* as a prohibited species. The climate match is low for the entire contiguous United States. All States had low climate match scores. 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 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.

- Alves-Gomes, J. A. 2001. The evolution of electroreception and bioelectrogenesis in teleost fish: a phylogenetic perspective. *Journal of Fish Biology* 58:1489–1511.
- 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>. (July 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/#nogo>. (August 2018).
- Froese, R., and D. Pauly, editors. 2018. *Malapterurus tanganyikaensis* Roberts, 2000. FishBase. Available: <https://www.fishbase.de/summary/Malapterurus-tanganyikaensis.html>. (August 2018).
- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Malapterurus tanganyikaensis* (Roberts, 2000). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2342049>. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Malapterurus tanganyikaensis* (Roberts, 2000). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=681508#null. (August 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.

Banyankimbona, G., E. Vreven, G. Ntakimazi, and J. Snoeks. 2012. The riverine fishes of Burundi (East Central Africa): an annotated checklist. *Ichthyological Explorations of Freshwaters* 23(3):273–288.

Norris, S. M. 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 du Musée Royal de l'Afrique Centrale: Sciences Zoologiques* 289:1–155.

Poll, M. 1953. Exploration hydrobiologique du lac Tanganika (1946–1947). Poissons non Cichlidae. Institut Royal des Sciences Naturelles de Belgique, Bruxelles.

Roberts, T. R. 2000. A review of the African electric catfish family Malapteruridae, with descriptions of new species. Occasional paper - J. L. B. Smith Institute of Ichthyology 1:1–15.

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