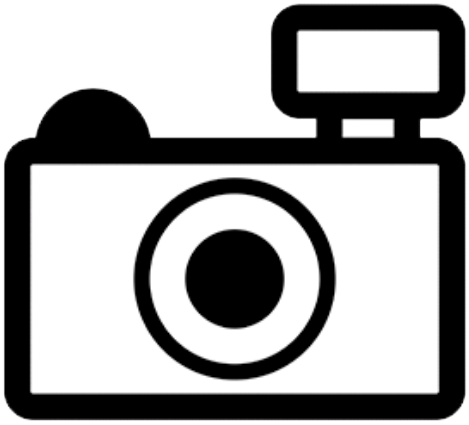
Labeo greenii (a carp, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, March 2012
Revised, May 2018, June 2018
Web Version, 7/12/2018



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"Africa: Congo River basin, from the lower Congo River up to the Lualaba, in Democratic Republic of the Congo, Central African Republic and Angola [Tshibwabwa 1997]. Record from the Sanaga [Reid 1985] doubtfull and unconfirmed [Tshibwabwa 1997, De Weirdt et al 2007]."

From Moelants (2010):

"*Labeo greenii* is found throughout the drainage basin of the Congo River (Tshibwabwa 1997). Hitherto, thought to be restricted to the upper Congo but now recorded from rapid water habitats of the Lower Congo (Holly 1927). Specimens from the Sanaga River have been identified as *Labeo greenii* by Holly, 1927 and by Thys van den Audenaerde, 1970.These results have not been published though and are probably misidentifications (Reid, G. Mc., pers. comm.)."

Status in the United States
No records of *Labeo greenii* occurrences in the United States were found.
No information on trade of *L. greenii* in the United States was found.

Means of Introductions in the United States
No records of *Labeo greenii* occurrences 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 grennii* Boulenger, 1902 is the valid name for this species; it is also the original name.

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* Cuvier, 1816
Species *Labeo greenii* Boulenger, 1902"

Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 27.0 cm TL male/unsexed; [Lévêque and Daget 1984]."

Environment
From Froese and Pauly (2018):

"Freshwater; benthopelagic. […] "

Climate/Range
From Froese and Pauly (2018):

"Tropical; 7°N - 10°S"

Distribution Outside the United States
Native
From Froese and Pauly (2018):

"Africa: Congo River basin, from the lower Congo River up to the Lualaba, in Democratic Republic of the Congo, Central African Republic and Angola [Tshibwabwa 1997]. Record from the Sanaga [Reid 1985] doubtfull and unconfirmed [Tshibwabwa 1997, De Weirdt et al 2007]."

From Moelants (2010):

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Introduced
No records of *Labeo greenii* introductions were found.

Means of Introduction Outside the United States
No records of *Labeo greenii* introductions were found.

Short Description
From Froese and Pauly (2018)"

"Dorsal soft rays (total): 10; Vertebrae: 32. Lips with transverse plicae on inner surface; dorsal fin falciform; two small pairs of barbels present, generally hidden; eyes superolateral; a big dark brown spot found on the caudal peduncle and on the squamous caudal fin. Can be distinguished from *L. falcipinnis* by the presence of a furrow on the snout and from *L. parvus* by more numerous lateral line scales [Tshibwabwa and Teugels 1995]."

Biology
No information on the biology of *Labeo greenii* was found.

Human Uses
From Moelants (2010):

"This species is harvested for human consumption."

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

Threat to Humans
From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions

No records of *Labeo greenii* introductions were found.

4 Global Distribution

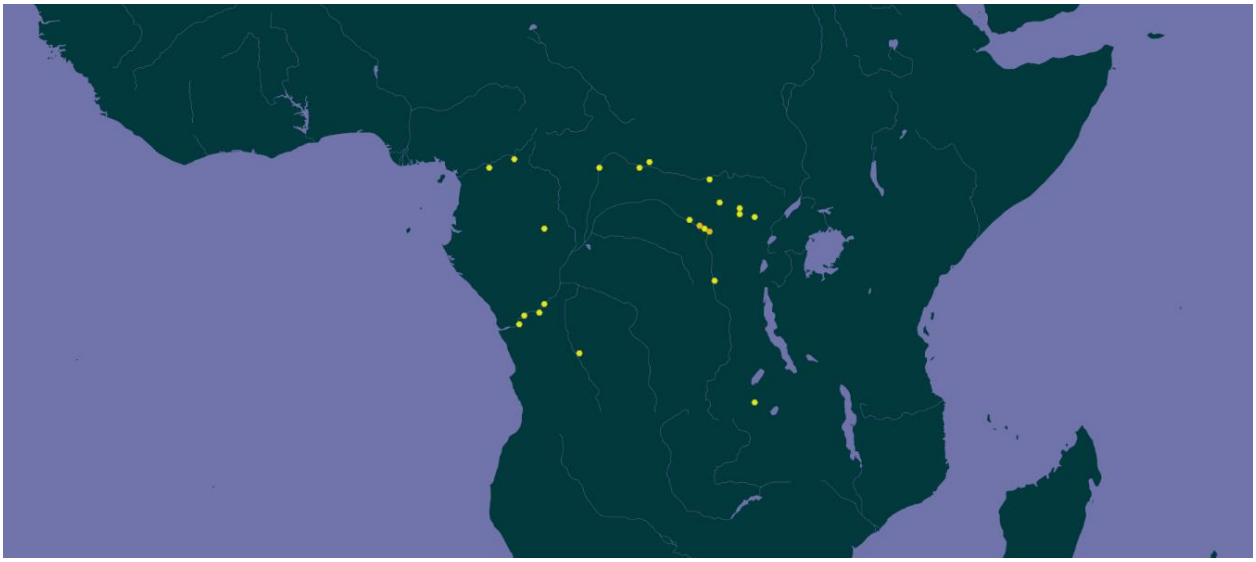

Figure 1. Known global distribution of *Labeo greenii*. Locations are in Cameroon, Central African Republic, Republic of the Congo, Democratic Republic of the Congo, Angola, and Zambia. Map from GBIF Secretariat (2018).

Froese and Pauly (2018) suggests that source point locations in the Sanaga River, Cameroon (the two most northwestern points) are not reliable and have been removed for climate matching.

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Labeo greenii* was low for most of the contiguous United States with a small patch of high match in southern Florida and medium match along the southeast coast from Florida to Texas. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.004, low. The range for a low climate match is from 0.000 to 0.005, inclusive. Florida had a high individual climate score.

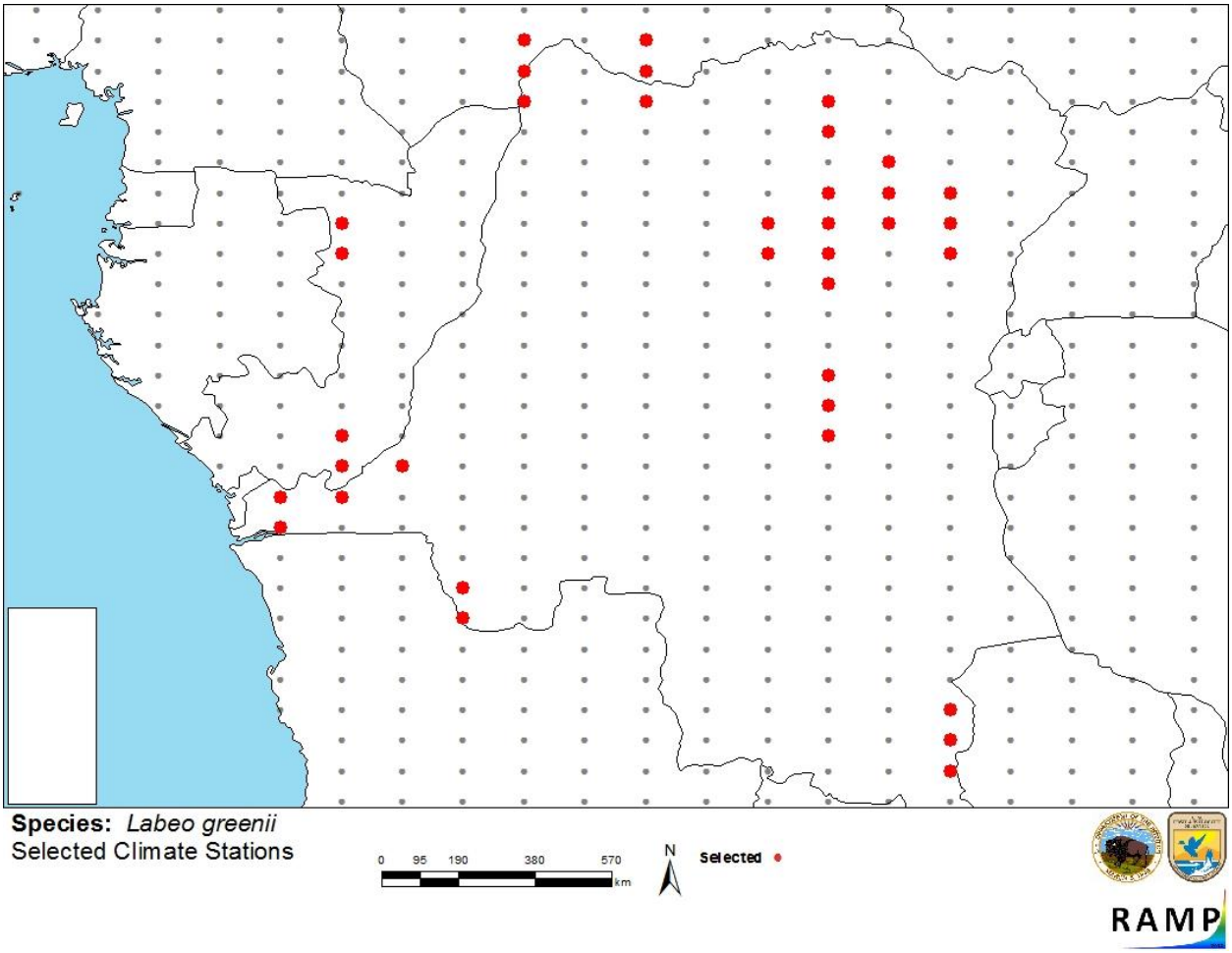

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in central Africa selected as source locations (red; Angola, Central African Republic, Republic of the Congo, Democratic Republic of the Congo) and non-source locations (gray) for *Labeo greenii* climate matching. Source locations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

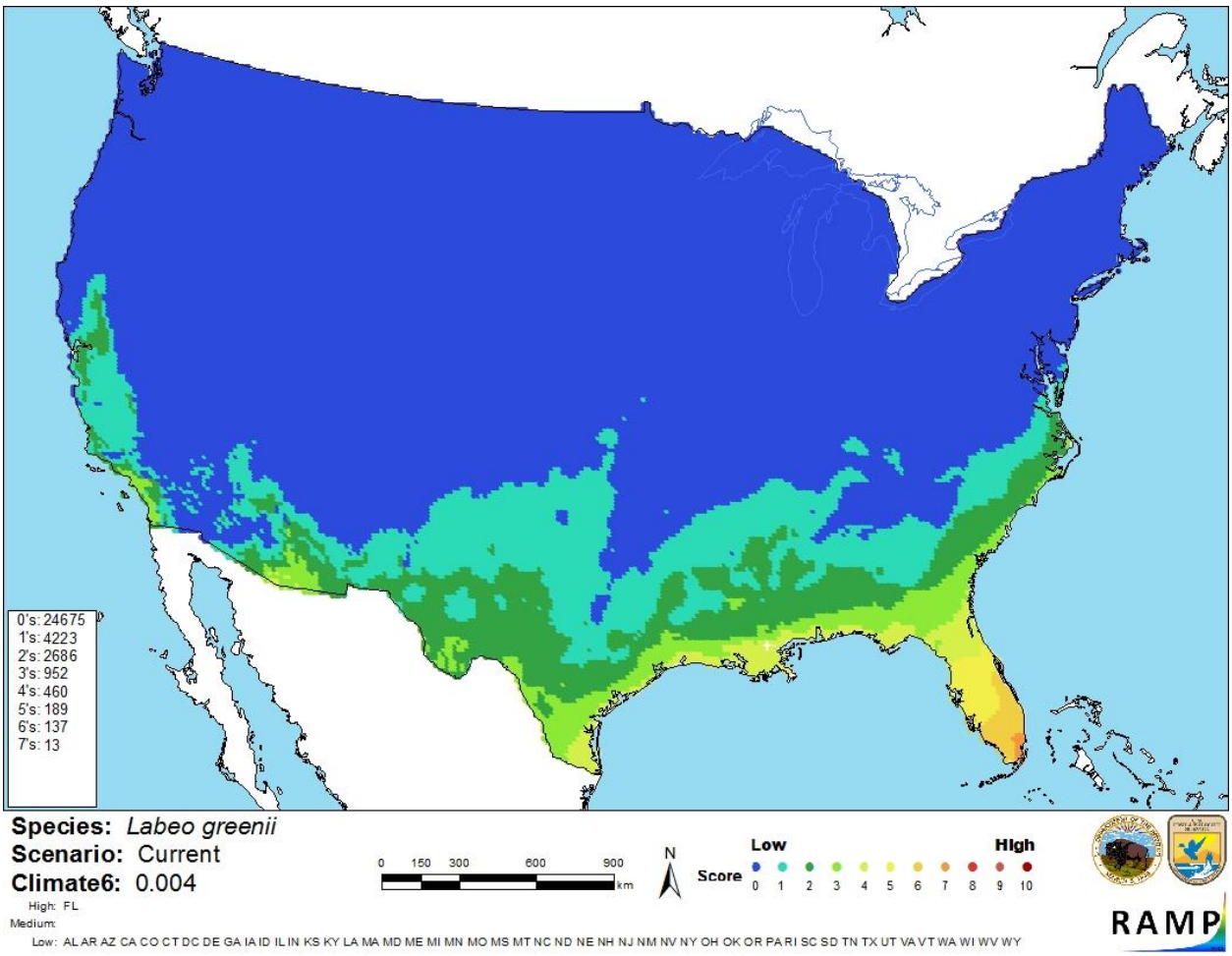

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo greenii* in the contiguous United States based on source locations reported by Froese and Pauly (2018) and GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

The certainty of this assessment is low. There is a lack of information on the biology of *Labeo greenii* and a lack of peer-reviewed literature regarding it. No introductions of this species have been reported, so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Labeo greenii is a fish species with a native range limited to the Congo River Drainage Basin in the tropics of central Africa. *L. greenii* is harvested for human consumption. The history of invasiveness is uncertain, as it has not been reported as introduced or established outside of its native range. The climate match analysis resulted in a low match for the contiguous United States with only Florida having a high match. 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**
- **Remarks/Important additional information:** No additional remarks.
- **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. (May 2018).

Froese, R., and D. Pauly, editors. 2018. *Labeo greenii* (Boulenger, 1902). FishBase. Available: http://www.fishbase.org/summary/Labeo-greenii.html. (May 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Labeo greenii* (Boulenger, 1902). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/5206066. (May 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo greenii* (Boulenger, 1902). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689297. (May 2018).

Moelants, T. 2010. *Labeo greenii*. The IUCN Red List of Threatened Species 2010: e.T181628A7692391. Available: http://www.iucnredlist.org/details/full/181628/0. (May 2018).

Sanders, S., C. Castiglione, and M. 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.

Boulenger, G. A. 1902. Additions à la faune ichthyologique de bassin du Congo. Matériaux pour la faune du Congo. Annales du Musee du Congo 2(2):19–57.

De Weirdt, D., A. Getahun, S. Tshibwabwa, and G. G. Teugels. 2007. Cyprinidae. Pages 466–572 *in* M. L. J. Stiassny, G. G. Teugels, and C. D. Hopkins, editors. The fresh and brackish water fishes of Lower Guinea, West-Central Africa, volume 1. Collection Faune et Flore tropicales 42. Institut de Recherche pour le Développement, Paris, France, Muséum National d'Histoire Naturelle, Paris, France, and Musée Royal de l'Afrique Centrale, Tervuren, Belgium.

Holly. 1927. [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). ORSTOM, Paris, and MRAC, Tervuren, Belgium.

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.

Thys van den Audenaerde. 1970. [Source material did not give full citation for this reference.]

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, Belgique.

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.