

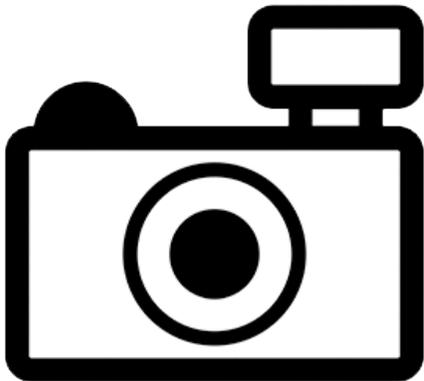
***Labeo luluae* (a carp, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, April 2012

Revised, April 2018

Web Version, 5/16/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: Lulua River (Kasai River drainage, middle Congo River basin) in Democratic Republic of the Congo [Tshibwabwa 1997]. Report from the Aruwimi [Tshibwabwa 1997] unconfirmed in [Decru 2015].”

From Moelants et al. (2010):

“*Labeo luluae* is only known from the holotype from the Lulua River and from one specimen caught on the Aruwimi River, Central Congo River basin (Tshibwabwa 1997). The species may be more widespread than is currently known.”

Status in the United States

This species has not been documented as introduced or established in the U.S. There is no indication that this species is in trade in the U.S.

Means of Introductions in the United States

This species has not been documented as introduced or established in the U.S.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

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 luluae* Fowler, 1930”

From Eschmeyer et al. (2018):

“Current status: Valid as *Labeo luluae* Fowler 1930. Cyprinidae: Labeoninae.”

Size, Weight, and Age Range

From Fowler (1930):

“Length 45 mm.”

From Froese and Pauly (2018):

“Max length : 3.2 cm SL male/unsexed; [Tshibwabwa 1997]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical; 4°N - 1°S”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: Lulua River (Kasai River drainage, middle Congo River basin) in Democratic Republic of the Congo [Tshibwabwa 1997]. Report from the Aruwimi [Tshibwabwa 1997] unconfirmed in [Decru 2015].”

From Moelants et al. (2010):

“*Labeo luluae* is only known from the holotype from the Lulua River and from one specimen caught on the Aruwimi River, Central Congo River basin (Tshibwabwa 1997). The species may be more widespread than is currently known.”

Introduced

This species has not been documented as introduced or established outside of its native range.

Means of Introduction Outside the United States

This species has not been documented as introduced or established outside of its native range.

Short Description

From Fowler (1930):

“Depth 5; head $3\frac{1}{8}$, width $1\frac{2}{3}$. Snout $2\frac{7}{8}$ in head; eye 4, $1\frac{2}{5}$ in snout, $1\frac{2}{5}$ in interorbital, not visible in view from under surface of head though well exposed as seen from view of upper surface; maxillary reaches $\frac{4}{5}$ to eye, length $2\frac{7}{8}$ in head; front barbel very short, less than $\frac{1}{2}$ of pupil, hind barbel largely concealed in maxillary groove, its length $\frac{2}{3}$ of eye; lips broad, fleshy, papillose; no distinct mental disk; interorbital 3 in head; sub orbitals very narrow. Gill rakers 8 + 28, subequal, lanceolate, $\frac{1}{3}$ of gill filaments, which $1\frac{1}{2}$ in eye.”

“Scales 32 in lateral line to caudal base and 2 more on latter; 4 above, 3 below, 10 predorsal; few scales on caudal base nearly large as others on body; chest and breast apparently scaleless. Scales with 20 or 21 marginal radiating apical striae, 15 or 16 short marginal basal striae; circuli moderate.”

“D. III, 9, I, first branched ray $1\frac{1}{4}$ in head; A. III, 6, I, first branched ray $1\frac{4}{5}$; caudal slightly longer than head, deeply emarginate; least depth of caudal peduncle $3\frac{1}{10}$ in head; pectoral $1\frac{2}{3}$; ventral $1\frac{3}{5}$.”

“Dusky olive brown generally, under surface of both head and body whitish. Iris slate. Lips and mouth disk whitish. Blackish band around end of snout about wide as pupil, crosses eye and opercle along side of body to caudal base, where more distinct though not ending in spots; its whole extent on body rather diffuse and ill defined. Both above and below scales all more or less

with dusky to blackish edges. Fins all more or less uniformly grayish or only with dusky shading terminally.”

From Froese and Pauly (2018):

“Vertebrae: 29”

Biology

No information available.

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

This species has not been documented as introduced or established outside of its native range.

4 Global Distribution

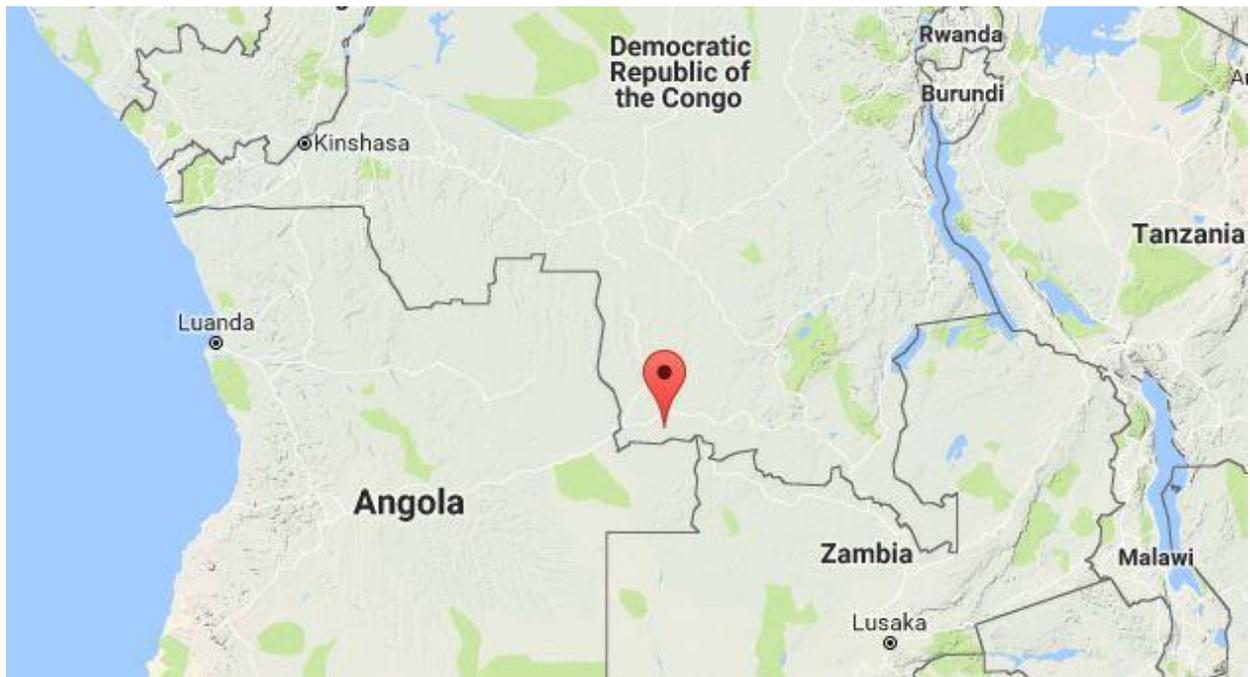


Figure 1. Known global distribution of *Labeo luluae*. Map from VertNet (2018).

5 Distribution Within the United States

This species has not been documented as introduced or established in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.0, which is a low climate match. The climate match was low across the entire contiguous U.S. except for small areas of southern Florida and Texas that had a medium climate match.

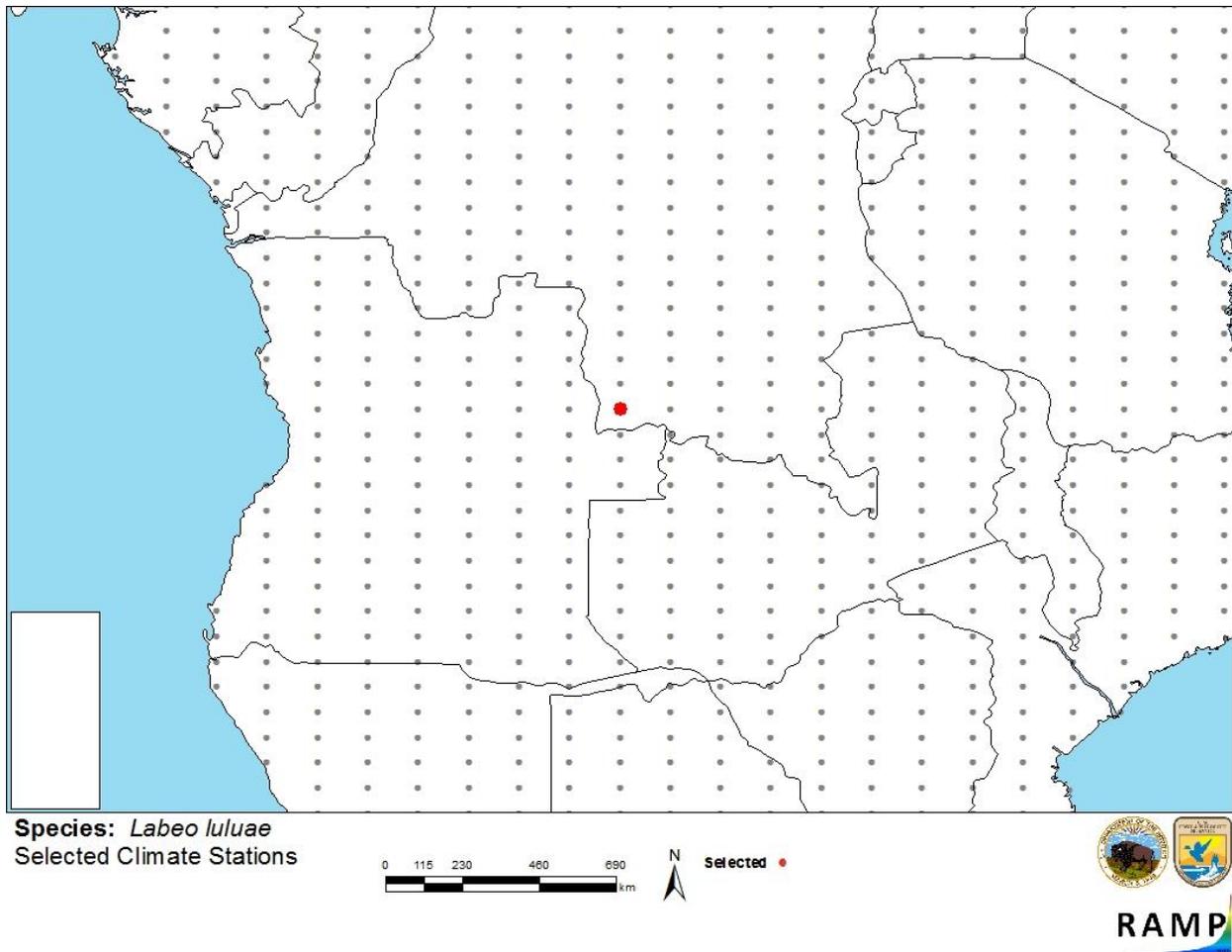


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in central Africa selected as source locations (red; Democratic Republic of the Congo) and non-source locations (gray) for *Labeo luluae* climate matching. Source locations from VertNet (2018).

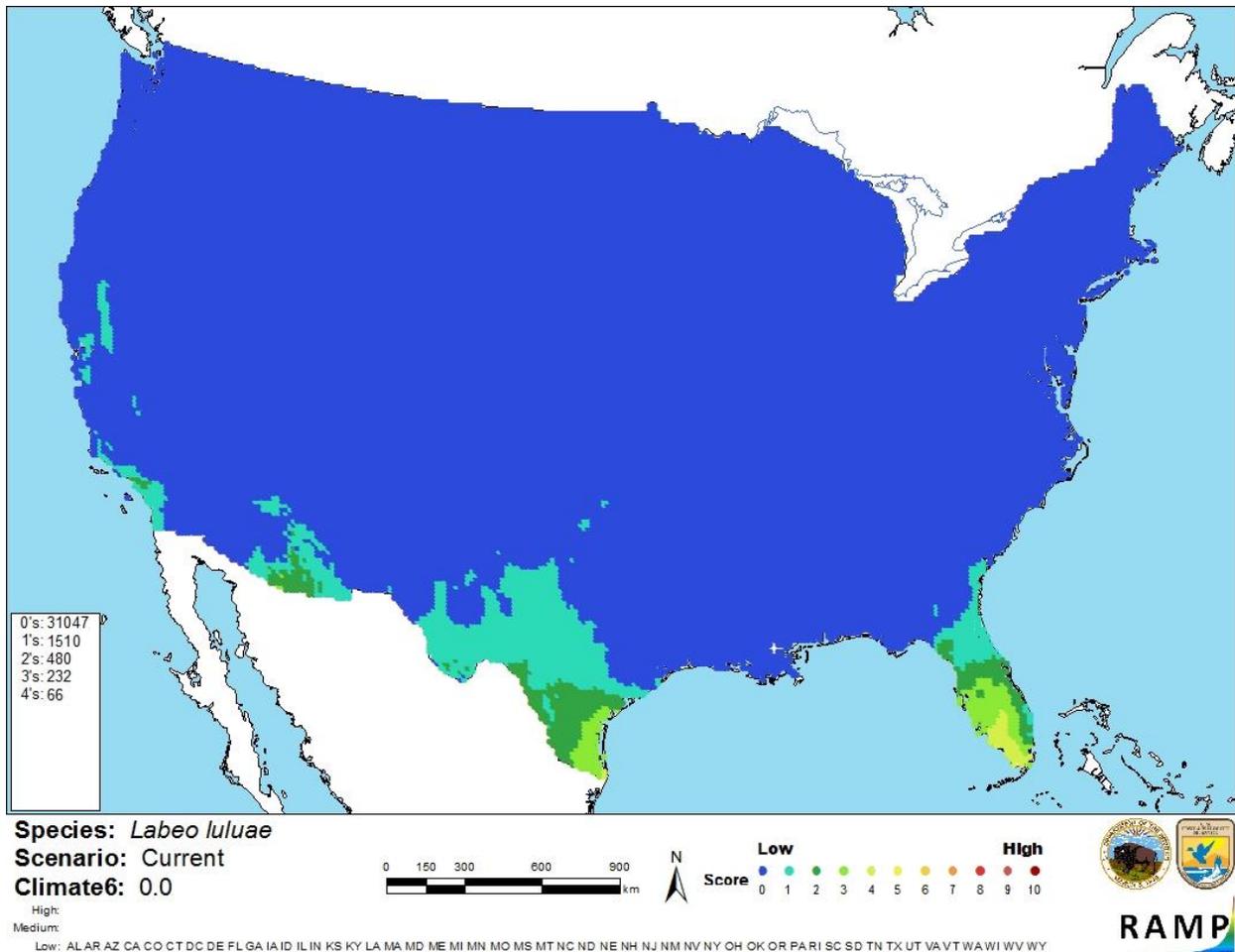


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo luluae* in the contiguous United States based on source locations reported by VertNet (2018). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

7 Certainty of Assessment

There is almost no information available about *Labeo luluae*. *L. luluae* is only known from two reports and there was only one species occurrence point on which to base the climate match. The species has never been reported as introduced outside of its native range, so there is no information available on impacts of introductions of this species on which to base an assessment of risk. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Labeo luluae is a freshwater cyprinid native to the Congo River basin. *L. luluae* is only known from the holotype and one additional report. This species has never been reported as introduced or established outside of its native range. *L. luluae* has a low climate match with the contiguous U.S. Further information is needed to adequately assess the risk this species poses, so the certainty of this 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**
- **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>. (April 2018).
- Fowler, H. W. 1930. The fresh-water fishes obtained by the Gray African Expedition: 1929. With notes on other species in the Academy collection. Proceedings of the Academy of Natural Sciences of Philadelphia 82:27-83.
- Froese, R., and D. Pauly, editors. 2018. *Labeo luluae* (Fowler, 1930). FishBase. Available: <http://www.fishbase.org/summary/Labeo-luluae.html>. (April 2018).
- ITIS (Integrated Taxonomic Information System). 2018. *Labeo luluae* (Fowler, 1930). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689309#null. (April 2018).
- Moelants, T., J. Snoeks, P. Laleye, and T. Contreras-MacBeath. 2010. *Labeo luluae*. The IUCN Red List of Threatened Species 2010: e.T169437A6627201. Available: <http://www.iucnredlist.org/details/169437/0>. (April 2018).
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

VertNet. 2018. VertNet. Available: <http://portal.vertnet.org/search?q=Labeo+luluae>. (April 2018).

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.

Decru, E. 2015. The ichthyofauna in the Central Congo basin: diversity and distribution in the north-eastern tributaries. KULeuven, Faculty of Science, Leuven, Belgium.

Tshibwabwa, S.M. 1997. Systématique des espèces africaines du genre *Labeo* (Teleostei, Cyprinidae) dans les régions ichtyogéographiques de Basse-Guinée et du Congo. II. Presses Universitaires de Namur, Namur, Belgium.