Cunene Labeo (*Labeo ansorgii*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, May 2012
Revised, January 2018
Web Version, 5/30/2018

Photo: P. Skelton, in GBIF Secretariat (2017). Licensed under Creative Commons (CC BY 4.0).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

"Africa: within the drainage basins of the Cuanza and Cunene river systems of Angola and Namibia [Lévêque and Daget 1984; Skelton 1993]. Unconfirmed record from the Congo basin."

Status in the United States

This species has not been reported as introduced or established in the United States.

Means of Introduction into the United States

This species has not been reported as introduced or established in the United States.

Remarks
Hay et al. (2008) spell the common name as “Kunene labeo”.

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 ansorgii* Boulenger, 1907”

“Current Standing: valid”

Size, Weight, and Age Range
From Froese and Pauly (2017):

“Max length : 25.0 cm SL male/unsexed; [Lévêque and Daget 1984]”

Environment
From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

Climate/Range
From Froese and Pauly (2017):

“Tropical; 13°S - 19°S”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

"Africa: within the drainage basins of the Cuanza and Cunene river systems of Angola and Namibia [Lévêque and Daget 1984; Skelton 1993]. Unconfirmed record from the Congo basin."

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reported.

Short Description

From Fowler (1930):

"Depth 4⅕ to 4¼ ; head 3⅗ to 3⅞, width 1⅗ to 2⅖ ; snout 2⅓ to 3 ; eye 3¼ to 4, 1⅕ to 1¾ in snout, 1½ to 2 in interorbital ; mouth width 2¾ to 3¼ ; lips moderately wide, subequal ; two small barbels each side, posterior longer, 1¼ in eye ; interorbital 2½ to 2⅔, broadly convex ; suborbitals narrow. Gill rakers 10 + 36, very fine, slender, ⅓ of gill filaments, which ⅞ of eye. Teeth 2, 4, 5 – 5, 4, 2, without hooks, grinding surfaces wide. Scales 34 or 35 + 2 or 3 in lateral line ; 6 above, 5 below, 10 or 11 predorsal ; chest scales small ; 13 to 20 basal radiating striae, 30 to 33 apical, circuli fine. D. III, 10, I, slender simple rays entire, first branched ray 3⅔ to 4 in combined head and body to caudal base ; caudal 2¾ to 2⅞, deeply forked, long slender lobes pointed ; A. III, 5, I, first branched ray 1⅛ to 1⅕ in head ; caudal peduncle depth 1⅞ to 2 ; pectoral 1 to 1 1/10 ; ventral 1⅛ to 1⅕. Back and sides brown, under surface white. On trunk and tail medial lateral grey streak. Iris whitish. Fins all pale brownish, lower ones whitish. In some examples cheeks and sides of head dusky."

Biology

From Hay et al. (1997):

"It has a wide habitat tolerance from shallow swampy areas covered with aquatic vegetation with a sandy substrate to deep water areas with a rocky substrate and rapids. It was more active during the day than at night."

"This is the dominant species of the two *Labeo*s found in the Kunene River."

From Hay et al. (2008):

"[…] it moves upstream during the flood for breeding purposes."

Human Uses
From Hay et al. (2008):

"*Labeo ansorgii* is too small for recreational angling purposes."

Diseases
No information available.

Threat to Humans
From Froese and Pauly (2017):

"Harmless"

3 Impacts of Introductions
No information available. No introductions have been reported.

4 Global Distribution

Figure 1. Known global distribution of *Labeo ansorgii*, in southwestern Africa. Map from GBIF Secretariat (2017). Points shown in the Atlantic Ocean were not included in the climate matching analysis because the species is restricted to freshwater. Point shown in the Democratic Republic

of the Congo was not included in the climate matching analysis because this location has not been confirmed as an established population (see Native Range, above).

5 Distribution Within the United States

This species has not been reported within the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout most of the contiguous U.S. Medium matches appeared along the border with Mexico, in coastal southern California, and in southwestern Florida. Climate 6 score indicated that the contiguous U.S. has low climate match overall. The range of scores indicating a low climate match is 0.000 to 0.005; Climate 6 score for *Labeo ansorgii* was 0.002.

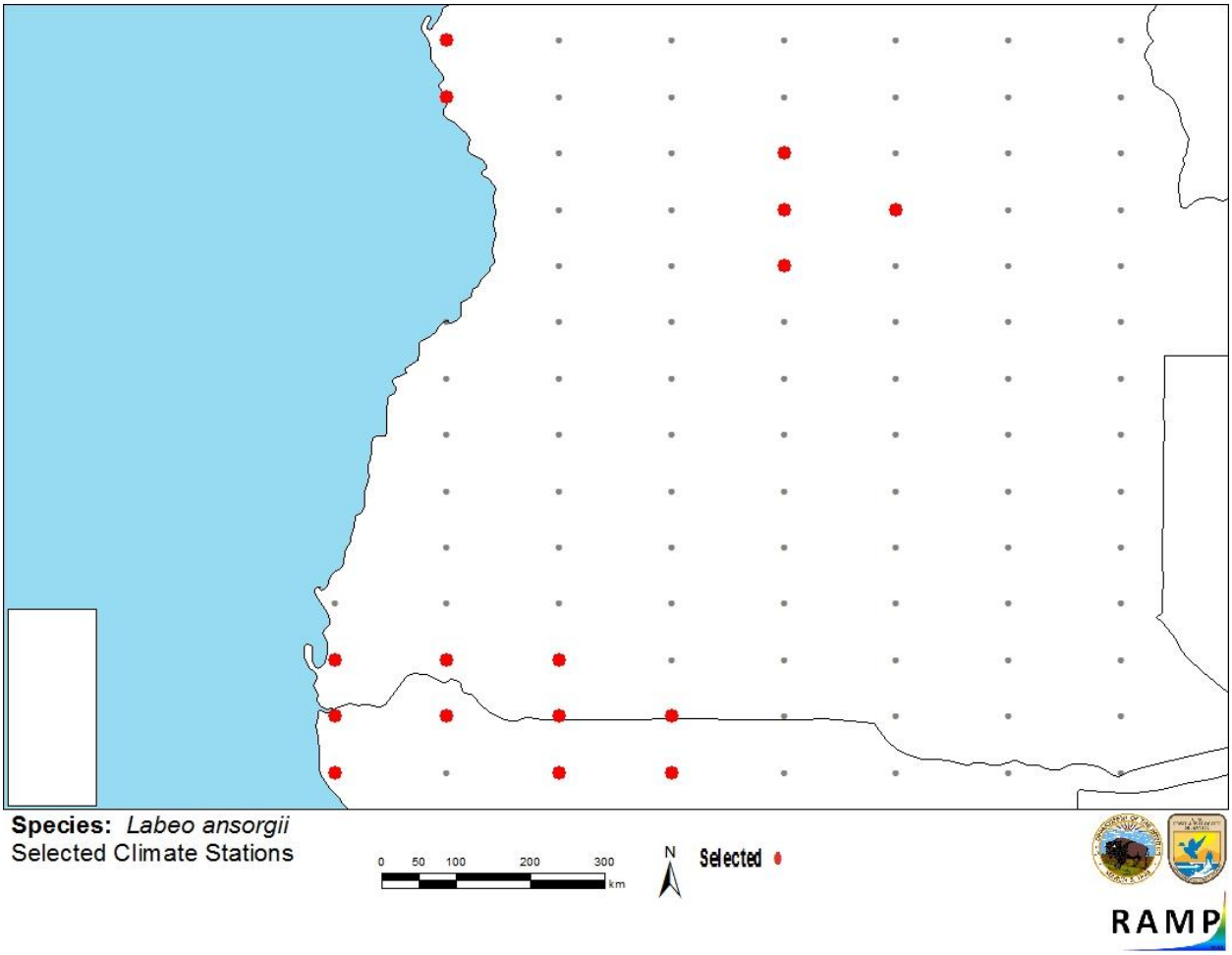

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in Angola and northern Namibia selected as source locations (red) and non-source locations (gray) for *Labeo ansorgii* climate matching. Source locations from GBIF Secretariat (2018).

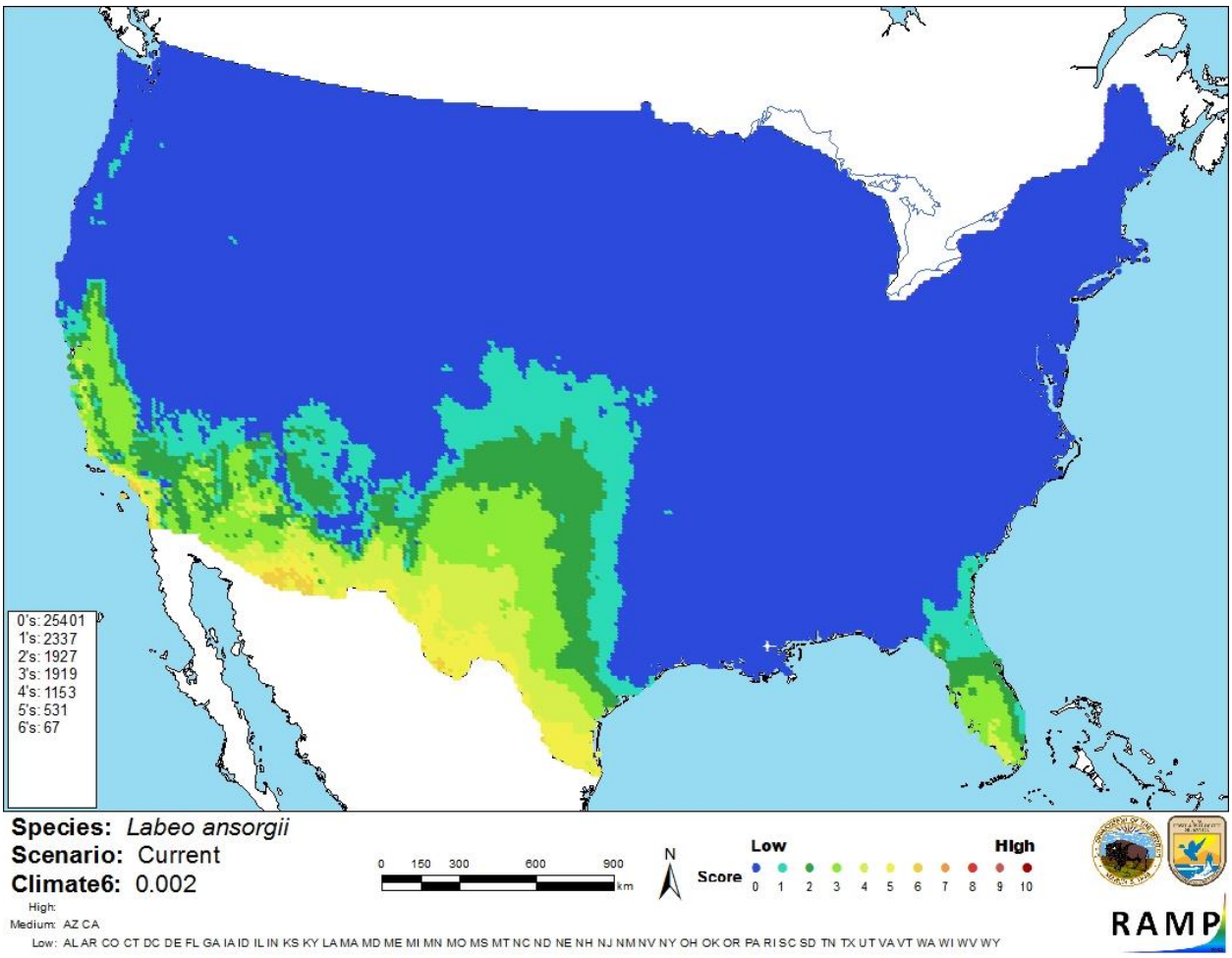

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo ansorgii* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Little information is available on the biology and ecology of *Labeo ansorgii*, and there is at least one case of uncertainty about its distribution. No introductions of this species have been reported, so the impacts of introduction are unknown. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Labeo ansorgii is a carp native to Angola and Namibia. No introductions of this species have been documented, so the potential for invasiveness remains uncertain. The climate match analysis resulted in low match for the contiguous United States, but with medium matches mostly along the U.S.-Mexico border. The overall risk assessment category is uncertain due to uncertain history of invasiveness and the low climate match.

Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Low**
- **Certainty of Assessment: 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.

Fowler, H. W. 1930. The fresh-water fishes obtained by the Gray African Expedition: 1929. With notes on other species in the Academy Collection. Proceedings of the Academy of Natural Sciences of Philadelphia 82:27-83.

Froese, R., and D. Pauly, editors. 2017. *Labeo ansorgii* Boulenger, 1907. FishBase. Available: http://fishbase.org/summary/Labeo-ansorgii.html. (January 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Labeo ansorgii* Boulenger, 1907. Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/5206142. (January 2018).

Hay, C. J., T. F. Næsje, and E. B. Thorstad. 2008. Fish populations, gill net catches and gill net selectivity in the Kunene River, Namibia. NINA Report 325. Norwegian Institute for Nature Research, Trondheim, Norway.

Hay, C. J., B. J. Van Zyl, F. H. Van der Bank, J. T. Ferreira, and G. J. Steyn. 1997. A survey of the fishes of the Kunene River, Namibia. Madoqua 19(2):129-141.

ITIS (Integrated Taxonomic Information System). 2018. *Labeo ansorgii* Boulenger, 1907. Integrated Taxonomic In

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish & 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.

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.

Skelton, P. H. 1993. A complete guide to the freshwater fishes of southern Africa. Southern Book Publishers.