

Labeo macrostoma (a carp, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, April 2012

Revised, May 2018

Web Version, 6/15/2018

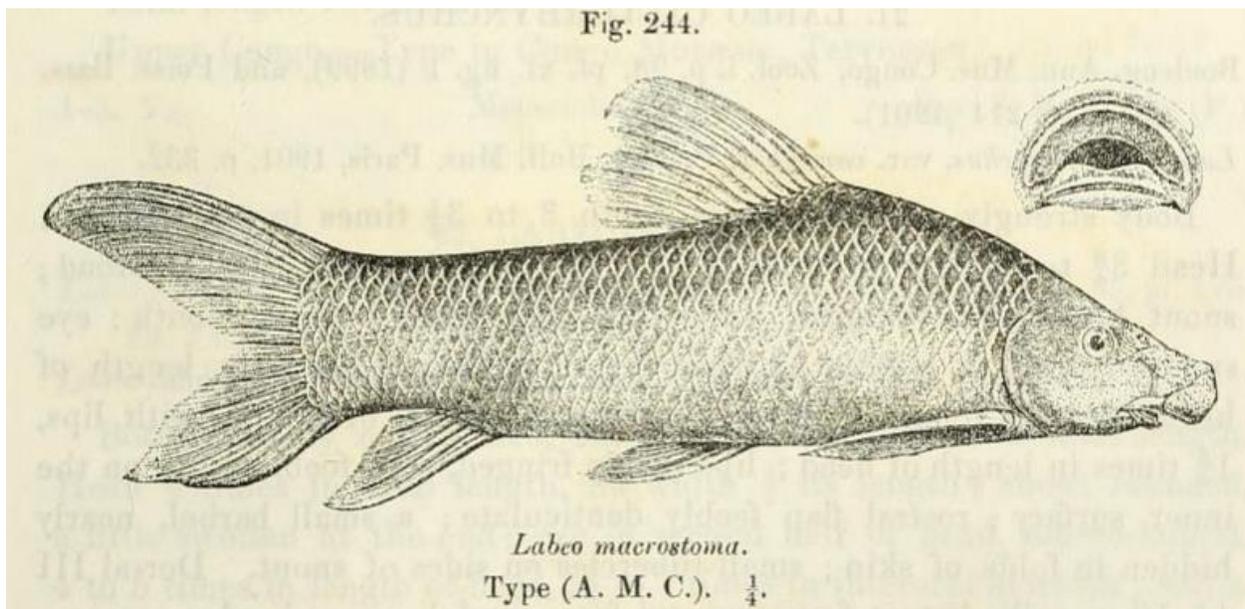


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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: lower Congo River basin in Democratic Republic of the Congo [Tshibwabwa 1997]. Also reported from Stanley-Pool [Lévêque and Daget 1984]. Other reports (Cameroon, Kwango and Kasai rivers in Angola, Aruwimi, middle Congo River and Kasai in Congo DR) are questionable and need confirmation.”

From Moelants (2010):

“*Labeo macrostoma* is known from the Lower Congo River basin and from Pool Malebo (Stanley Pool) [Democratic Republic of the Congo].”

Status in the United States

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

Means of Introductions in the United States

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

Remarks

Eschmeyer et al. (2018) mention *Labeo macrostomus* as a synonym of *L. macrostoma*. This synonym was used as a search term in seeking information for the ERSS, in addition to the accepted scientific name.

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 macrostoma* Boulenger, 1898”

From Eschmeyer et al. (2018):

“Current status: Valid as *Labeo macrostoma* Boulenger 1898. Cyprinidae: Labeoninae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 73.0 cm TL male/unsexed; [Lévêque and Daget 1984]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical; 0° - 10°S”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: lower Congo River basin in Democratic Republic of the Congo [Tshibwabwa 1997]. Also reported from Stanley-Pool [Lévêque and Daget 1984]. Other reports (Cameroon, Kwango and Kasai rivers in Angola, Aruwimi, middle Congo River and Kasai in Congo DR) are questionable and need confirmation.”

From Moelants (2010):

“*Labeo macrostoma* is known from the Lower Congo River basin and from Pool Malebo (Stanley Pool) [Democratic Republic of the Congo].”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Boulenger (1909):

“Body strongly compressed, its depth $3\frac{1}{5}$ to $4\frac{1}{2}$ times in total length. Head 4 to $4\frac{1}{3}$ times in total length, its width $\frac{2}{3}$ its length ; snout rather pointed, very prominent, swollen at the end in adult ; eye supero-lateral, in second half of head, 4 (young) to 6 times in length of head, 2 to 4 times in interorbital width ; width of mouth, with lips, $1\frac{2}{3}$ to 2 times in length of head ; upper lip entire, lower fringed with small papillae, both with transverse plicae on inner surface ; edge of rostral flap denticulate ; a minute barbel hidden under folds of skin ; snout of adult nearly entirely covered with spinose tubercles. Dorsal III 10, a little nearer caudal than end of snout, upper edge not or but feebly notched in adult, more distinctly in young, longest rays as long as or longer than head. Anal II 5. extending beyond root of caudal. Pectoral as long as head, not reaching ventral, the first ray of which is below 9th or 10th ray of dorsal. Caudal deeply forked. Caudal peduncle

nearly as long as deep. Scales 38-39 $\frac{6\frac{1}{2}-7\frac{1}{2}}{7\frac{1}{2}-8\frac{1}{2}}$, 4 between lateral line and root of ventral, 16-18 round caudal peduncle. Brown or dark purplish above, the scales edged with green ; dorsal and anal pink, pectorals and ventrals dark purple, caudal pale yellow at the base, pink at the end.”

From Froese and Pauly (2018):

“Dorsal soft rays (total): 9-10; Vertebrae: 32. Lips with transverse plicae on inner surface; upper edge of dorsal fin concave, eyes superolateral, snout very prominent and very large; two pairs of barbels present [Tshibwabwa and Teugels 1995].”

Biology

From Moelants (2010):

“*Labeo macrostoma* is a benthopelagic species that lives in fast flowing waters.”

From Froese and Pauly (2018):

“Mostly in rapid water habitats, e.g. cataracts of Yelala and Kinsuka [western Democratic Republic of the Congo].”

Human Uses

From Moelants (2010):

“This species is harvested for human consumption.”

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 reported as introduced or established outside of its native range.

4 Global Distribution

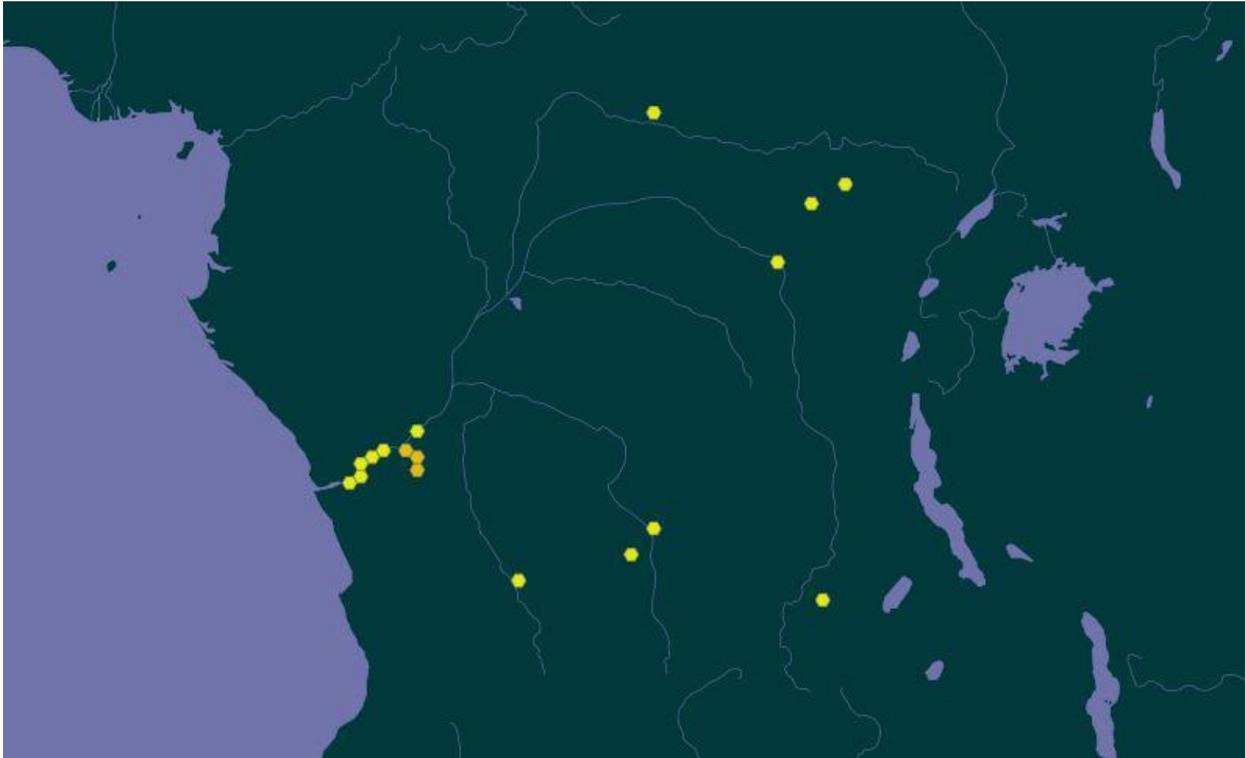


Figure 1. Known global distribution of *Labeo macrostoma*, reported from the Democratic Republic of the Congo and bordering areas of the Central African Republic and Angola. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

This species has not been reported 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 United States was 0.004, which is a low climate match. The range for a low climate match is from 0.0 to 0.005, inclusive. Most of peninsular Florida had a medium climate match, with the southern tip having a high match. The southern portions of Louisiana, Texas, Arizona and California had small areas of medium match. The only state with a high climate match, overall, was Florida; all other states had a low climate match.

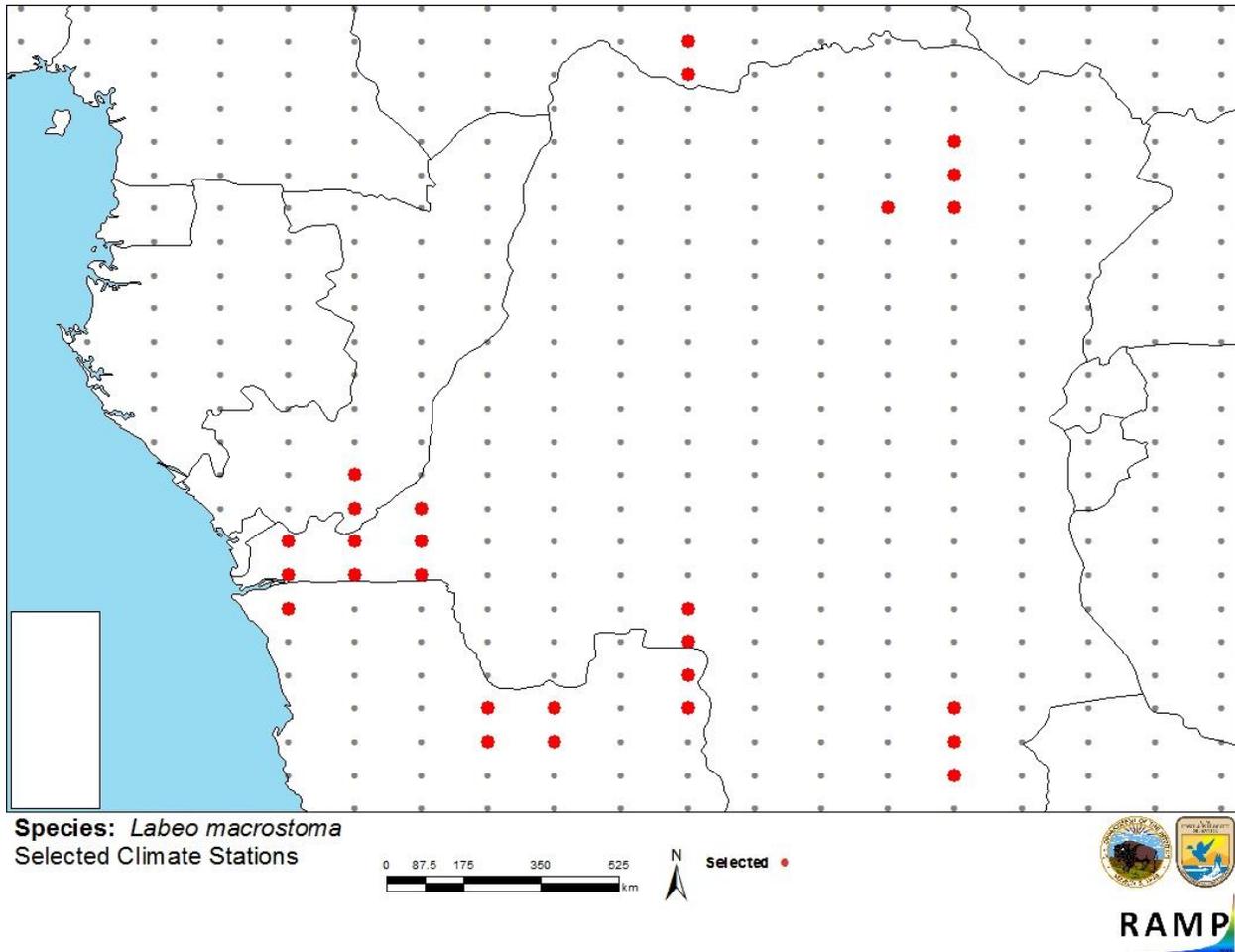


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Democratic Republic of the Congo, Republic of the Congo, Angola, Central African Republic) and non-source locations (gray) for *Labeo macrostoma* climate matching. Source locations from GBIF Secretariat (2018).

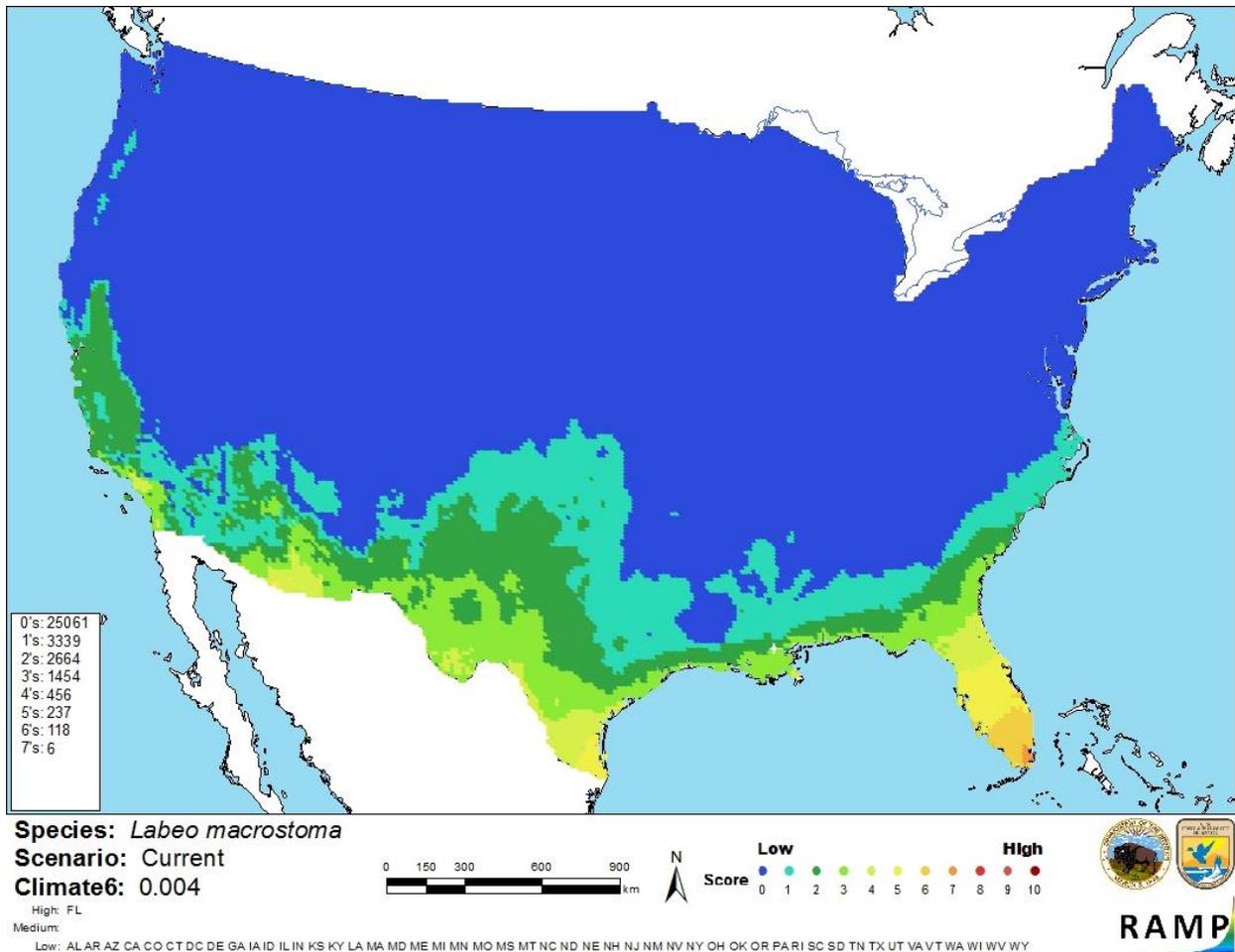


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo macrostoma* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

There is limited information available about *Labeo macrostoma*. This 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 from 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 macrostoma is a freshwater carp native to the Congo River basin in Africa.

L. macrostoma is used as a food fish. This species has never been reported as introduced or established outside of its native range. *L. macrostoma* has a low climate match with the contiguous U.S., with the area of highest match located in Florida. There is limited information available on the biology of this species. 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.

Boulenger, G. A. 1909. Catalogue of the fresh-water fishes of Africa in the British Museum (Natural History). Taylor and Francis, London.

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 macrostoma*, Boulenger, 1898. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206118>. (May 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo macrostoma* (Boulenger, 1898). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689312#null. (May 2018).

Moelants, T. 2010. *Labeo macrostoma*. The IUCN Red List of Threatened Species 2010: e.T181808A7740445. Available: <http://www.iucnredlist.org/details/181808/0>. (May 2018).

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. 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.

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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.

Tshibwabwa, S. M., and G. G. Teugels. 1995. Contribution to the systematic revision of the African cyprinid fish genus *Labeo*: species from the Lower Zaire river system. Journal of Natural History 29:1543-1579.