

Labeo lineatus (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

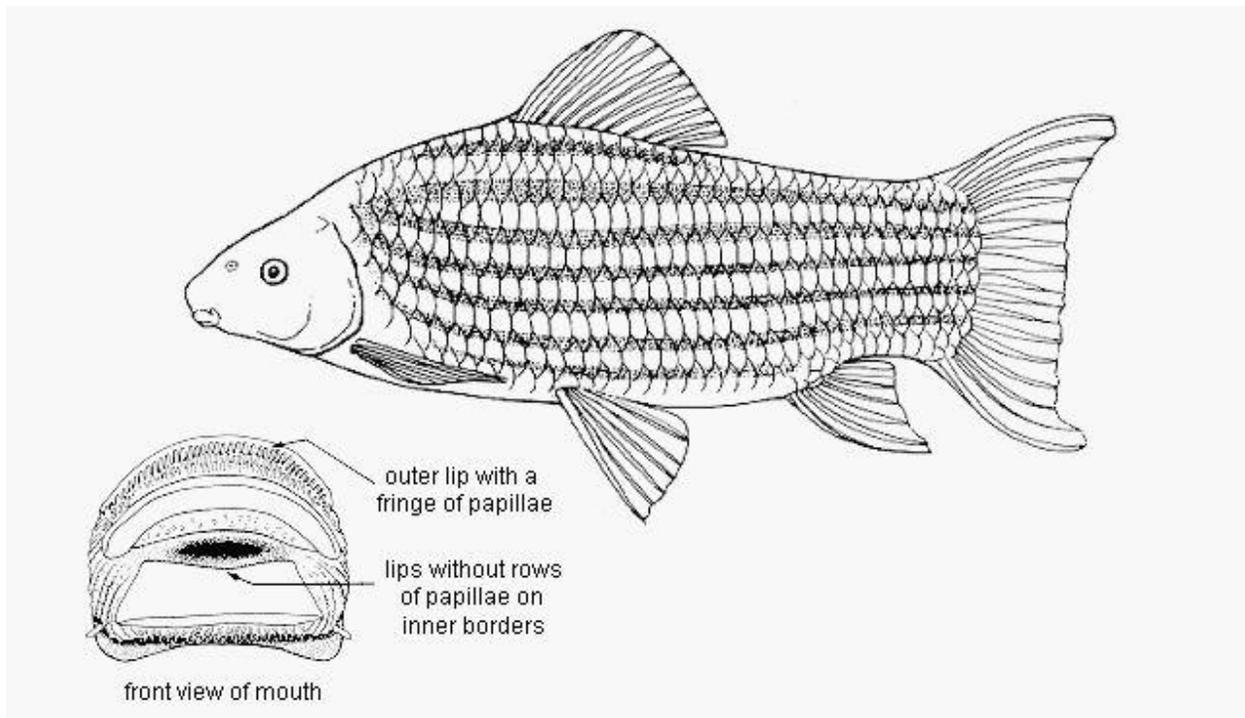


Image: D. H. Eccles, FAO. Licensed under CC BY-NC 3.0. Available: <http://www.fishbase.se/photos/PicturesSummary.php?StartRow=1&ID=11553&what=species&TotRec=3>. (April 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: widespread in the Congo River basin, Luapula and Mweru excluded [Lévêque and Daget 1984, Tshibwabwa 1997].”

Froese and Pauly (2018) report *L. lineatus* as native in the following countries: Angola, Cameroon, Central African Republic, Republic of the Congo, and 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 U.S.

Means of Introductions in the United States

This species has not been reported 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 lineatus* Boulenger, 1898”

From Eschmeyer et al. (2018):

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

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 78.0 cm TL male/unsexed; [Lévêque and Daget 1984]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: widespread in the Congo River basin, Luapula and Mweru excluded [Lévêque and Daget 1984, Tshibwabwa 1997].”

Froese and Pauly (2018) report *L. lineatus* as native in the following countries: Angola, Cameroon, Central African Republic, Republic of the Congo, and 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 to $3\frac{1}{2}$ times in total length. Head 4 to 5 times in total length, its width about $\frac{2}{3}$ its length ; snout rounded ; eye perfectly lateral, in middle of head or a little nearer posterior border, $3\frac{1}{2}$ (young) to 6 times in length of head, 2 to $4\frac{1}{2}$ times in interorbital width ; width of mouth, with lips, $2\frac{2}{3}$ to 3 times in length of head ; both lips with several rows of conical papillae, the outer forming a fringe ; edge of rostral flap entire or feebly denticulate ; a minute barbel, more or less hidden under folds of skin ; tubercles on snout, or their pore-like scars, small, if present. Dorsal III 9-12, equally distant from snout or eye and from caudal, upper edge not or but feebly notched, usually a little convex, longest ray as long as or a little longer than head. Anal II-III 5, reaching, or nearly reaching, root of caudal. Pectoral nearly as long as head, not reaching ventral, the first ray of which falls below 2nd, 3rd, or 4th branched ray of dorsal. Caudal emarginate, crescentic. Caudal peduncle deeper than long. Scales 36-37 $\frac{5\frac{1}{2}-6\frac{1}{2}}{5\frac{1}{2}-6\frac{1}{2}}$, 3 between lateral line and root of ventral, 16-18 round caudal peduncle. Body striped with dark green and pink, the pink occupying the middle of each scale ; belly white ; fins olive ; young with sharply defined dark longitudinal lines on the body and a large black spot at the base of the caudal fin.”

Biology

From Moelants (2010):

“It inhabits lakes and larger rivers (Eccles 1992). *Labeo lineatus* is [sic] lives over mud bottoms close to sand banks. The adults are often captured over sandy bottoms in deep water (Tshibwabwa 1997).”

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 lineatus*, reported from central Africa. 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 U.S. was 0.005, which is a low climate match. The only state with a high climate match was Florida; all other states had a low climate match score. There was a very low climate match across most of the contiguous U.S. The far southern U.S. had a slightly higher climate match. The climate match along the Gulf Coast and peninsular Florida was low to medium, with the exception of southern Florida, which was medium to high.

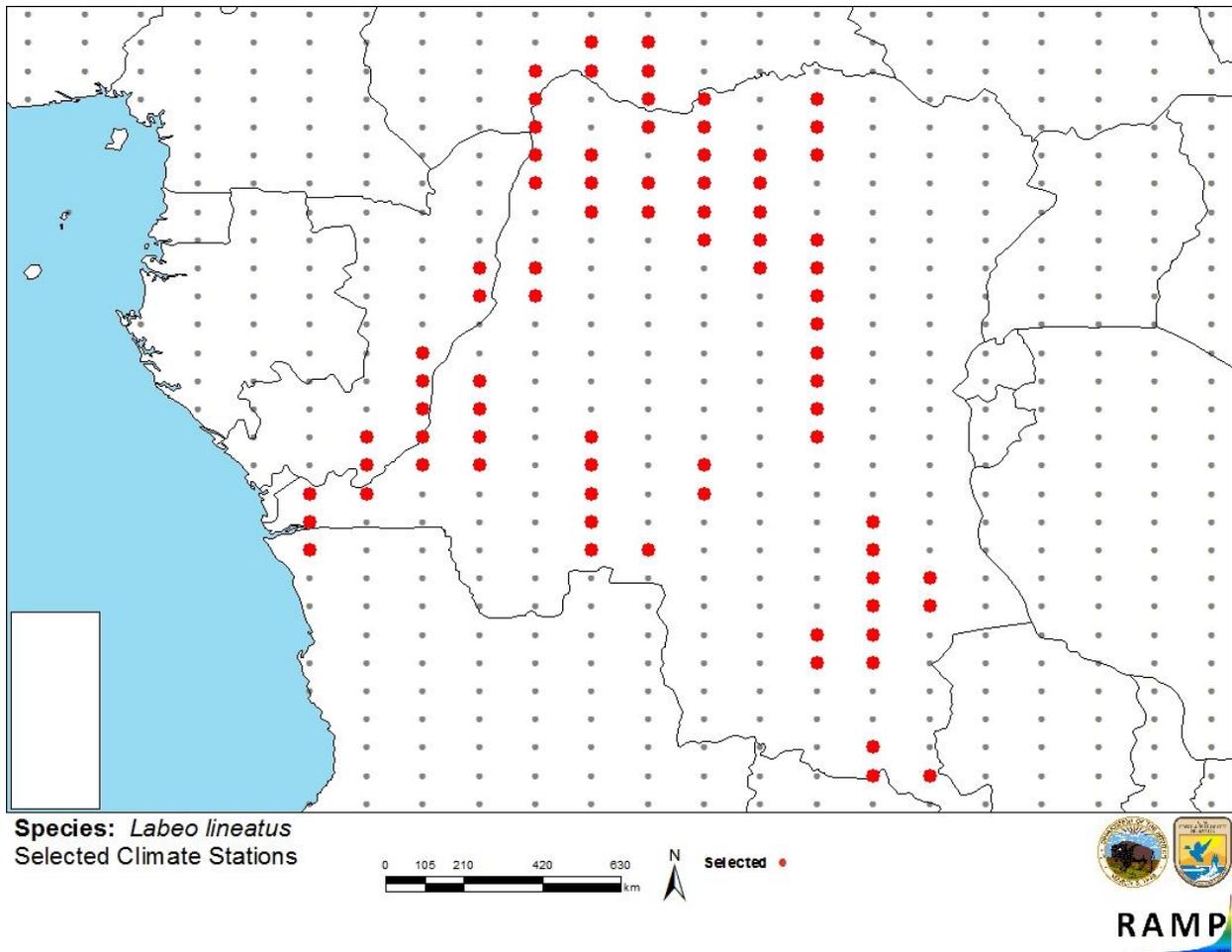


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in west-central Africa selected as source locations (red; Angola, Central African Republic, Democratic Republic of the Congo, Republic of the Congo) and non-source locations (gray) for *Labeo lineatus* climate matching. Source locations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

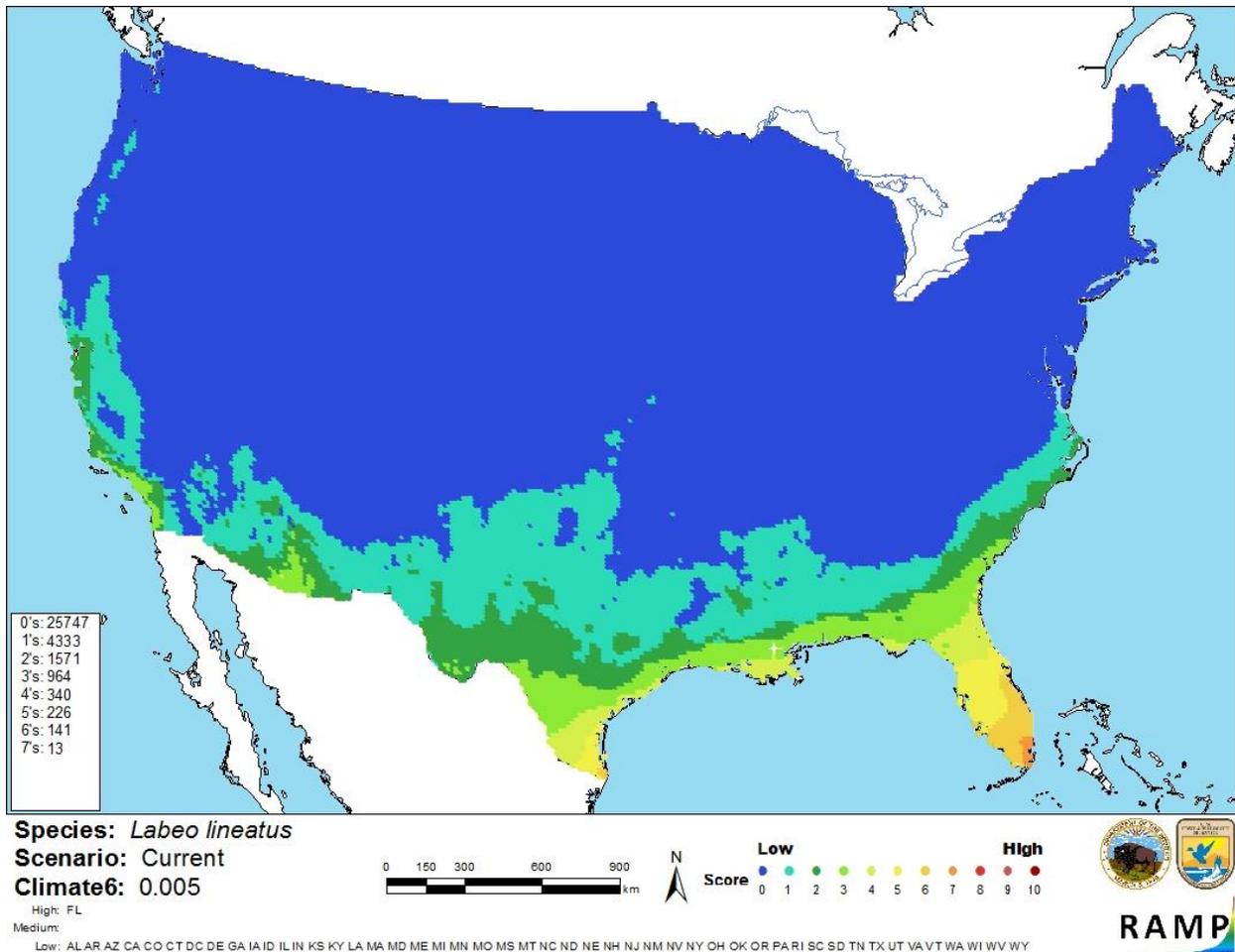


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo lineatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 limited information available about *Labeo lineatus*. 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 lineatus is a freshwater cyprinid native to the Congo River basin. *L. lineatus* is used as a food fish. This species has never been reported as introduced or established outside of its native range. *L. lineatus* has a low climate match with the contiguous United States. 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>. (April 2018).

Froese, R., and D. Pauly, editors. 2018. *Labeo lineatus* (Boulenger, 1898). FishBase. Available: <http://www.fishbase.se/summary/Labeo-lineatus.html>. (April 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Labeo lineatus*, Boulenger, 1898. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206026>. (April 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo lineatus* (Boulenger, 1898). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689305#null. (April 2018).

Moelants, T. 2010. *Labeo lineatus*. The IUCN Red List of Threatened Species 2010: e.T61307A12458725. Available: <http://www.iucnredlist.org/details/61307/0>. (April 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.

Eccles. 1992. [Source material did not give full citation for this reference].

Lévêque, C., and J. Daget. 1984. Cyprinidae. Pages 217-342 *in* J. Daget, J.-P. Gosse, and D. F. E. Thys van den Audenaerde, editors. Check-list of the freshwater fishes of Africa (CLOFFA), volume 1. ORSTOM, Paris and MRAC, Tervuren, Belgium.

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