Tanganyika Blackfin (*Altolamprologus calvus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2013
Revised, September 2017, October 2017
Web Version, 8/21/2018

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

"Africa: Endemic to Lake Tanganyika, found in the southwestern [Democratic Republic of the Congo, Tanzania, Zambia] part of the lake [Konings and Dieckhoff 1992; Konings 1998]."

From Bigirimana (2006):

"Endemic to the southern part of Lake Tanganyika [Democratic Republic of the Congo, Tanzania, Zambia]."

Status in the United States

No records of *Altolamprologus calvus* in the United States were found. *A. calvus* is in trade in the United States.

From Cichlids and Herps (2018):

"*Altolamprologus calvus* "Inkfin" – juvenile $18.00 […] *Altolamprologus calvus* Black Congo juvenile 1.5"-2" $16.00"

Means of Introductions in the United States

No records of *Altolamprologus calvus* in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2017), *Altolamprologus calv*us (Poll 1978) is the valid name for this species. It was originally described as *Lamprologus calvus*.

From ITIS (2013):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Acanthopterygii
Order Perciformes
Suborder Labroidei
Family Cichlidae
Genus *Altolamprologus* Poll, 1978
Species *Altolamprologus calvus* (Poll, 1978)"

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Max length: 13.5 cm TL male/unsexed; [Maréchal and Poll 1991]"

From WildScreen (2013):

"Male length: c.15 cm [Smith 1998]
Female length: c.10 cm [Smith 1998]"

Environment

From Froese and Pauly (2017):

"Freshwater; benthopelagic; pH range: 8.0 - 9.0; dH range: 9 - 19. […]; 23°C - 25°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1985]; […]"

Climate/Range

From Froese and Pauly (2017):

"Tropical; […]; 3°S - 9°S"

Distribution Outside the United States

Native

From Froese and Pauly (2017):

"Africa: Endemic to Lake Tanganyika, found in the southwestern part of the lake [Democratic Republic of the Congo, Tanzania, Zambia] [Konings and Dieckhoff 1992; Konings 1998]."

From Bigirimana (2006):

"Endemic to the southern part of Lake Tanganyika [Democratic Republic of the Congo, Tanzania, Zambia]."

Introduced

No records of *Altolamprologus calvus* introductions could be found.

Means of Introduction Outside the United States

No records of *Altolamprologus calvus* introductions could be found.

Short Description

From WildScreen (2013):

"*Altolamprologus calvus* belongs to the Cichlidae, a family of freshwater fish that have adapted to a wide range of narrow ecological niches, resulting in the evolution of a huge diversity of species that live in close association [Clabaut et al. 2007]. This species has a large mouth and a compressed body, with a large dorsal fin running along the entire length of the back [Hanke and Wilson 2006]. Like many cichlids, *Altolamprologus calvus* occurs in a number of different colour variations, including black, light grey and yellow [Smith 1998, Clabaut et al. 2007]."

Biology

From WildScreen (2013):

"In the case of *Altolamprologus calvus*, it has become adapted to living amongst rocky environments, where it feeds on tiny crustaceans found on rock surfaces (Sturmbauer et al. 1994) and the young of other fishes (P. V. Loiselle, personal communication). Its compressed body allows it to fit into narrow crevices and caves; an ability that has led to the development of an innovative breeding strategy. The female locates a crevice or cave that is too small for the male to enter, and spawns up to 300 eggs. The male then fertilises the eggs by lying over the crevice entrance and releasing sperm into the water. Both sexes guard the developing embryos; the male patrols the outside of the crevice, occasionally leaving to feed, while the female remains in the crevice at all times until the eggs hatch (Smith 1998). The young continue to be protected as long as they remain within their parents' territory (P. V. Loiselle, personal communication)."

"*Altolamprologus calvus* occupies rocky regions along the shoreline between depths of 3 and 41 metres [Smith 1998]."

From Froese and Pauly (2017):

"Deep and laterally very compressed body wih [*sic*] permits it to enter narrow cracks and shallow caves; feeds mainly on shrimps and other crustaceans; stalker which cruises through rocky habitat maintaining a distance of between 30 and 100 cm between themselves and substrate [Konings 1998]."

Human Uses

From Froese and Pauly (2017):

"Fisheries: ; aquarium: commercial"

Diseases

No records of OIE reportable diseases were found.

From Froese and Pauly (2017):

"Fish tuberculosis (FishMB), Bacterial diseases"

Threat to Humans

From Froese and Pauly (2017):

"Harmless"

3 Impacts of Introductions

No records of *Altolamprologus calvus* introductions could be found.

4 Global Distribution

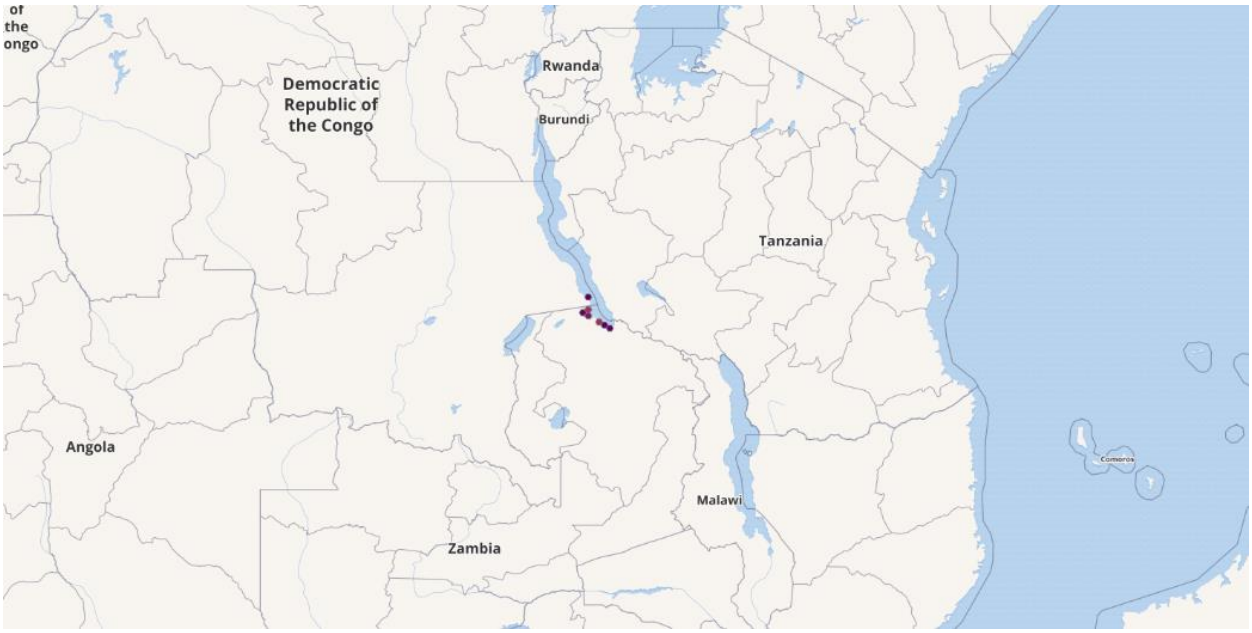

Figure 1. Known global distribution of *Altolamprologus calvus*. Locations are in the southern end of Lake Tanganyika in Democratic Republic of the Congo and Zambia. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

No records of *Altolamprologus calvus* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Altolamprologus calvus* was low for most of the United States. Southwest Florida and the southern tip of Texas had a medium match; it was low everywhere else. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low, and no States had an individually medium or high climate match.

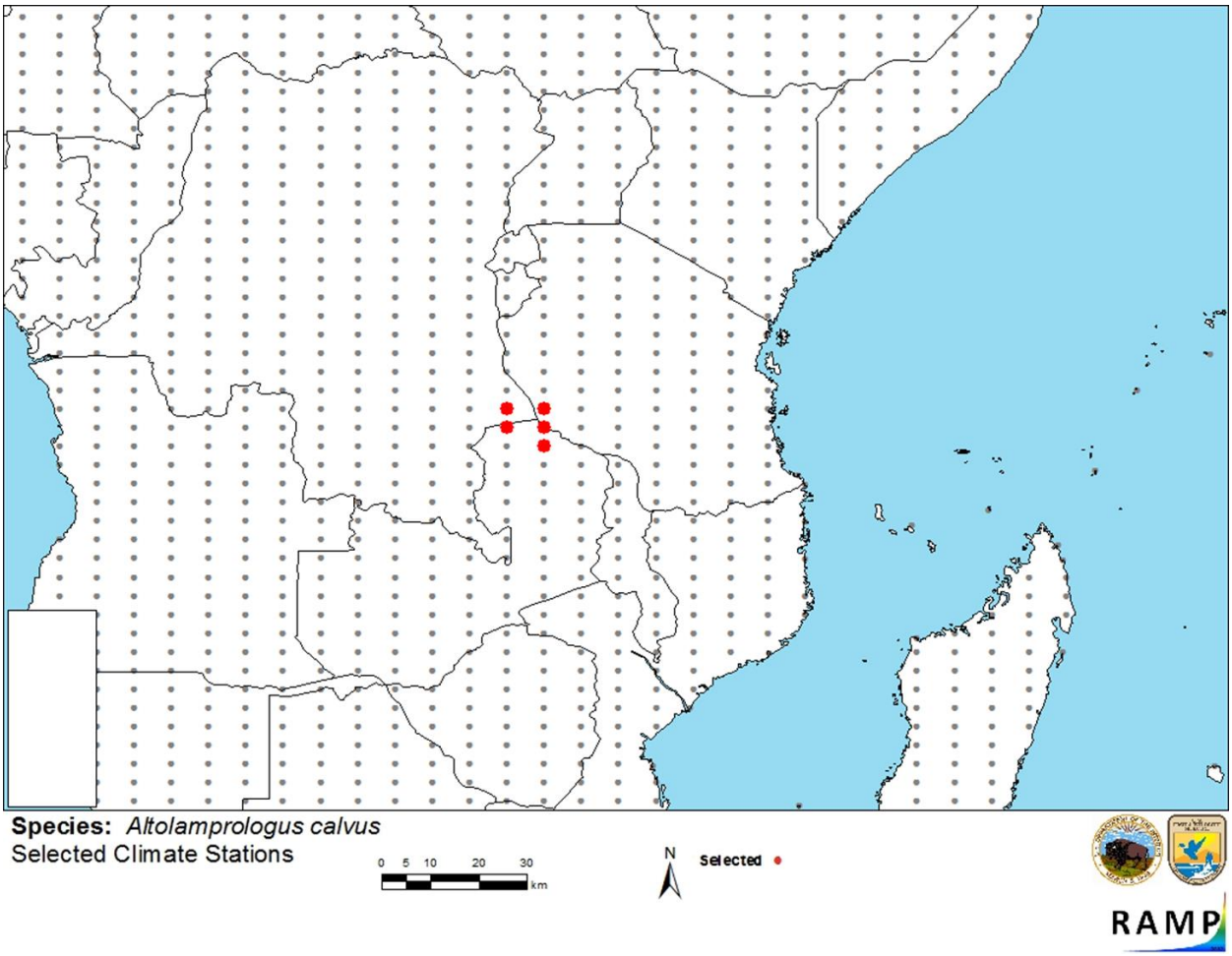

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Democratic Republic of the Congo, Tanzania, Zambia) and non-source locations (grey) for *Altolamprologus calvus* climate matching. Source locations from GBIF Secretariat (2017).

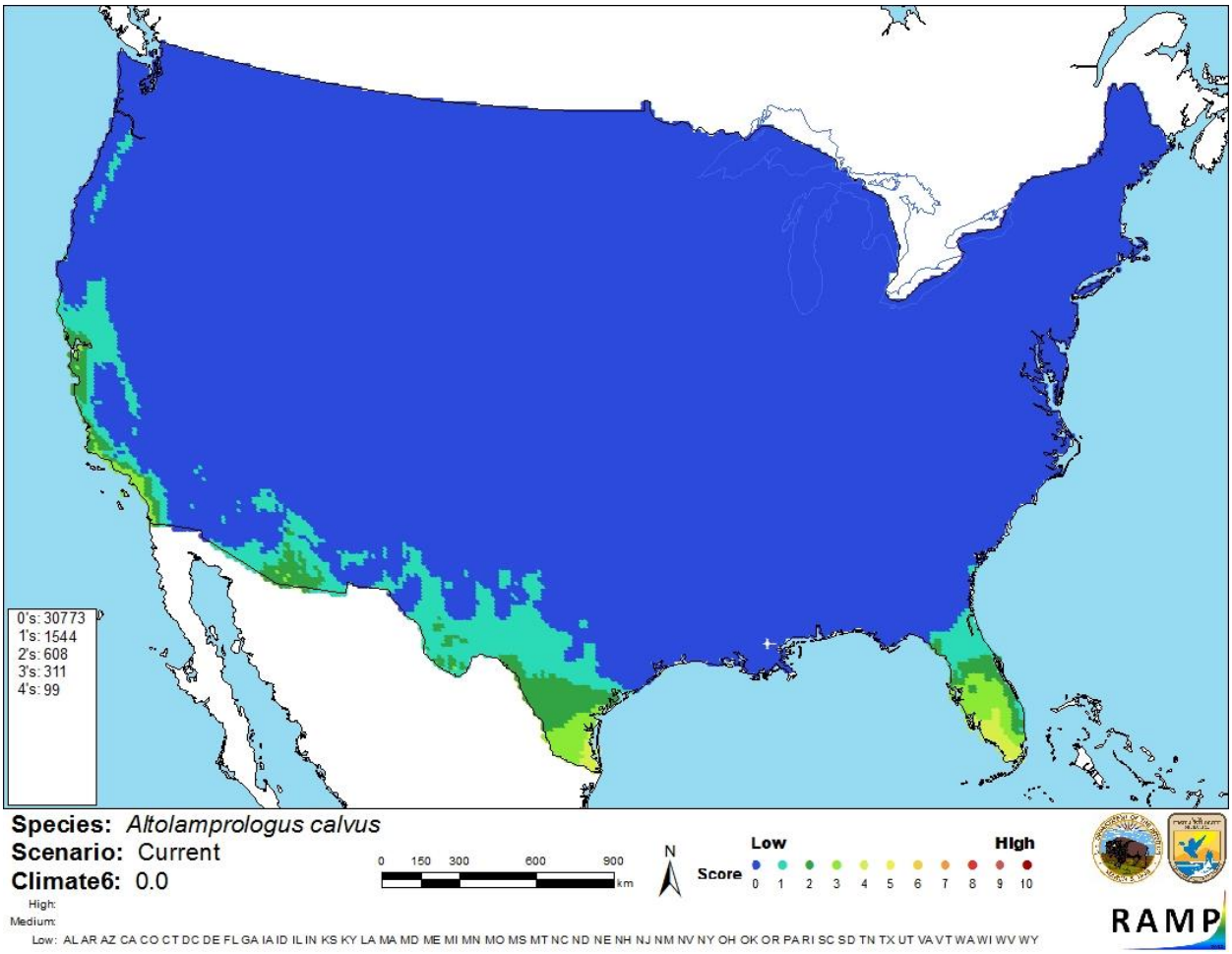

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Altolamprologus calvus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the left.

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

7 Certainty of Assessment

The certainty of this assessment is low. General species information is easily available for *Altolamprologus calvus*. There was no information in regard to introductions outside of its native range or any impacts that it would have.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Tanganyika Blackfin (*Altolamprologus calvus*) is a cichlid species native to the southern end of Lake Tanganyika. It is used in the aquarium industry. The history of invasiveness is uncertain. No records of introduction were found. *A. calvus* is in trade in the United States. No information on the volume or duration of this species in trade was found. The climate match is 0.000, low. *A. calvus* is endemic to Lake Tanganyika and has a very narrow climate range. The certainty of 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**
- **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.

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WildScreen. 2003. Arkive. Available: http://www.arkive.org/tanganyika-blackfin/altolamprologus-calvus/. (April 2013).

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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Sturmbauer, C., E. Verheyen, and A. Meyer. 1994. Mitochondrial phylogeny of the Lamprologini, the major substrate spawning lineage of cichlid fishes from Lake Tanganyika in eastern Africa. Molecular Biology and Evolution 11:691–703.