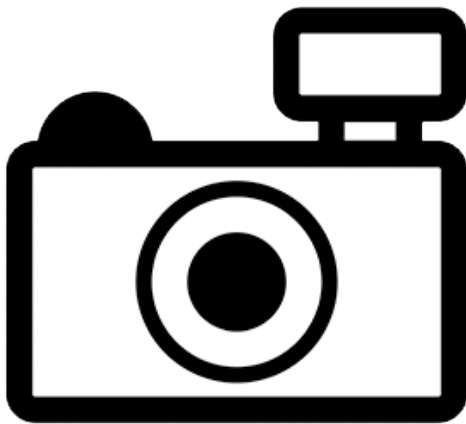


Plain Shark (*Labeo forskalii*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012
Revised, May 2018, June 2018
Web Version, 7/13/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Africa: within the drainage basin of the Nile (Blue [Sudan], White [Sudan], Lake Edward [Democratic Republic of the Congo, Uganda]) and may be confined to this system [Reid 1985]. It is likely that records from the Congo basin and southern Africa are based on misidentifications [Reid 1985].”

From Getahun and Twongo (2010):

“This species is known from the lower Nile, from Ethiopia to Uganda.

Eastern Africa: It is present in Lakes Edward [Democratic Republic of the Congo, Uganda] and George systems [Uganda] and the Albert Nile [Sudan]. Also present in the Blue and White Nile systems [Sudan].

Northeast Africa: This species is found in the Baro and Blue Nile basins, Ethiopia.”

Status in the United States

Labeo forskalii has not been reported in the United States.

No information on trade of *L. forskalii* in the United States was found.

Means of Introductions in the United States

Labeo forskalii has not been reported in the United States.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Labeo forskalii* (Rüppell, 1835) 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 forskalii* Rüppell, 1835”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 36.0 cm TL male/unsexed; [Lévêque and Daget 1984]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; pH range: ? - 7.0; dH range: 12 - 15. [...]; 18°C - 25°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1985]”

Climate/Range

From Froese and Pauly (2018):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Africa: within the drainage basin of the Nile (Blue [Sudan], White [Sudan], Lake Edward [Democratic Republic of the Congo, Uganda]) and may be confined to this system [Reid 1985]. It is likely that records from the Congo basin and southern Africa are based on misidentifications [Reid 1985].”

From Getahun and Twongo (2010):

“This species is known from the lower Nile, from Ethiopia to Uganda.

Eastern Africa: It is present in Lakes Edward [Democratic Republic of the Congo, Uganda] and George systems [Uganda] and the Albert Nile [Sudan]. Also present in the Blue and White Nile systems [Sudan].

Northeast Africa: This species is found in the Baro and Blue Nile basins, Ethiopia.”

Introduced

No records of *Labeo forskalii* introductions were found.

Means of Introduction Outside the United States

No records of *Labeo forskalii* introductions were found.

Short Description

No information on a description of *Labeo forskalii* was found.

Biology

From Froese and Pauly (2018):

“Occurs mainly in rocky areas [Bailey 1994, Poll and Damas 1939]. Feeds on phytobenthos, debris and mud; juveniles may feed on zooplankton [Bailey 1994].”

From Getahun and Twongo (2010):

“Deep water close to lake shores and running waters.”

Human Uses

From Getahun and Twongo (2010):

“This species is harvested for human consumption.”

“This species is threatened by localised heavy fishing pressure.”

From Urga et al. (2017):

“Majority of the fishers in the study area (61.2%) have involved [*sic*] in fishing for 6-15 [years] and there are seasonal fishermen who fish from the river only for consumption. Fishing in the study area is mainly artisanal and sold at the local market. The commercially important species are *L. forskalii*, *V. beso* and *L. intermedius*.”

Diseases

No records of OIE reportable diseases were found for *Labeo forskalii*.

Poelen et al. (2014) lists *Ectenurus labeonis*, *Diplozoon aegyptensis*, *Nematobothrium labeonis*, and *Lecithochirium magnicaudatum* as parasites of *Labeo forskalii*.

From Kunutu et al. (2018):

“The occurrence of the copepod *Lamproglana cleopatra* Humes, 1957, parasitising freshwater fishes in the Limpopo River System is presented, along with new morphological data. This crustacean was originally described parasitising a cyprinid (*Labeo forskalii* Rüppell) from the River Nile, Egypt.”

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of *Labeo forskalii* introductions were found.

4 Global Distribution



Figure 1. Known global distribution of *Labeo forskalii*. Locations are in Egypt, Sudan, Ethiopia, Uganda, Democratic Republic of the Congo, Somalia, Namibia, Zambia, Zimbabwe, Gabon, and Guinea. Map from GBIF Secretariat (2018).

The locations outside of the Nile River, Lake Edward, and Lake George basins (Guinea, Gabon, Namibia, Zambia, Zimbabwe, Somalia) may be based on misidentifications (Froese and Pauly 2018) and were not used as sources points for the climate match.

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Labeo forskalii* was low for the majority of the northern United States and medium for peninsular Florida, the southern portions of Texas and southern portions of the Southwest with pockets of high match in California and Arizona. A few scattered locations elsewhere in the west were medium. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.028, medium. The range for a medium climate match is between 0.005 and 0.103. The following states had high individual climate match scores: Arizona and California.

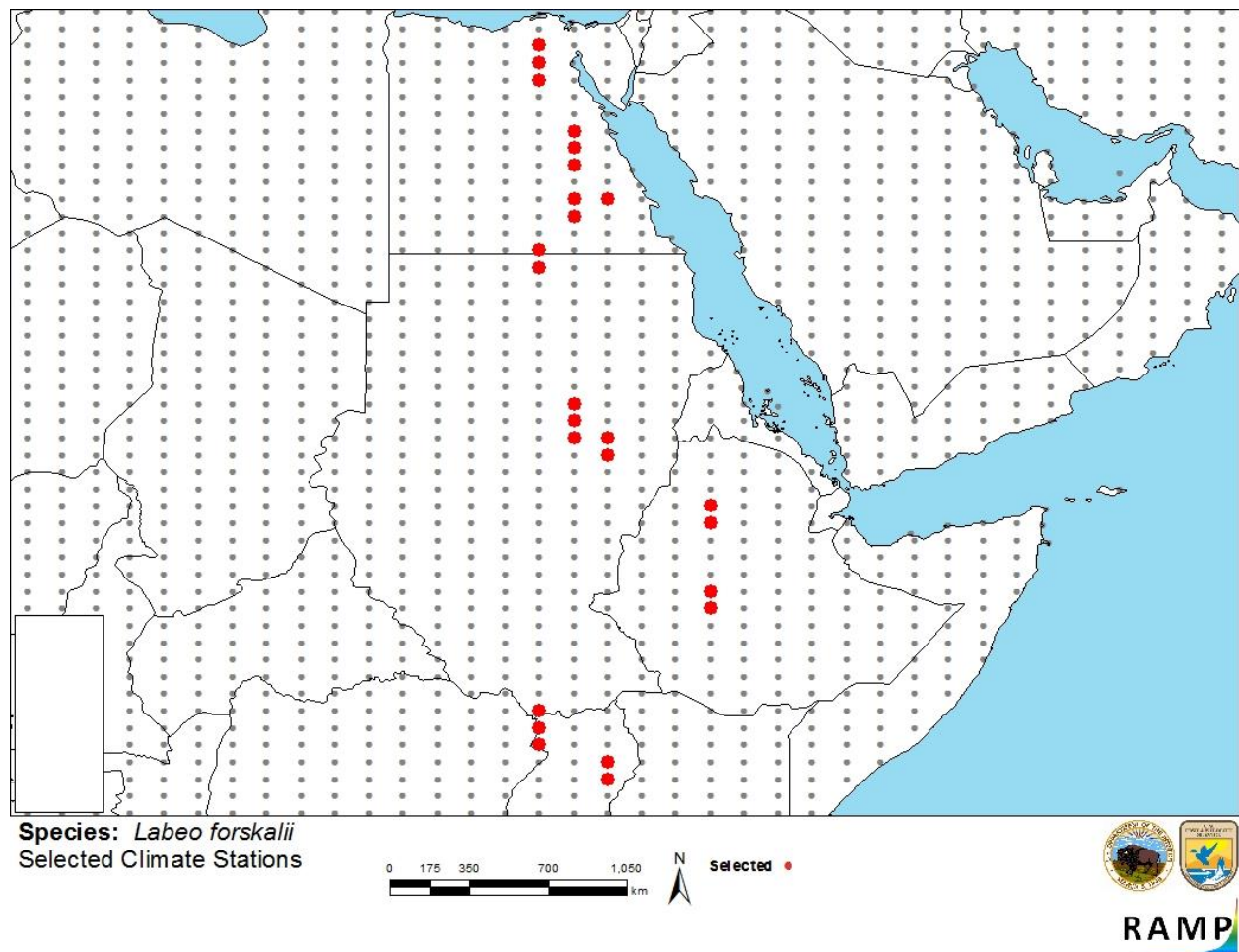


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Egypt, Sudan, Ethiopia, Uganda, Democratic Republic of the Congo) and non-source locations (gray) for *Labeo forskalii* climate matching. Source locations from Froese and Pauly (2018) and GBIF Secretariat (2018).

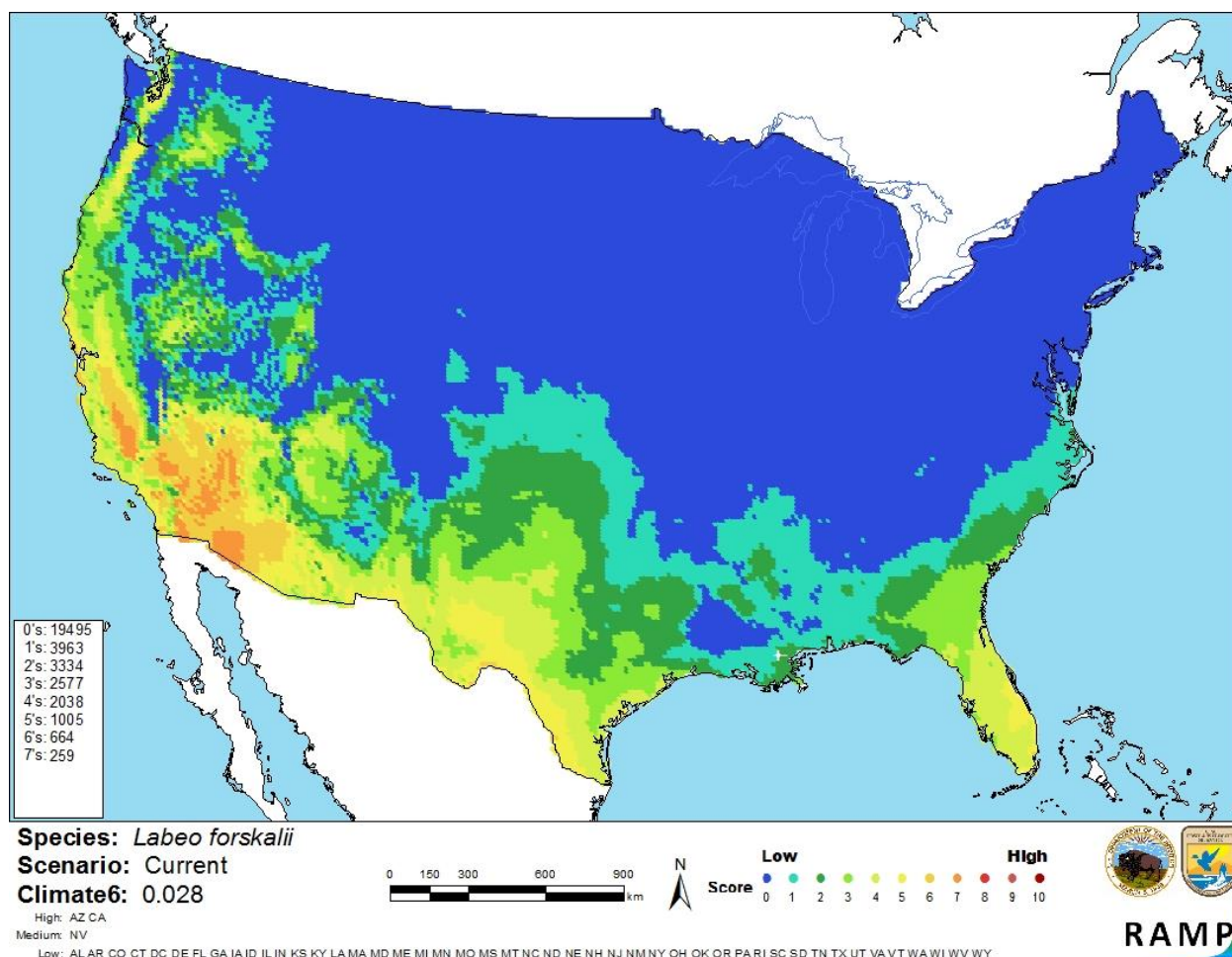


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo forskalii* in the contiguous United States based on source locations reported by GBIF Secretariat (2018) and Froese and Pauly (2018). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of this assessment is low. There is minimal information for *Labeo forskalii* and a lack of peer-reviewed literature. 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

Plain Shark (*Labeo forskalii*) is a cyprinid fish species with a native range that spans much of the Nile River drainage basin (including its deep headwater lakes) in eastern/northeastern Africa. *L. forskalii* is harvested for human consumption. The history of invasiveness of *L. forskalii* is uncertain, as it has not been reported as introduced or established outside of its native range. The climate match analysis resulted in a medium match with Arizona and California with individually high climate matches. 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): Medium**
- **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.

Froese, R., and D. Pauly, editors. 2018. *Labeo forskalii* Rüppell, 1835. FishBase. Available: <https://www.fishbase.de/summary/Labeo-forskalii.html>. (May 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Labeo forskalii* (Rüppell, 1835). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206101>. (May 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo forskalii* (Rüppell, 1835). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689293. (May 2018).

Kunutu, K. D., S. Tavakol, A. Halajian, C. Baker, M. Paoletti, R. A. Heckmann, and W. J. Luus-Powell. 2018. Expanded description of *Lamproglena Cleopatra* Humes, 1957 (Lernaeidae: Copepoda) from *Labeo* spp. (Cyprinidae) with a key to species of *Lamproglena* von Nordmann, 1832. Systematic Parasitology 95:91–103.

Poelen, J. H., J. D. Simons, and C. J. Mungall. 2014. Global Biotic Interactions: an open infrastructure to share and analyze species-interaction datasets. Ecological Informatics 24:148–159.

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk assessment mapping program: RAMP. U.S. Fish and Wildlife Service.

Urga, K. T., L. Prabhadevi, and Z. Tedesse. 2017. Diversity of biology of fishes in the River Debbis, Ethiopia. *International Journal of Aquaculture* 7:126–133.

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.

Baensch, H. A., and R. Riehl. 1985. *Aquarien atlas. Band 2.* Mergus, Verlag für Natur-und Heimtierkunde GmbH, Melle, Germany.

Bailey, R. G. 1994. Guide to the fishes of the River Nile in the Republic of the Sudan. *Journal of Natural History* 28:937–970.

Poll, M., and H. Damas. 1939. *Exploration du Parc National Albert. Mission H. Damas (1935-1936). Fascicule 6. Poissons.* Institut des Parcs Nationaux du Congo belge, Bruxelles.

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.

Rüppell, W. P. E. S. 1835. Neuer Nachtrag von Beschreibungen und Abbildungen neuer Fische, im Nil entdeckt. *Museum Senckenbergianum: Abhandlungen aus dem Gebiete der beschreibenden Naturgeschichte, von Mitgliedern der Senckenbergischen Naturforschenden Gesellschaft in Frankfurt am Main* 2:1–28.