

Ningu (*Labeo victorinus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2012
Revised, June 2018
Web Version, 8/1/2018



Photo: BiomesFirst11. Licensed under CC BY-SA 3.0. Available: http://eol.org/data_objects/31764199. (June 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: endemic to the Lake Victoria drainage [Seegers et al. 2003]. Present in Lake Victoria [Burundi, Kenya, Rwanda, Tanzania, Uganda] and its affluent rivers, Victoria Nile [Uganda], Lake Kyoga [Greenwood 1966; Reid 1985; van Oijen 1995; Uganda] and in the Akagera system in Rwanda [Devos et al. 2001] and Burundi [De Vos, 1991].”

Status in the United States

No information found. There is no indication that this species is in trade in the United States.

Means of Introductions in the United States

No introductions recorded.

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 victorianus* Boulenger, 1901

Taxonomic status:

Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 41.0 cm SL male/unsexed; [van Oijen, 1995]; common length : 30.0 cm SL male/unsexed; [van Oijen, 1995]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; potamodromous [Riede, 2004]; depth range 0 - 20 m [Witte and Winter 1995].”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: endemic to the Lake Victoria drainage [Seegers et al. 2003]. Present in Lake Victoria [Burundi, Kenya, Rwanda, Tanzania, Uganda] and its affluent rivers, Victoria Nile [Uganda], Lake Kyoga [Greenwood 1966; Reid 1985; van Oijen 1995; Uganda] and in the Akagera system in Rwanda [Devos et al. 2001] and Burundi [De Vos, 1991].”

Introduced

No known introductions.

Means of Introduction Outside the United States

No known introductions.

Short Description

From Froese and Pauly (2018):

“Lateral line running along middle of the flank and the caudal peduncle. Flap of skin in front of upper lip. Jaws with horny cutting ridges. Barbels hidden. Olivaceous dorsally, light or creamy ventrally. Dorsal, anal and pelvic fins often orange-tipped [van Oijen, 1995].”

Biology

From Froese and Pauly (2018):

“Anadromous species; ascending both large rivers and streams during floods and spawning in floodwater pools or inundated grasses at margins of rivers [Fryer and Whitehead 1959]. Upstream migration at beginning of rains [Copley, 1958] in fairly compact shoals [Whitehead, 1959]. Permanent river populations exist [Whitehead, 1959]. Lake Victoria: in shallow, inshore waters and influent rivers [Witte and Winter 1995]. Lake Kyoga: in open waters away from water-lily zone [Greenwood, 1966]. Specialized feeder on epilithic and epiphytic algae [Corbet, 1961]. Also feeds on rotifers growing on the body of other fishes [Witte and Winter 1995]. Caught with weirs and in baskets [Eccles, 1992]. Oviparous [Breder and Rosen 1966].”

Human Uses

From Froese and Pauly (2018):

“Fisheries: commercial”

Diseases

From Froese and Pauly (2018):

“Dactylosoma Infection 1, Parasitic infestations (protozoa, worms, etc.)”

No OIE reportable diseases.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No known introductions.

4 Global Distribution

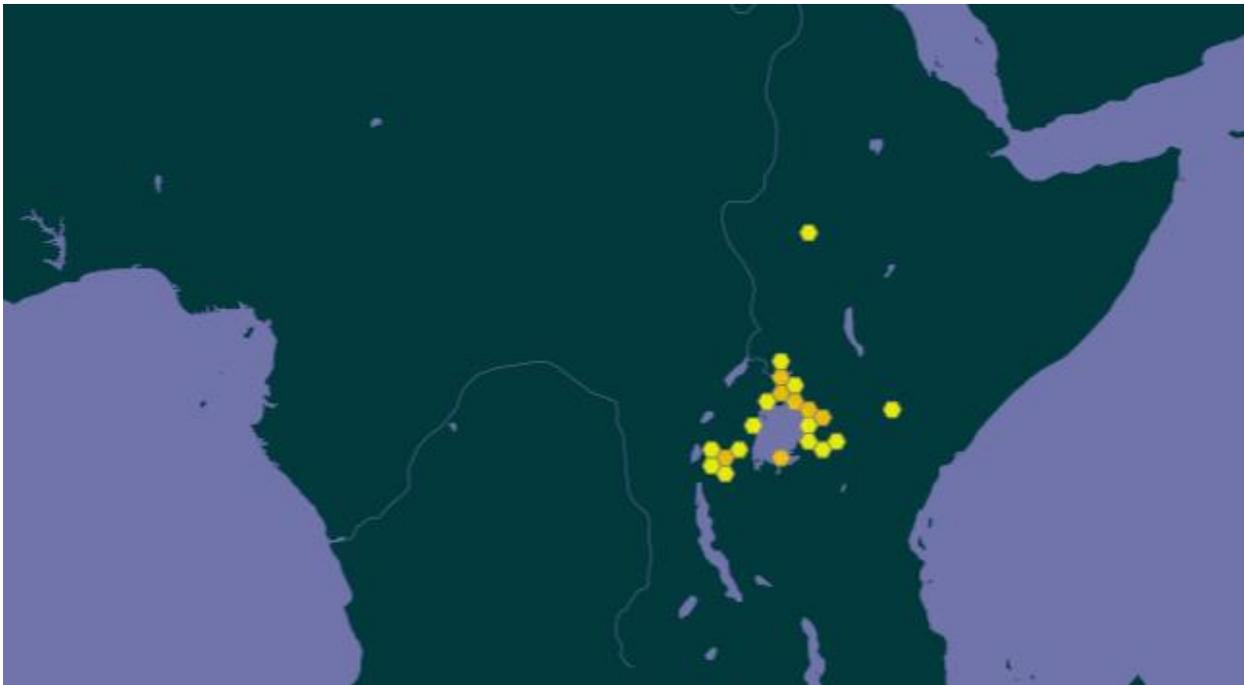


Figure 1. Known global distribution of *Labeo victorinus*, reported in East Central Africa around Lake Victoria in Kenya and into Tanzania, Uganda, Burundi, and Rwanda. Map from GBIF Secretariat (2017). The occurrences in Ethiopia and central Kenya are outside the known established range of *L. victorinus* (Froese and Pauly 2018), so these occurrences were excluded from the climate matching analysis.

5 Distribution Within the United States

No known occurrences.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, which is a low score. The range for a low climate match is from 0.000 to 0.005, inclusive. There was a medium match along the coast from North Carolina to Texas, including all of peninsular Florida, and in scattered locations along the west coast. Florida was the only state to record a medium score.

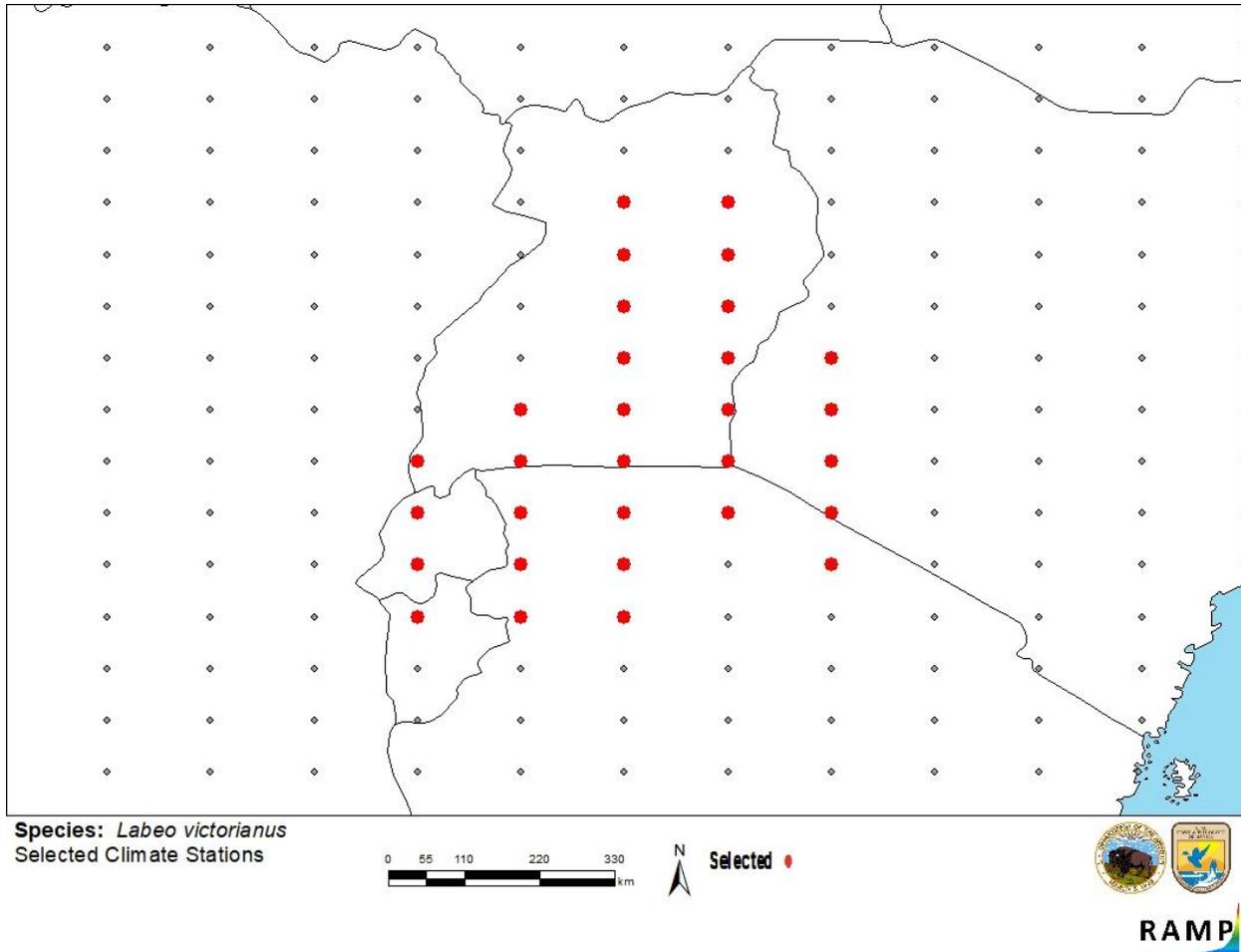


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in east-central Africa selected as source locations (red; Kenya, Tanzania, Uganda, Burundi, and Rwanda) and non-source locations (gray) for *Labeo victoriana* climate matching. Source locations from GBIF Secretariat (2017).

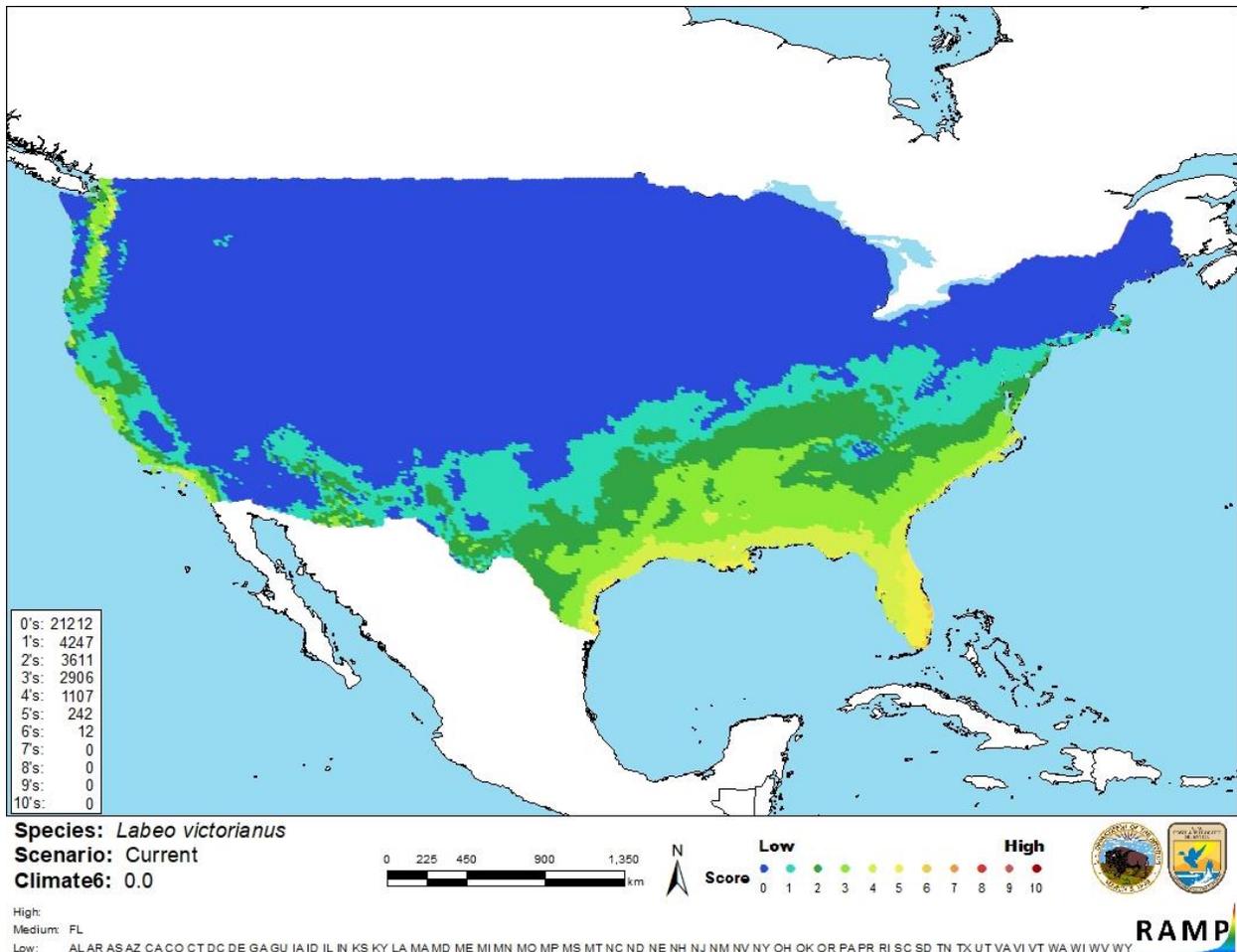


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Labeo victoriana* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Some information is known about the biology and ecology of *Labeo victoriana*. However, there are no records of introductions of this species outside of its native range. There is inadequate information to determine what effect it would have if it were introduced. Due to lack of information, the certainty of assessment is low. More information is needed to increase the assessment certainty.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Ningu (*Labeo victorinus*) is a fish native to East Central Africa around Lake Victoria. It is commercially fished. There are no records of *L. victorinus* being introduced outside of its native range. The climate match with the contiguous United States is low, with a medium climate score in Florida. Due to lack of information, the certainty of assessment is low and the overall risk for *L. victorinus* 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.

Froese, R., and D. Pauly, editors. 2018. *Labeo victorinus* Boulenger, 1901. FishBase. Available: <https://www.fishbase.de/summary/Labeo-victorinus.html>. (June 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Labeo victorinus* Boulenger, 1901. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206099>. (June 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo victorinus* Boulenger, 1901. Integrated Taxonomic Information System, Reston, Virginia. Available: https://itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689348#null. (June 2018).

Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. 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.

Breder, C. M., and D. E. Rosen. 1966. Modes of reproduction in fishes. T. F. H. Publications, Neptune City, New Jersey.

Copley, H. 1958. Common freshwater fishes of East Africa. H. F. & G. Witherby Ltd., London.

- Corbet, P. S. 1961. The food of non-cichlid fishes in the Lake Victoria basin, with remarks on their evolution and adaptation to lacustrine conditions. *Zoological Society of London* 136:1-101.
- De Vos, L. 1991. Les poissons du parc national de la Ruvubu (Burundi). *Zoological Sciences* 265:1-25.
- De Vos, L., J. Snoeks, and D. F. E. Thys van den Audenaerd. 2001. An annotated checklist of the fishes of Rwanda (east central Africa), with historical data on introductions of commercially important species. *Journal of East African Natural History* 90:41-68.
- Eccles, D. H. 1992. FAO species identification sheets for fishery purposes. Field guide to the freshwater fishes of Tanzania. Prepared and published with the support of the United Nations Development Programme (project URT/87/016). FAO, Rome.
- Fryer, G., and P. J. P. Whitehead. 1959. The breeding habits, embryology and larval development of *Labeo victorianus* Boulenger (Pisces: Cyprinidae). *Journal of African Zoology and Botany* 59(1-2):33-49.
- Greenwood, P. H. 1966. The fishes of Uganda. The Uganda Society, Kampala, Uganda.
- 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.
- Riede, K. 2004. Global register of migratory species - from global to regional scales. Final report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn, Germany.
- Seegers, L., L. De Vos, and D. O. Okeyo. 2003. Annotated checklist of the freshwater fishes of Kenya (excluding the lacustrine haplochromines from Lake Victoria). *Journal of East African Natural History* 92:11-47.
- Van Oijen, M. J. P. 1995. Appendix I. Key to Lake Victoria fishes other than haplochromine cichlids. Pages 209-300 in F. Witte, and W. L. T. van Densen, editors. Fish stocks and fisheries of Lake Victoria. A handbook for field observations. Samara Publishing Limited, Dyfed, U.K.
- Whitehead, P. J. P. 1959. The anadromous fishes of Lake Victoria. *Journal of African Zoology and Botany* 59(3-4):329-363.
- Witte, F., and W. de Winter. 1995. Appendix II. Biology of the major fish species of Lake Victoria. Pages 301-320 in F. Witte, and W.L.T. Van Densen, editors. Fish stocks and fisheries of Lake Victoria. A handbook for field observations. Samara Publishing Limited, Dyfed, U.K.