

Tilapia busumana

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, June 2015

Photo not available.

1 Native Range, and Status in the United States

Native Range

From Froese and Pauly (2015):

“Africa: Bia, Tano and Pra basins in southeast Côte d'Ivoire and southwest Ghana; also in Lake Bosumtwi in Ghana.”

Status in the United States

This species has not been reported in the U.S.

Means of Introductions in the United States

This species has not been reported in the U.S.

Remarks

From Entsua-Mensah and Lalèyè (2010):

“Known from seven locations and has an extent of occurrence less than 20,000 km². The population is declining. Its main threats stem from deforestation and poor agricultural practices around Lake Bosumtwi. Resultant increases in sediment loads and leaching of pesticides and other agrochemicals may pose threats to the health of the fish. Other threats include aquatic weeds and effluents from mining activities in the upper reaches of these coastal rivers especially the Ankobra, Pra and Ofin. These effluents may contain heavy metals like arsenic, mercury and compounds like cyanide. Timber felling is an especially important threat in the Tano. Another major threat is pollution of the water bodies by inadequately treated human waste and by domestic discharges arising from increasing residential developments. The species qualifies for Vulnerable status.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2015):

“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 *Tilapia*
Species *Tilapia busumana* (Günther, 1903)”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2015):

“Max length : 18.0 cm SL male/unsexed; [Teugels and Thys van den Audenaerde, 1992]”

Environment

From Froese and Pauly (2015):

“Freshwater; demersal.”

Climate/Range

From Froese and Pauly (2015):

“Tropical; 23°C - 25°C [Baensch and Riehl 1985]; 8°N - 5°N”

Distribution Outside the United States

Native

From Entsua-Mensah and Lalèyè (2010):

“Côte d'Ivoire; Ghana”

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 (2015):

“Dorsal spines (total): 14 - 16; Dorsal soft rays (total): 10-13; Anal spines: 3; Anal soft rays: 7 - 9. Diagnosis: 8-12 lower gill-rakers; median outer teeth on jaws bicuspid not spatulated, lateral ones conical; inner teeth tricuspid with 3 cuspids equal in young specimens and central cuspid more developed in adults; adults with distinct occipital hump [Teugels and Thys van den Audenaerde 2003].”

Biology

From Froese and Pauly (2015):

“Adapted to living in fast-flowing rivers with rapids [Trewavas 1983].”

Human uses

From Froese and Pauly (2015):

“Aquarium: commercial”

From Entsua-Mensah and Lalèyè (2010):

“This species is harvested for human consumption.”

Diseases

No OIE-notifiable diseases have been reported for this species.

Threat to humans

From Froese and Pauly (2015):

“Harmless”

3 Impacts of Introductions

No introductions of this species have been reported.

4 Global Distribution



Figure 1. Global distribution of *T. busumana*. Map from GBIF (2015). The location in western Côte d'Ivoire was not included in climate matching because of positional error.

5 Distribution within the United States

This species has not been reported in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) is medium at the very southern tip of Florida, and low across the remainder of the contiguous U.S. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. The range for a low climate match is 0.000-0.005; the climate match of *T. busumana* is 0.0.

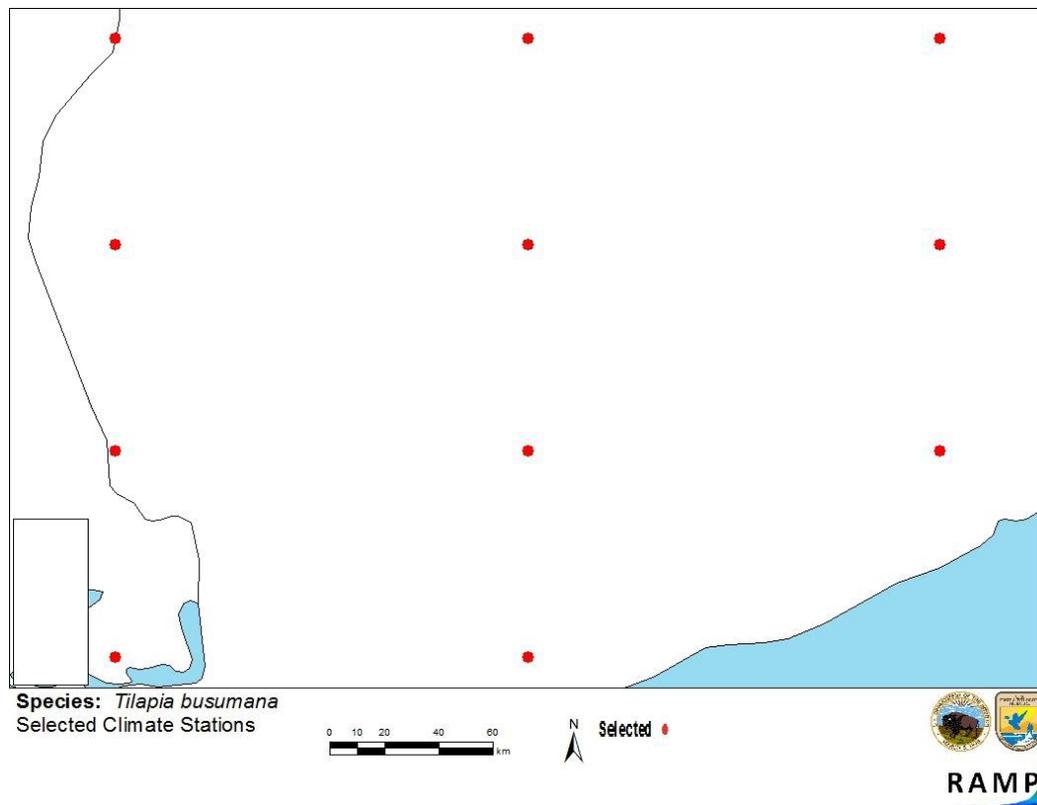


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. busumana* climate matching. Source locations from GBIF (2015).

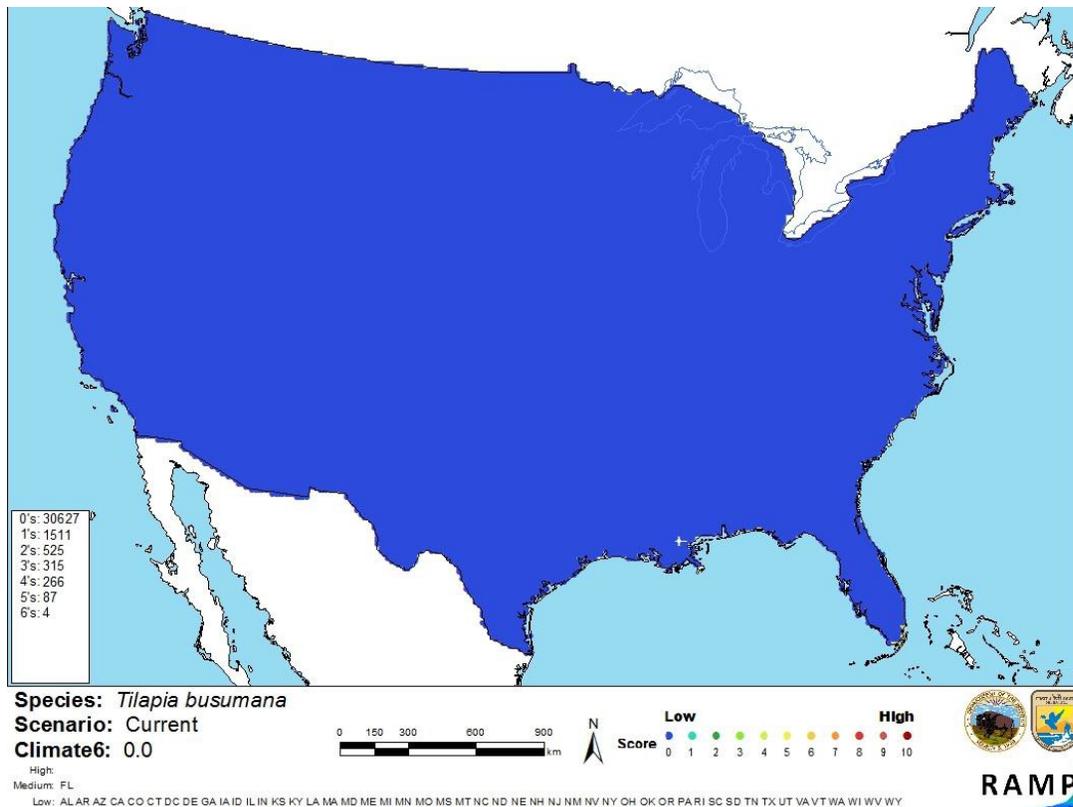


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. busumana* in the continental United States based on source locations reported by GBIF (2015). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

7 Certainty of Assessment

Little information is available on the biology of *T. busumana* and it has not become established outside its native range. The certainty of this assessment is high because the lack of information about this species precludes any assessment other than “uncertain” risk.

8 Risk Assessment

Summary of Risk to the Continental United States

Tilapia busumana is a demersal cichlid native to southeastern Côte d’Ivoire and southwestern Ghana. It has not been reported outside its native range and is vulnerable to extinction within it, according to the IUCN. Because *T. busumana* has no history of invasiveness, it is currently impossible to know what impacts *T. busumana* might have if introduced to the U.S. Climate match to the contiguous U.S. is low. Overall risk is uncertain.

Assessment Elements

- History of Invasiveness (Sec. 3):** Uncertain
- Climate Match (Sec.6):** Low
- Certainty of Assessment (Sec. 7):** High
- 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.

Entsua-Mensah, M., and P. Lalèyè. 2010. *Tilapia busumana*. The IUCN Red List of Threatened Species, version 2015.2. Available: <http://www.iucnredlist.org/details/183007/0>. (June 2015).

Froese, R., and D. Pauly, editors. 2015. *Tilapia busumana* (Günther, 1903). FishBase. Available: <http://www.fishbase.org/summary/Tilapia-busumana.html>. (June 2015).

Global Biodiversity Information Facility (GBIF). 2015. GBIF backbone taxonomy: *Tilapia busumana* (Günther, 1903). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2370667>. (June 2015).

Integrated Taxonomic Information System (ITIS). 2015. *Tilapia busumana* (Günther, 1903). Integrated Taxonomic Information System, Reston, Virginia. Available: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648955. (June 2015).

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

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

Teugels, G. G., and D. F. E. Thys van den Audenaerde. 1992. Cichlidae. Pages 714-779 in C. Levêque, D. Paugy, and G. G. Teugels, editors. Faune des poissons d'eaux douces et saumâtres d'Afrique de l'Ouest, volume 2. Coll. Faune Tropicale n° 28. Musée Royal de l'Afrique Centrale, Tervuren, Belgique, and O.R.S.T.O.M., Paris.

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Trewavas, E. 1983. Tilapiine fishes of the genera *Sarotherodon*, *Oreochromis* and *Danakilia*.
British Museum of Natural History, London, UK.