

African Carp (*Labeo parvus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, May 2012

Revised, May 2018

Web Version, 6/22/2018



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1 Native Range and Status in the United States

Native Range

From Hanssens et al. (2010):

“**Native:** Angola; Benin; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Gabon; Gambia; Ghana; Guinea; Guinea-

Bissau; Liberia; Mali; Niger; Nigeria; Senegal; Sierra Leone; Tanzania, United Republic of; Togo; Zambia”

“This species is widely distributed from Guinea [*sic*] to the Congo and Tanzania.”

“**Central Africa:** *Labeo parvus* is known from throughout the Congo River basin. It is also known from Chad, Senegal, Gambia, Volta, Niger basins as well as in the Ouémé and Mono Rivers and other West African coastal basins (Lévêque 1990).”

“**Eastern Africa:** It is present in Lake Tanganyika and the Malagarasi River basin [extends into Burundi].”

“**Western Africa:** This species is found in Chad, Senegal, Gambia, Volta and Niger basins as well as in the Ouémé and Mono Rivers and other coastal basins.”

Status in the United States

L. parvus has not been reported as introduced or established in the United States. There is no indication that the species is in trade in the United States.

Means of Introduction into the United States

L. parvus has not been reported as introduced or established in the United States.

Remarks

From Hanssens et al. (2010):

“Synonym(s):

Labeo djourae Blache & Miton, 1960

Labeo gaudicheri Pellegrin, 1925

Labeo obscurus Pellegrin, 1908

Labeo ogunensis Boulenger, 1910

Labeo tibesti Pellegrin, 1919

Labeo tibestii Pellegrin, 1919

Labeo toboensis Svensson, 1933”

In assembling this risk screening, information searches were performed using all the above synonyms in addition to the accepted scientific name.

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 parvus* Boulenger, 1902”

“Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Maturity: L_m 10.0 range ? - ? cm

Max length : 38.0 cm SL male/unsexed; [Tshibwabwa and Teugels 1995]; max. published weight: 40.00 g [Ita 1984]”

“Maximum TL was recorded at 51.5 cm [Tshibwabwa and Teugels 1995].”

From Montchowui et al. (2009):

“The estimated longevity (T_{max}) is 7.5 years.”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; potamodromous [Riede 2004].”

“[...] 23°C - 25°C [Baensch and Riehl 1985; assumed to represent recommended aquarium temperature]”

Climate/Range

From Froese and Pauly (2018):

“Tropical; [...] 7°N - 10°S”

Distribution Outside the United States

Native

From Hanssens et al. (2010):

“**Native:** Angola; Benin; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Congo, The Democratic Republic of the; Côte d'Ivoire; Gabon; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mali; Niger; Nigeria; Senegal; Sierra Leone; Tanzania, United Republic of; Togo; Zambia”

“This species is widely distributed from Guinea [*sic*] to the Congo and Tanzania.”

“**Central Africa:** *Labeo parvus* is known from throughout the Congo River basin. It is also known from Chad, Senegal, Gambia, Volta, Niger basins as well as in the Ouémé and Mono Rivers and other West African coastal basins (Lévêque 1990).”

“**Eastern Africa:** It is present in Lake Tanganyika and the Malagarasi River basin [extends into Burundi].”

“**Western Africa:** This species is found in Chad, Senegal, Gambia, Volta and Niger basins as well as in the Ouémé and Mono Rivers and other coastal basins.”

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 Froese and Pauly (2018):

“Dorsal soft rays (total): 12-13; Anal soft rays: 8; Vertebrae: 29 - 31. Diagnosis: distal margin of dorsal fin concave; body depth 1.9-3.0x SL; depth of caudal peduncle 0.8-1.2x its length; 24-42 (50-150mm) and 41-44 (150-250mm) gill rakers; scale formula 4.5-5.5/33-38/6.5; 3-4 scales between lateral line and pelvic-fin base; 12-16 scales around caudal peduncle; 9-10 dorsal fin branched rays [Lévêque 1990; Lévêque 2003].”

Biology

From Froese and Pauly (2018):

“Found in stony river beds and in mountain pools formed by small brooks [Bianco 1981].”

From Hanssens et al. (2010):

“Population sizes are not known, but it is rare in fisheries catches in Malagarasi River.”

From Montchowui et al. (2009):

“Fishes of the genus *Labeo* [...] are specialised feeders on algae, “aufwuchs” and detritus from the substratum.”

“In the present *L. parvus* population, there was one major recruitment peak and suggests one breeding season per year [...]”

Human Uses

From Froese and Pauly (2018):

“Fisheries: of no interest; aquarium: commercial”

From Hanssens et al. (2010):

“This species is harvested for human consumption.”

From Schäfer (2016):

“Algae eaters from Africa? Hardly ever are such fish available in the trade, despite the fact that there does a high number of species exist. Currently we [Aquarium Glaser GmbH] have two species of African *Labeo* in stock. There is no doubt that *Labeo parvus* is the better algae eater of the two.”

Diseases

From Kostoïngue et al. (1999):

“Examination of freshwater fishes from Chad (Central Africa) revealed the presence of three new species of Myxosporea. They are: [...] *Thelohanellus ndjamenaensis* sp. n. described from *Labeo parvus* Boulenger, 1902 (Cyprinidae) [...]”

Fomena and Bouix (1997) report that *L. parvus* is a host for the parasite *Myxobolus nyongana*.

Šimková et al. (2017) report that *L. parvus* is a host for the parasite *Dactylogyrus brevicirrus*.

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

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No information available. No introductions of this species have been reported.

4 Global Distribution

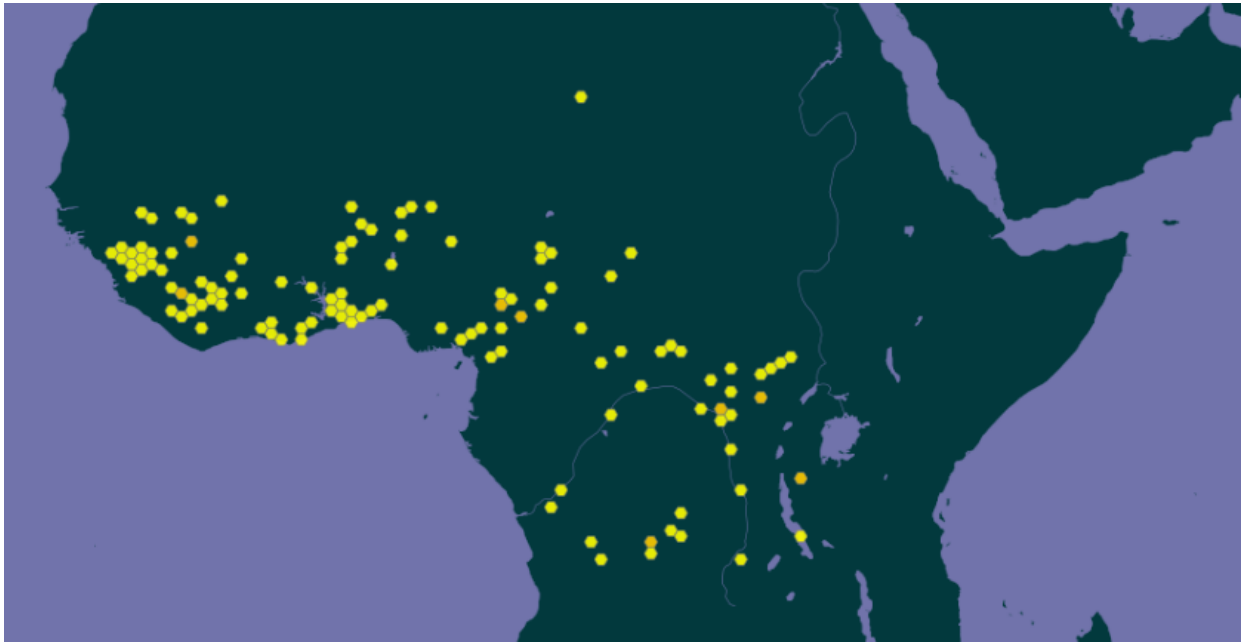


Figure 1. Known global distribution of *L. parvus*, reported from Mali, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Niger, Chad, Cameroon, Central African Republic, Republic of the Congo, Democratic Republic of the Congo, Angola, Burundi, and Tanzania. Map from GBIF Secretariat (2017). No georeferenced occurrences were available for parts of the native range in Gabon, Gambia, Guinea-Bissau, Senegal, or Zambia. Although disjunct from the remainder of the range, the occurrence in northern Chad does represent an established population (Trape 2011).

5 Distribution within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was high in parts of the Southwest, particularly western Texas and New Mexico, and in southeast Florida. Medium match occurred through much of California, the remainder of the Southwest, the remainder of peninsular Florida, and along the Gulf of Mexico coast. The climate match was low for the rest of the country. Climate 6 score indicated that the contiguous U.S. has a medium climate match overall. Scores between 0.005 and 0.103 are classified as medium match; Climate 6 score for *L. parvus* was 0.031.

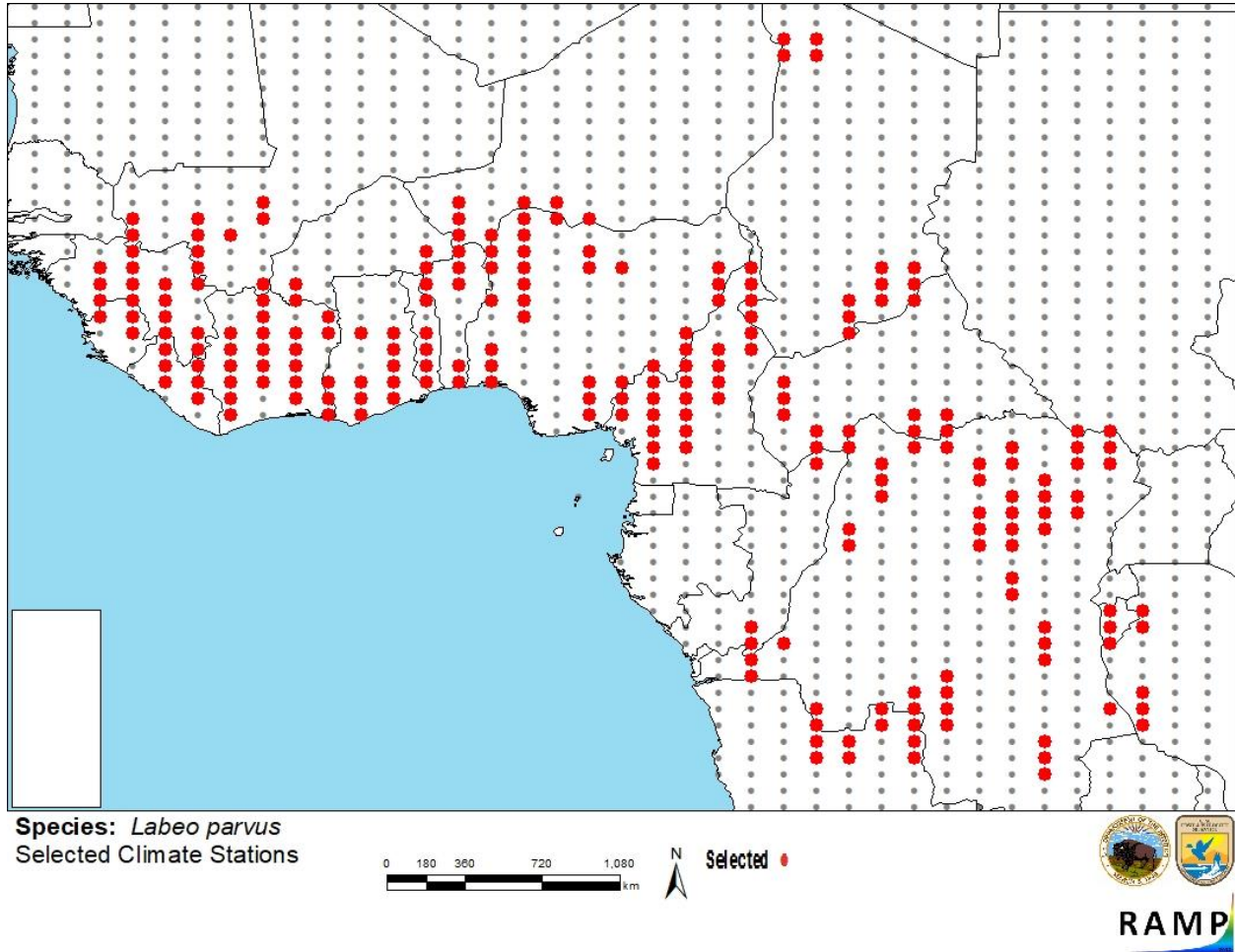


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Mali, Guinea, Sierra Leone, Liberia, Ivory Coast, Burkina Faso, Ghana, Togo, Benin, Nigeria, Niger, Chad, Cameroon, Central African Republic, Republic of the Congo, Democratic Republic of the Congo, Angola, Burundi, and Tanzania) and non-source locations (gray) for *L. parvus* climate matching. Source locations from GBIF Secretariat (2017).

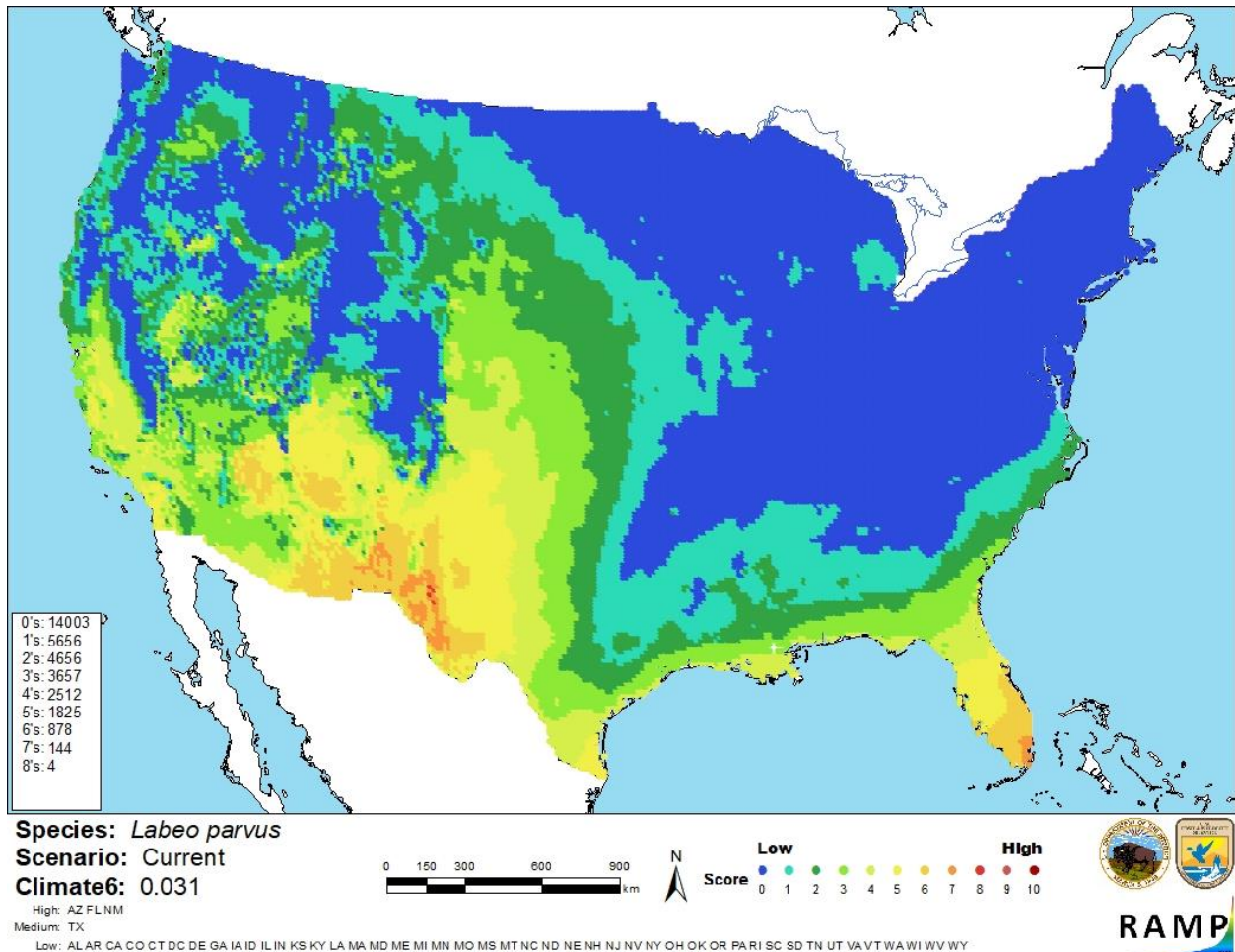


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *L. parvus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

Limited information is available on the biology and ecology of *Labeo parvus*. The distribution of *L. parvus* is reasonably well documented through georeferenced occurrences. No introductions of this species have been documented, so impacts of introduction remain unknown. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

African Carp (*Labeo parvus*) is a carp native to a wide range of countries in sub-Saharan Africa. It has not been reported as introduced or established anywhere outside its native range. *L. parvus* is harvested for food and is present in the international aquarium trade, although there is no indication that the species is in trade in the United States. The climate match for the United States was medium overall, with high match in the Southwest and southeastern Florida. Due to the lack of introduction history, the overall risk assessment category is Uncertain.

Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Medium**
- **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.

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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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