

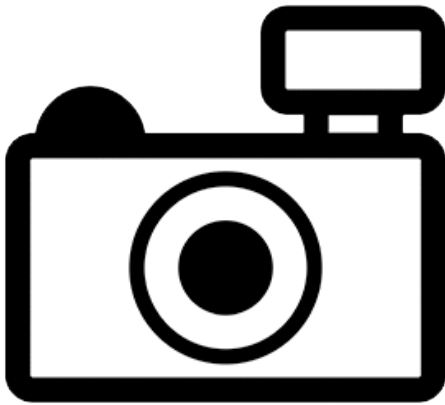
Fuelleborn's Labeo (*Labeo fuelleborni*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012

Revised, May 2018, June 2018

Web Version, 7/13/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: Lake Rukwa system [Tanzania] [Seegers 1996] and the Malagarasi River [Burundi] [David 1937; Seegers 1996].”

“Caught in Lake Rukwa system [Tanzania] in the lake itself and the very lower reaches of some rivers [Seegers 1996] such as the Luika River [Tanzania] [Ricardo 1939]. Reported from the Malagarazi River delta [Tanzania] [De Vos et al. 2001].”

“Reported from Lake Tanganyika [Democratic Republic of the Congo] [Reid 1985], but presence here is not confirmed [Seegers 1996].”

“Reported from Lake Edward and Lake George [Uganda] [Copley 1958; Reid 1985], but this is probably a misidentification [Seegers 1996].”

Status in the United States

No records of *Labeo fuelleborni* in the United States were found. *Labeo fuelleborni* was not found to be in trade in the United States. Another species, *Labeotropheus fuelleborni* is in trade marketed as Fuelleborn's Cichlid (i.e. Doctors Foster and Smith (2018) and AquariumFishSale (2018)) but this is a separate, valid species (Eschmeyer et al. 2018).

Means of Introductions in the United States

No records of *Labeo fuelleborni* 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), *Labeo fuelleborni* Hilgendorf and Pappenheim, 1903 is the current valid name for this species. *Labeo fuelleborni* was originally described as *Labeo victorianus fuelleborni* Hilgendorf and Pappenheim, 1903.

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Labeo*
Species *Labeo fuellebornii* Hilgendorf and Pappenheim, 1903”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 43.0 cm TL male/unsexed; [Seegers 1996]”

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: Lake Rukwa system [Tanzania] [Seegers 1996] and the Malagarasi River [Burundi] [David 1937; Seegers 1996].”

“Caught in Lake Rukwa system [Tanzania] in the lake itself and the very lower reaches of some rivers [Seegers 1996] such as the Luika River [Tanzania] [Ricardo 1939]. Reported from the Malagarazi River delta [Tanzania] [De Vos et al. 2001].”

“Reported from Lake Tanganyika [Democratic Republic of the Congo] [Reid 1985], but presence here is not confirmed [Seegers 1996].”

“Reported from Lake Edward and Lake George [Uganda] [Copley 1958; Reid 1985], but this is probably a misidentification [Seegers 1996].”

Introduced

No records of introductions of *Labeo fuelleborni* were found.

Means of Introduction Outside the United States

No records of introductions of *Labeo fuelleborni* were found.

Short Description

From Ricardo (1939):

“Depth of body $3\frac{1}{2}$ - 4 times in length, up to $4\frac{3}{4}$ times in young, length of head $4\frac{2}{3}$ - $4\frac{3}{4}$ times. Head $1\frac{1}{3}$ - $1\frac{1}{2}$ times as long as broad; snout rounded, sometimes with small horny warts, its length about $\frac{3}{7}$ - $\frac{1}{2}$ that of head; eye supero-lateral, almost lateral in young, in middle or slightly posterior to middle of head, $5\frac{3}{4}$ - $6\frac{1}{2}$ times in length of head; interorbital width slightly less to slightly greater. than $\frac{1}{2}$ length of head; width of mouth $\frac{3}{8}$ to just over $\frac{1}{2}$ length of head ; lips not distinctly fringed on the edge, with small papillae forming transverse plicae on inner side; rostral flap with entire

edge; a very small barbel hidden under folds of skin. Dorsal III-IV 9-11, usually III 10, equally distant from end of snout and from caudal, or rather nearer caudal, upper edge almost straight, slightly concave in young, last simple ray longest and a little longer than head. Anal III 5, not reaching root of caudal, longest ray nearly as long as head. Pectoral about as long as head, not reaching pelvic, the first ray of which falls under 5th branched ray of dorsal. Caudal deeply forked, outer rays about twice as long as median. Caudal peduncle as long as deep, slightly longer in young. Scales 35-37, usually 36, $\frac{5\frac{1}{2}-6\frac{1}{2}}{6\frac{1}{2}-7\frac{1}{2}}$, 4 between lateral line and root of pelvic, 16 round caudal peduncle. Dull greyish green above, lighter beneath, and sometimes nearly yellow; small specimens often with their fins pink at the tips.”

Biology

From Froese and Pauly (2018):

“Lives on the bottom [Eccles 1992]. Mud and vegetable debris found in stomach; caught near shores and in open water [Ricardo 1939]. Seems to feed mainly on aufwuchs and plants, but probably takes small animals such as insects as well; nothing is known about the breeding habits [Seegers 1996]. May ascend rivers to spawn [Eccles 1992] but this has not been reported [Seegers 1996].”

Human Uses

From Froese and Pauly (2018):

“Fisheries: commercial”

Diseases

No information on parasites or pathogens of *Labeo fuelleborni* was found.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Labeo fuelleborni* were found.

4 Global Distribution



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

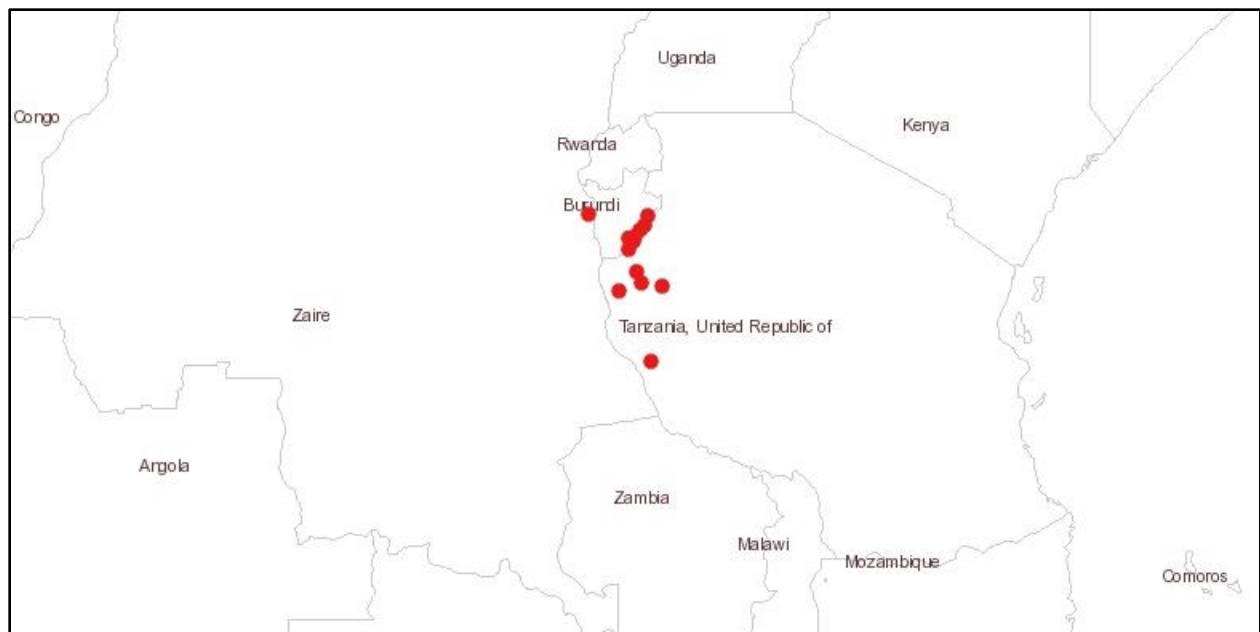


Figure 2. Additional known global distribution of *Labeo fuelleborni*. Locations are in Tanzania, Burundi, and Democratic Republic of the Congo. Map adapted from Froese and Pauly (2018).

The location in the Democratic Republic of the Congo was not included in the climate matching analysis because *L. fuelleborni* is not confirmed as established there.

5 Distribution Within the United States

No records of *Labeo fuelleborni* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Labeo fuelleborni* was generally low for the contiguous United States. The southern tips of Florida and Texas, and small areas of the southern Pacific Coast had a medium match; everywhere else was low. 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 0.000 to 0.005, inclusive. None of the contiguous United States had a high individual climate match score.

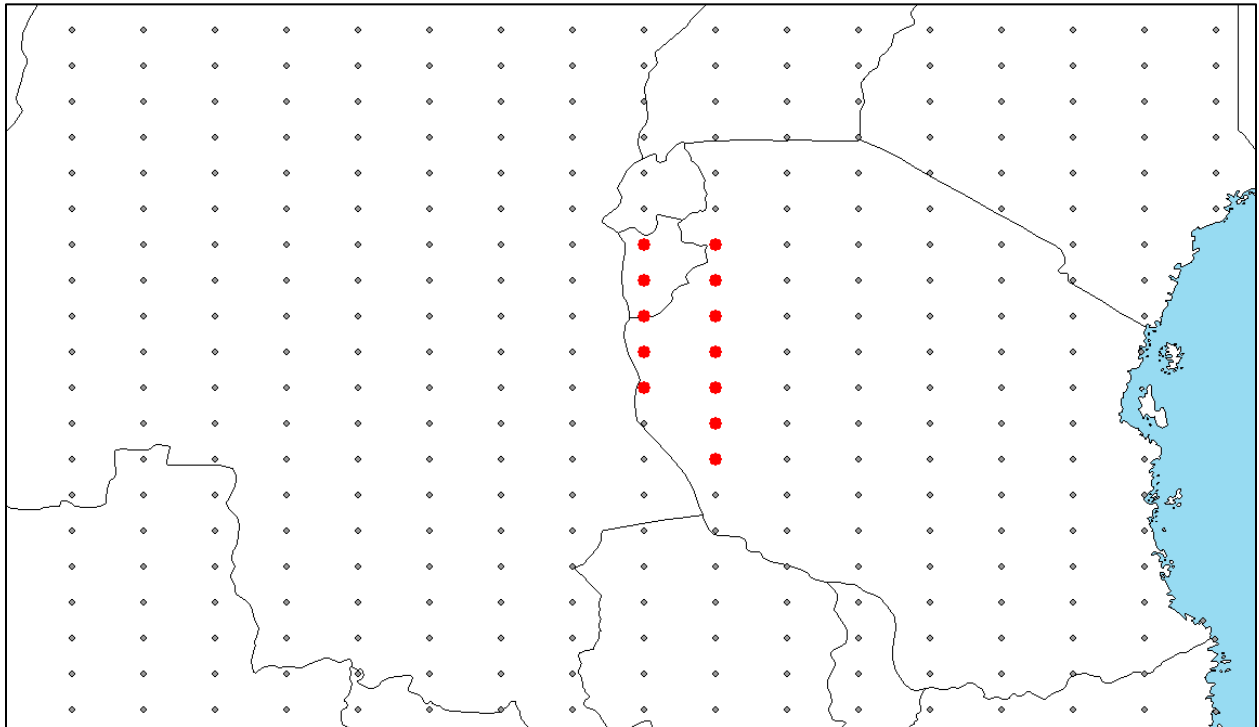


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations in Tanzania and Burundi selected as source locations (red) and non-source locations (gray) for *Labeo fuelleborni* climate matching. Source locations from Froese and Pauly (2018) and GBIF Secretariat (2018).

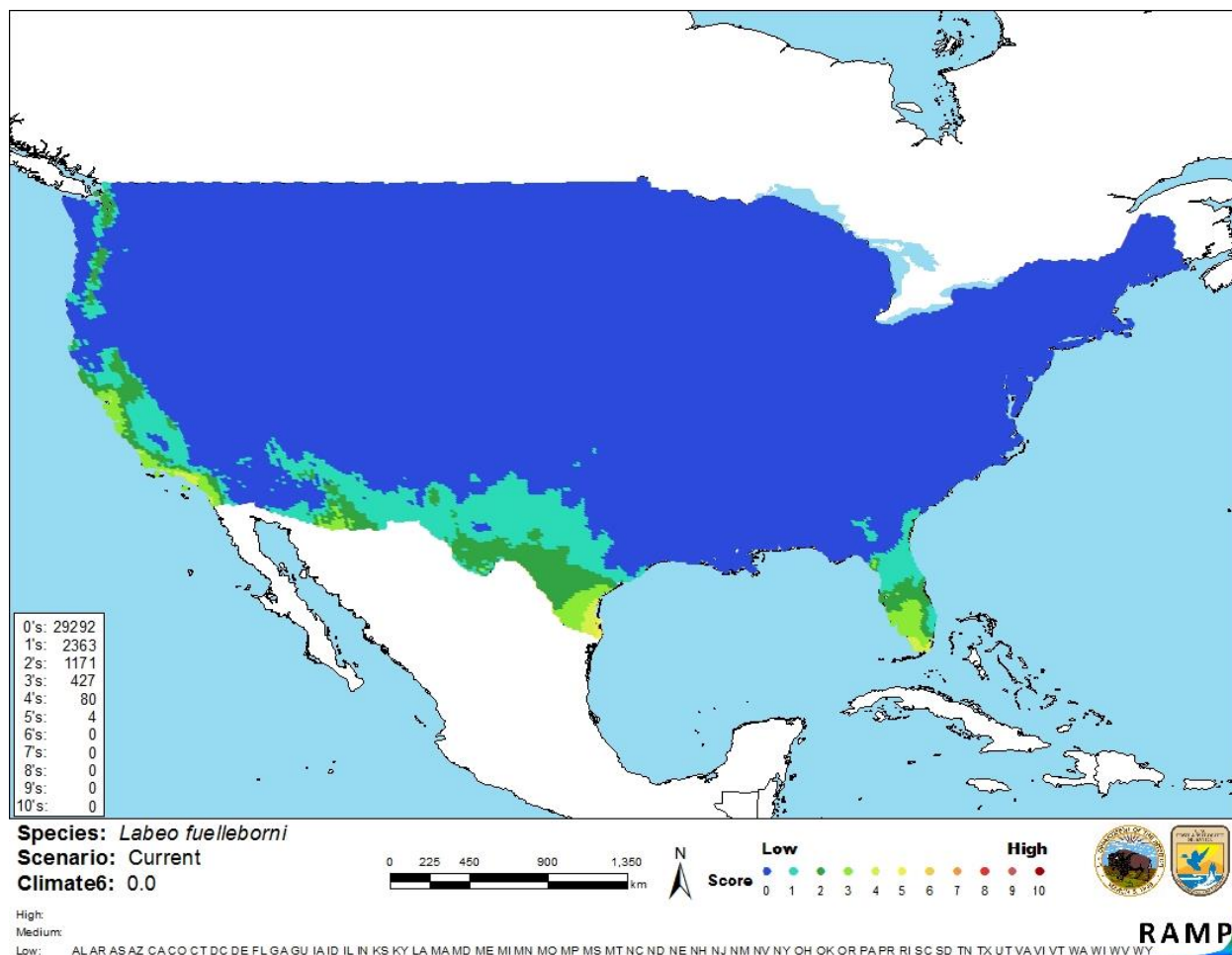


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Labeo fuelleborni* in the contiguous United States based on source locations reported by Froese and Pauly (2018) and GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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 is minimal information available for this species. Only one peer-reviewed paper was found that mentioned *Labeo fuelleborni*. No information on any introductions was found, so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Fuelleborn's Labeo (*Labeo fuelleborni*) is a cyprinid fish species with a native range limited to several interconnected lakes and associated drainages in the Rift Valley of east Africa.

L. fuelleborni is fished commercially where it is native. The history of invasiveness is uncertain. No information was found regarding introductions. The climate match was low and no states had high individual climate scores. The certainty of assessment is low. There is a general lack of information available for this species. 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.

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- 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>. (May 2018).
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- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Labeo fuelleborni* Hilgendorf and Pappenheim, 1903. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206080>. (May 2018).

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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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Eccles, D. H. 1992. FAO species identification sheets for fishery purposes. Field guide to the freshwater fishes of Tanzania. Prepared and published with the support of the United Nations Development Programme, Project URT/87/016. FAO, Rome.

Reid, G. M. 1985. A revision of African species of *Labeo* (Pisces: Cyprinidae) and a re-definition of the genus. Verlag von J. Cramer, Braunschweig, Germany.

Seegers, L. 1996. The fishes of the Lake Rukwa drainage. Annales du Musée Royal de l'Afrique Centrale: Sciences Zoologiques 278:1–407.