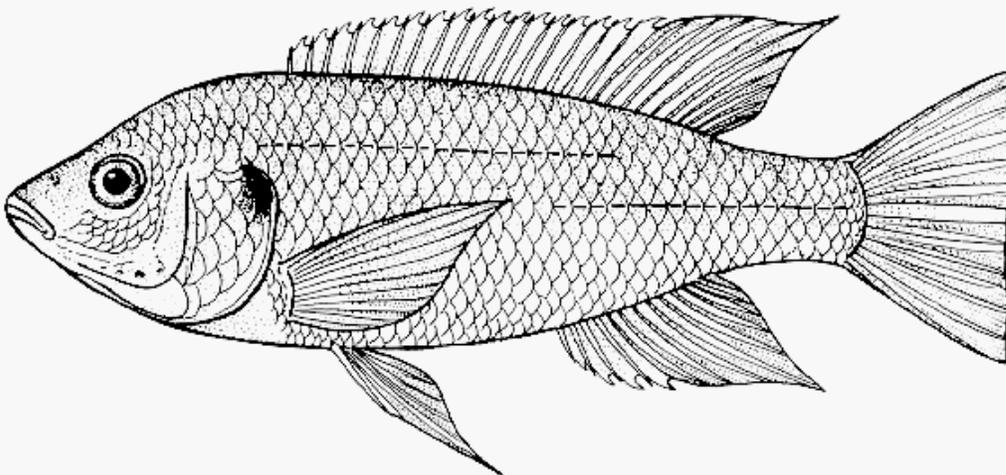


Lake Chala Tilapia (*Oreochromis hunteri*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, March 2012
Revised, June 2018
Web Version, 12/15/2020

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



FAO

Photo: D. H. Eccles. Licensed under Creative Commons BY-NC 3.0. Available:
<http://www.fishbase.org/photos/PicturesSummary.php?StartRow=0&ID=2032&what=species&TotRec=2>. (June 18, 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018a):

“Africa: endemic to Lake Chala [Seegers et al. 2003].”

Status in the United States

No records of *Oreochromis hunteri* in trade or in the wild in the United States were found.

The Florida Fish and Wildlife Conservation Commission has listed the tilapia *Oreochromis hunteri* 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.

All species in the genus *Oreochromis* are considered regulated Type A species in Washington. Regulated Type A species (Washington State Senate 2019) are "nonnative aquatic animal species that pose a low to moderate invasive risk that can be managed based on intended use or geographic scope of introduction, have a beneficial use, and are a priority for department-led or department-approved management of the species' beneficial use and invasive risks."

Possession of any species of tilapia is prohibited without permit in the State of Louisiana (Louisiana State Legislature 2019).

O. amphimelas falls within Group I of New Mexico's Department of Game and Fish Director's Species Importation List (New Mexico Department of Game and Fish 2010). Group I species "are designated semi-domesticated animals and do not require an importation permit."

Tilapia species are prohibited to be sold and used as bait or stocked in heated-water reservoirs in the State of Oklahoma (Oklahoma Secretary of State 2019).

All species in the genus *Oreochromis* are listed as prohibited in Texas (Texas Parks and Wildlife 2020).

A permit is required to import, possess, or sell any species of tilapia in Virginia (Virginia Department of Game and Inland Fisheries 2020).

Means of Introductions in the United States

No records of *Oreochromis hunteri* 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), *Oreochromis hunteri* Günther 1889 is the valid name for this species; it is also the original name.

From Froese and Pauly (2018b):

“Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Perciformes (Order) > Labroidei (Suborder) > Cichlidae (Family) > Pseudocrenilabrinae (Subfamily) > *Oreochromis* (Genus) > *Oreochromis hunteri* (Species)”

Size, Weight, and Age Range

From Froese and Pauly (2018a):

“Max length : 30.0 cm SL male/unsexed; [Eccles 1992]”

Environment

From Froese and Pauly (2018a):

“Freshwater; benthopelagic.”

Climate

From Froese and Pauly (2018a):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018a):

“Africa: endemic to Lake Chala [Seegers et al. 2003].”

Introduced

According to Bwathondi (2002), *Oreochromis hunteri* has been stocked in manmade ponds in Sugana village, Tanzania, outside of its native range. No mention was made as to the establishment of the species in these ponds.

Means of Introduction Outside the United States

According to Bwathondi (2002), *Oreochromis hunteri* has been stocked in manmade ponds for fish farming.

Short Description

From Froese and Pauly (2018a):

“Dorsal spines (total): 16 - 17; Dorsal soft rays (total): 11-13; Anal spines: 3-4; Anal soft rays: 10 - 16; Vertebrae: 31 - 34. Diagnosis: teeth very small, in narrow bands; pharyngeal bone narrow, its width about 26% head length, with fine teeth, crowded posteriorly, the blade equal to the median length of the toothed area in young, about 1.5 times as long in adults; pectoral fin

usually less than 36% SL [Trewavas 1983]. Scales of chest and belly very small [Trewavas 1966, 1983], in some individuals showing an abrupt transition from the flank scales for a short distance behind the pectoral-pelvic interspace; in some individuals dorsal scales also small [Trewavas 1983]. Caudal peduncle longer than deep [Boulenger 1915; Trewavas 1966, 1983]. [...] Body at least 2.8 times as long as deep; caudal peduncle at least 1.3 times longer than deep [Eccles 1992].”

“Adults: metallic blue-black on upper parts of head and body, shading to iridescent dark greenish blue on lower parts of gill-cover and jaws and to blackish bronze on the flanks; breast speckled dark green and white; belly grey on white; some individuals (males ?) with edge of dorsal fin dark orange [Trewavas 1983]. Large males with a tinge of yellow on the throat, and royal blue fins with flaming orange or bright vermilion tips [Copley 1958]. Young: bronze on flanks, greenish bronze on back, cream on belly; head as adult but not so dark; caudal and dorsal fins dark green; lower fins paler iridescent green [Trewavas 1983]. Both adults and young with checkered effect produced by the darker anterior part of each scale [Trewavas 1983].”

Froese and Pauly (2018a) also list 34–38 scales on lateral line, 4–7 scales rows above lateral line, and 15 pectoral fin rays.

Biology

From Froese and Pauly (2018a):

“Inhabits lakes [Trewavas 1983; Eccles 1992]. Sometimes shoaling [Lowe 1955; Copley 1958]. Feeds on algae and debris off the bottom [Lowe 1955].”

Human Uses

According to Bwathondi (2002), *Oreochromis hunteri* has been stocked in manmade ponds in Sugana village, Tanzania for fish farming.

Diseases

No records of OIE-reportable diseases (OIE 2020) were found for *Oreochromis hunteri*.
No information on parasites or pathogens of *O. hunteri* was found.

Threat to Humans

From Froese and Pauly (2018a):

“Harmless”

3 Impacts of Introductions

Bwathondi (2002) mentions that *Oreochromis hunteri* has been introduced to fish farming ponds in a village in Tanzania. No information was available regarding any impacts from this introduction.

4 History of Invasiveness

Oreochromis hunteri is a Tilapia endemic to Lake Chala in Africa. The only known introduction was in manmade ponds in Sugana village, Tanzania, however no establishment is known. Therefore, the history of invasiveness is classified as “No Known Nonnative Population.”

5 Global Distribution

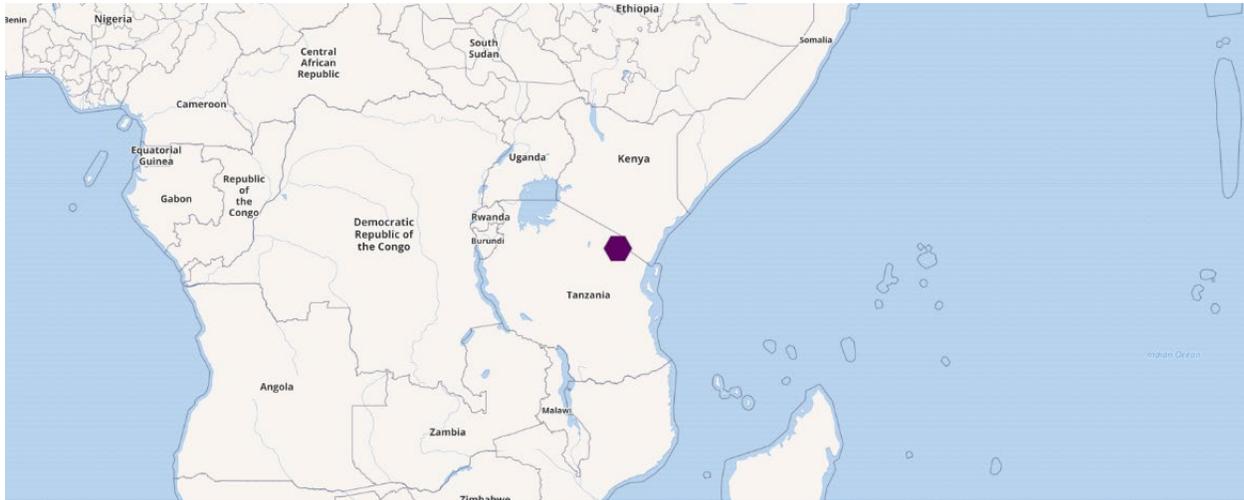


Figure 1. Known global distribution of *Oreochromis hunteri*. Location is in Tanzania. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of *Oreochromis hunteri* in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Oreochromis hunteri* was low for most of the contiguous United States. There were small areas of medium match along the Mexican border. 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). All States had low individual climate scores.

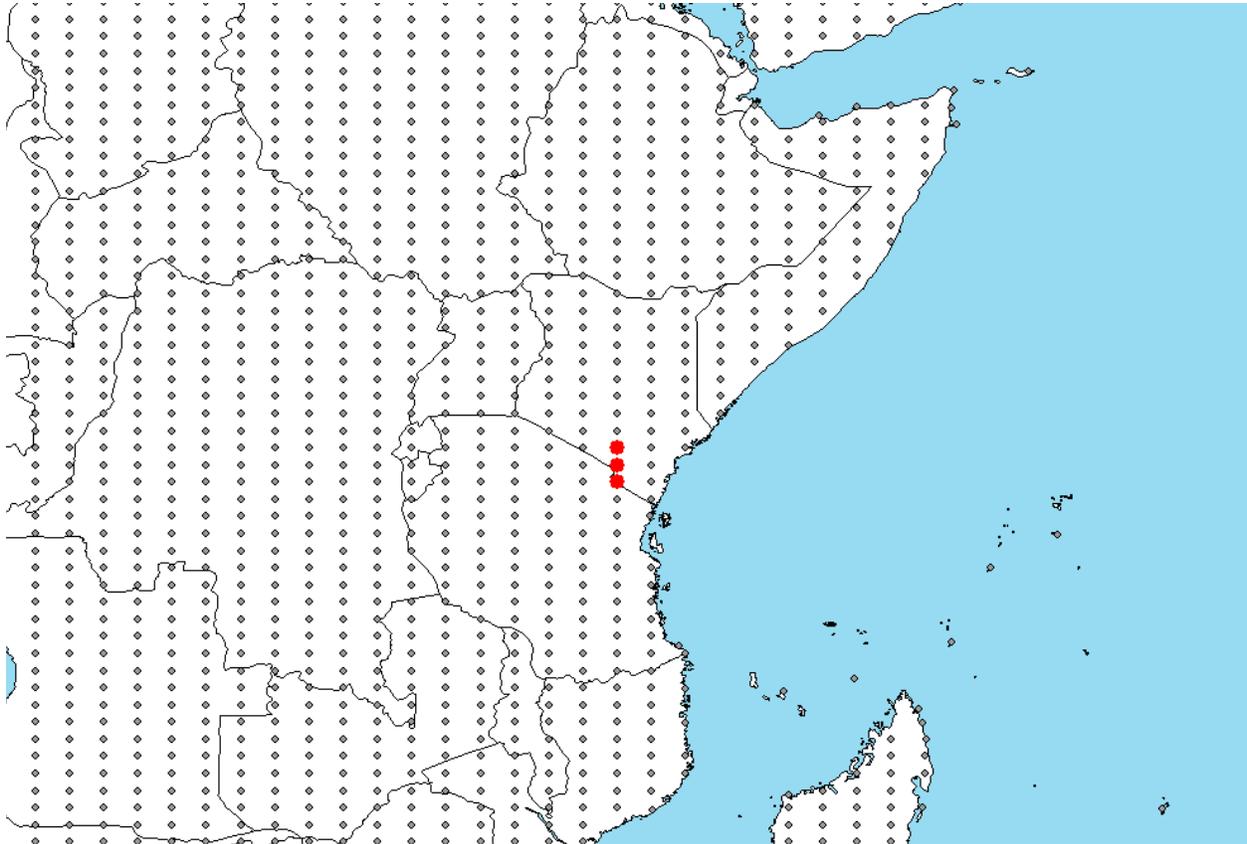


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in eastern Africa selected as source locations (red; Kenya) and non-source locations (gray) for *Oreochromis hunteri* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

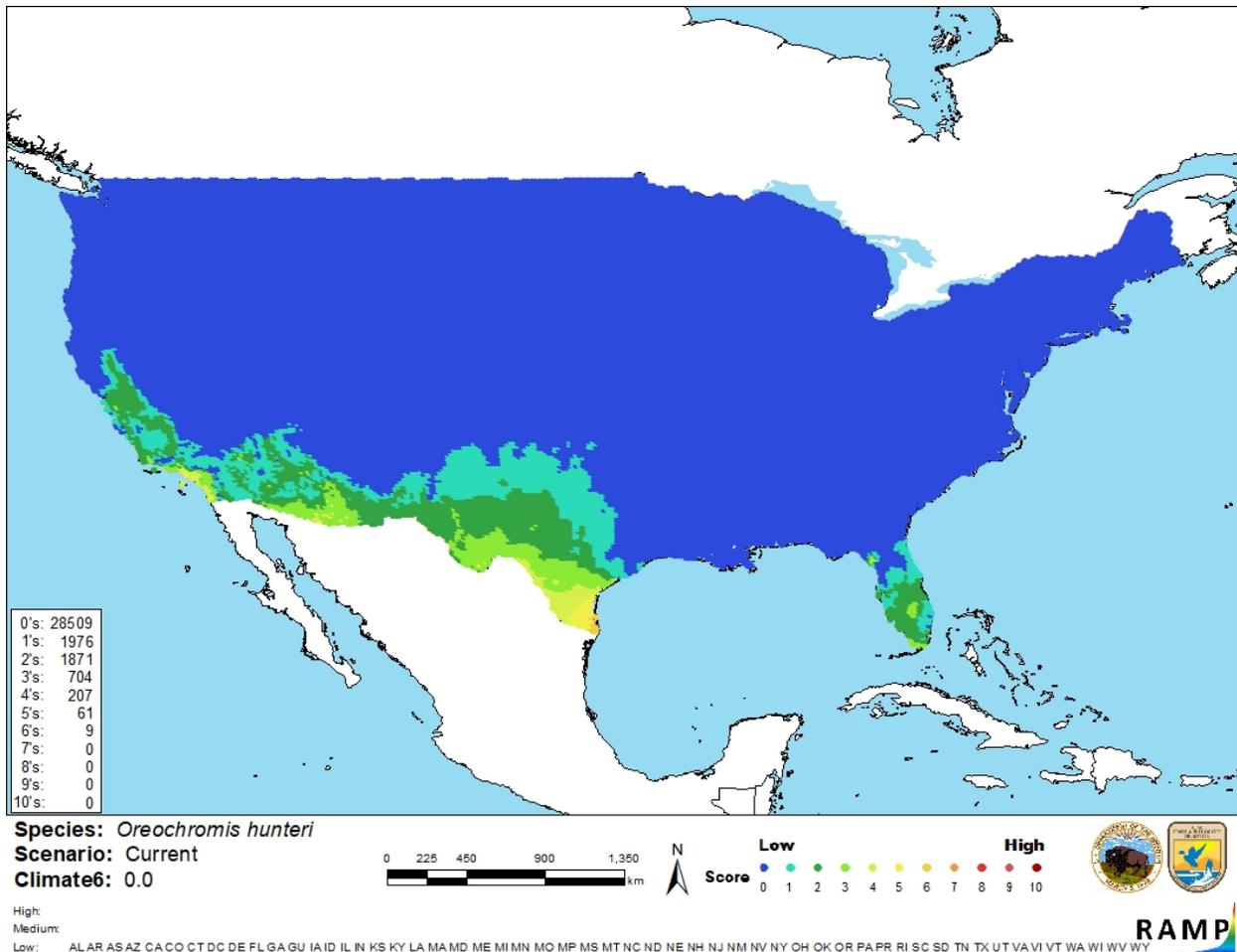


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Oreochromis hunteri* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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

8 Certainty of Assessment

The certainty of assessment for *Oreochromis hunteri* is low. There was little general information available and only a single mention of an introduction. No information about the introduction was available.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Oreochromis hunteri is a species of tilapia that is endemic to Lake Chala. The history of invasiveness is classified as “No Known Nonnative Population.” A single record of introduction was found but no information was available beyond that it was introduced. *O. hunteri* has a low climate match to the contiguous United States. 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 information
- **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.

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Washington State Senate. 2019. Invasive/nonnative species. Washington Administrative Code, Chapter 220-640.

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.

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