

Harlequin Sharkminnow (*Labeo cyclorhynchus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, April 2012

Revised, March 2018

Web Version, 6/6/2018



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http://eol.org/data_objects/13243329. (March 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“Africa: lower and middle Congo River basin in Democratic Republic of the Congo and Central African Republic, and in the Ogowe river in Gabon [Tshibwabwa 1997].”

From Moelants (2010):

“*Labeo cyclorhynchus* is known from throughout the Lower Congo River basin, from Pool Malebo (Stanley Pool) and from the Central Congo River basin, including the Ubangui River. It is also known from just above the Wagenia Falls (Stanley Falls).”

Status in the United States

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

From Bluegrass Aquatics (2017):

“Variegated African Labeo Shark REGULAR [...] OUT OF STOCK \$23.97”

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 cyclorhynchus* Boulenger, 1899”

From Eschmeyer et al. (2018):

“Current status: Valid as *Labeo cyclorhynchus* Boulenger 1899. Cyprinidae: Labeoninae.”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 16.0 cm TL male/unsexed; [Lévêque and Daget 1984]”

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic. [...] 21°C - 27°C [Baensch and Riehl 1985; assumed to be recommended aquarium temperature range]”

Climate/Range

From Froese and Pauly (2017):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“Africa: lower and middle Congo River basin in Democratic Republic of the Congo and Central African Republic, and in the Ogowe river in Gabon [Tshibwabwa 1997].”

From Moelants (2010):

“*Labeo cyclorhynchus* is known from throughout the Lower Congo River basin, from Pool Malebo (Stanley Pool) and from the Central Congo River basin, including the Ubangui River. It is also known from just above the Wagenia Falls (Stanley Falls).”

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 Tshibwabwa et al. (2006):

“(Note: numbers in parenthesis indicate value most commonly observed)”

“Usually 12 branched dorsal fin rays, dorsal fin deeply concave; maxillary barbels large, visible at the corners of the mouth; body variegated or uniformly dark brown (sometimes vague stripes present on the flanks); snout large and rounded; scale formula: 36–38 (37); $5^{1/2}$ – $7^{1/2}$ ($6^{1/2}$); 4–5 (5); 16–21 (16)”

From Froese and Pauly (2007):

“Dorsal soft rays (total): 12; Vertebrae: 31 - 32. Lips with transverse plicae; the upper edge of dorsal fin falciform or deeply concave; two pairs of well-developed barbels present [Tshibwabwa and Teugels 1995].”

Biology

No information available.

Human Uses

From Moelants (2010):

“This species is harvested for human consumption.”

From Froese and Pauly (2017):

“Aquarium: commercial”

This species may be in trade in the U.S.

From Bluegrass Aquatics (2017):

“Variegated African Labeo Shark REGULAR [...] OUT OF STOCK \$23.97”

Diseases

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

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution

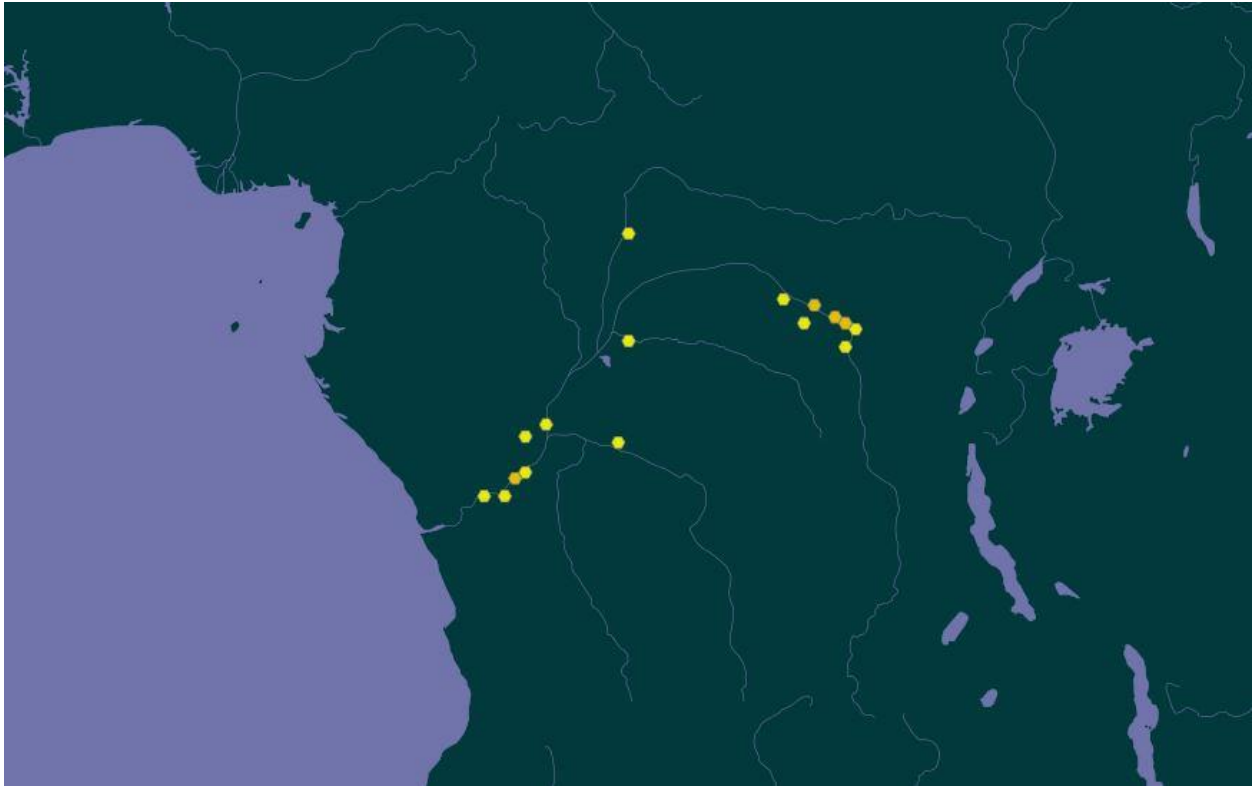


Figure 1. Known global distribution of *Labeo cyclorhynchus*, reported from the Democratic Republic of the Congo. Map from GBIF Secretariat (2018).

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 0.001, which is a low climate match. In general, the entire contiguous U.S. had a low climate match, but along the Gulf Coast there was a small area of medium-low climate match. Florida was the only State with a medium climate match.

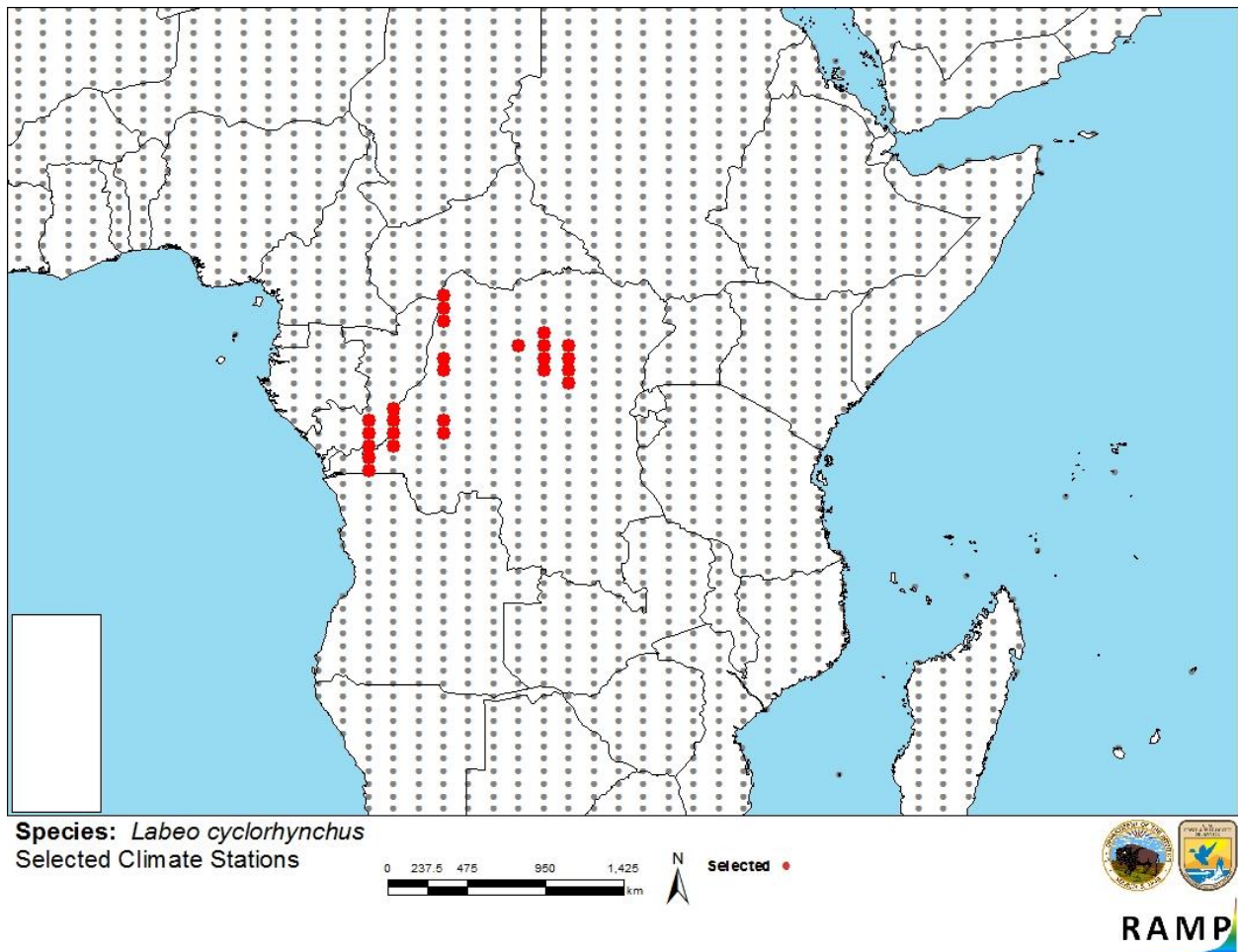


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *Labeo cyclorhynchus* climate matching. Source locations from GBIF Secretariat (2018).

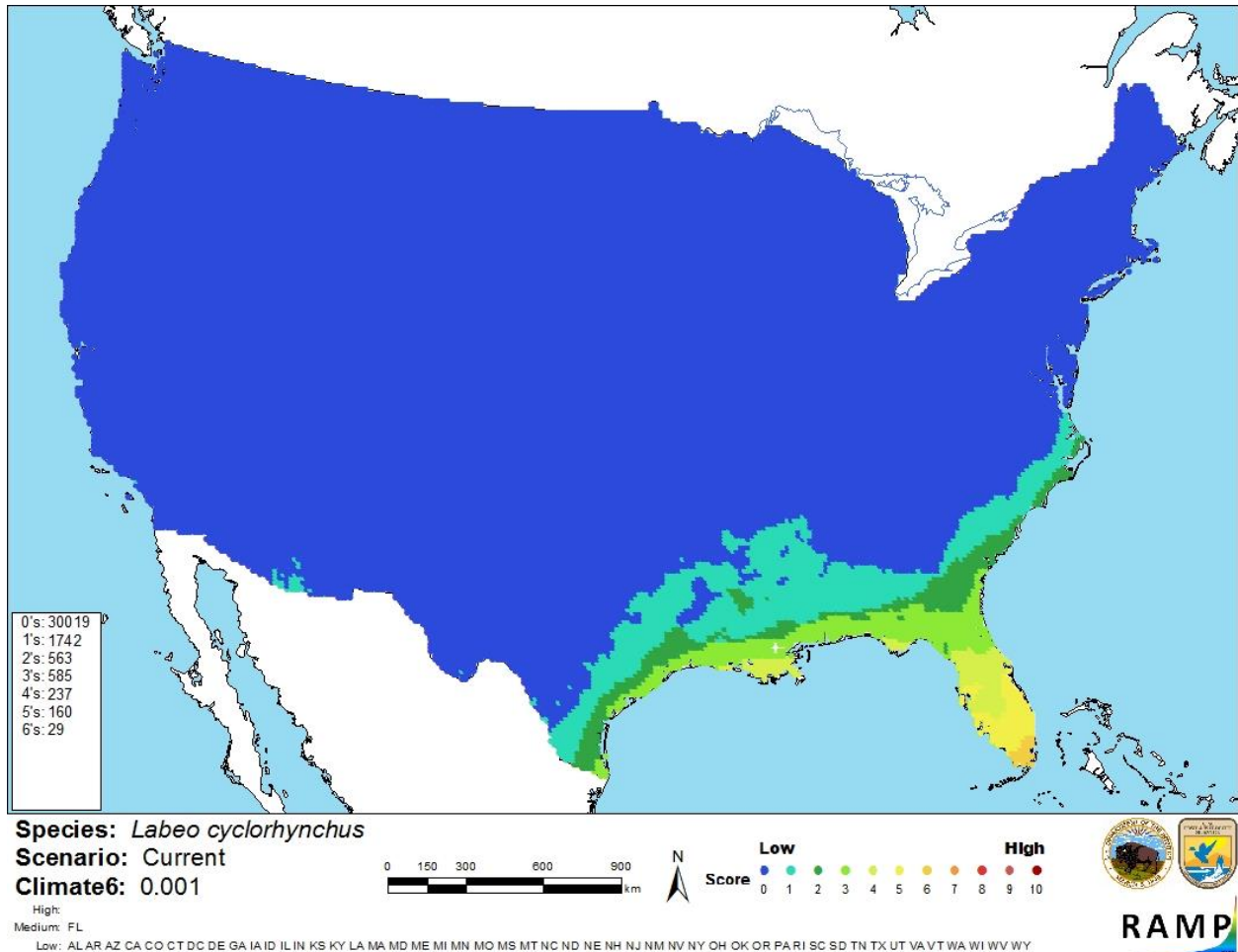


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo cyclorhynchus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

There is very little information available about *Labeo cyclorhynchus*. No introductions of this species outside of its native range have been documented. Because of this, no impacts of introductions have been documented, so the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Labeo cyclorhynchus is a carp native to Africa. This species is used in the aquarium trade, but it has never been reported as introduced outside of its native range. *L. cyclorhynchus* has a low climate match with the contiguous United States. Because of a lack of information from which to base an assessment of invasive potential, 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.

Bluegrass Aquatics. 2017. Variegated African Labeo Shark REGULAR. Available: <https://bluegrassaquatics.com/variegated-african-labeo-shark-nbsp-regular.html>. (March 2018).

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>. (March 2018).

Froese, R., and D. Pauly, editors. 2017. *Labeo cyclorhynchus* (Boulenger, 1899). FishBase. Available: <http://www.fishbase.org/summary/11538>. (March 2018).

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ITIS (Integrated Taxonomic Information System). 2018. *Labeo cyclorhynchus* (Boulenger, 1899). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689281#null. (March 2018).

Moelants, T. 2010. *Labeo cyclorhynchus*. The IUCN Red List of Threatened Species 2010: e.T182990A8017863. Available: <http://www.iucnredlist.org/details/182990/0>. (March 2018)

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

Tshibwabwa, S. M., M. L. Stiassny, and R. C. Schelly. 2006. Description of a new species of *Labeo* (Teleostei: Cyprinidae) from the lower Congo River. *Zootaxa* 1224:33-44.

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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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. 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.