Tilapia ismailiaensis
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, April 2012
Revised, June 2015

Photograph not available.

1 Native Range, and Status in the United States

Native Range
From Froese and Pauly (2012):

"Africa: Ismailia Canal, Egypt [Mekkawy 1995]"

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.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
From ITIS (2012):

"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 ismailiaensis* Mekkawy, 1995"

"Taxonomic status: valid"

From Azeroual (2010):

"This species is probably a synonym of *Oreochromis ismailiaensis* (Mekkawy 1995)"

Size, Weight, and Age Range

From Froese and Pauly (2012):

"Max length : 9.3 cm SL male/unsexed; [Mekkawy 1995]"

Environment

From Froese and Pauly (2012):

"Freshwater; benthopelagic"

Climate/Range

From Froese and Pauly (2012):

"Temperate"

Distribution Outside the United States

Native

From Azeroual (2010):

"Egypt"

Introduced

No introductions of this species have been reported.

Short description

From Froese and Pauly (2012):

"Dorsal spines (total): 15; Dorsal soft rays (total): 12-13; Anal spines: 3; Anal soft rays: 8 - 9. Head with straight profile, mouth relatively large; maxilla extending to below the anterior border of the eye; the eye relatively large with somewhat dorsolateral position; ventral outline of the body straight [Mekkawy 1995]. Dorsal fin originating directly above the vertical of the posterior end of the operculum; posterior end of dorsal fin pointed; pectoral fin pointed; ventral fin usually reaching the vent; caudal fin truncate [Mekkawy 1995]. Caudal peduncle as long as deep or a little deeper than long [Mekkawy 1995]. Scales not denticulate [Mekkawy 1995]. Unicuspid and bicuspid teeth present on the lower jaw; lower pharyngeal bone width 164% of its length [Mekkawy 1995]. General body colour, the groundcolour, bright grey or yellowish on the lateral sides and blackish dorsolaterally; the ventral surface rosy or blackish reddens [Mekkawy 1995].

Nine wide vertical black bars consisting of 7 bars along the flanks extending from the back ventrally about 2/3 way beyond the midline and of two head bars; the posterior head bar extending ventrally till just above the dorsal edge of the operculum, the anterior head bar short lying dorsal to the vertical of the posterior end of the eye; two longitudinal dark stripes present, the dorsal one extending from the ventral margin of the posterior head bar till the end of the dorsal fin base, the medial stripe running nearly along the midline of the flank from the dorsal hind edge of the operculum to the base of the caudal fin [Mekkawy 1995]. Dorsal fin with or without tilapia mark; dorsal, anal and pelvic fins with black colour; caudal fin black with blackish outer edge; the pectoral fin colourless; black opercular spot present [Mekkawy 1995].

Biology
No information available.

Human uses
No information available.

Diseases
No information available.

Threat to humans
From Froese and Pauly (2012):

"Harmless."

3 Impacts of Introductions
No introductions of this species have been reported.

4 Global Distribution

Figure 1. Known global distribution of *T. ismailiaensis*. Map from GBIF (2015).

5 Distribution within the United States

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

6 CLIMATCH

Summary of Climate Matching Analysis

The climate match (Australian Bureau of Rural Sciences 2010; 16 climate variables; Euclidean Distance) was low throughout much of the United States with the Southwest, particularly southern California exhibiting a medium match. Climate 6 match indicated that the Continental U.S. has a medium climate match. The range for a medium climate match is 0.005<X<0.103. The climate match of *T. ismailiaensis* is 0.0137.

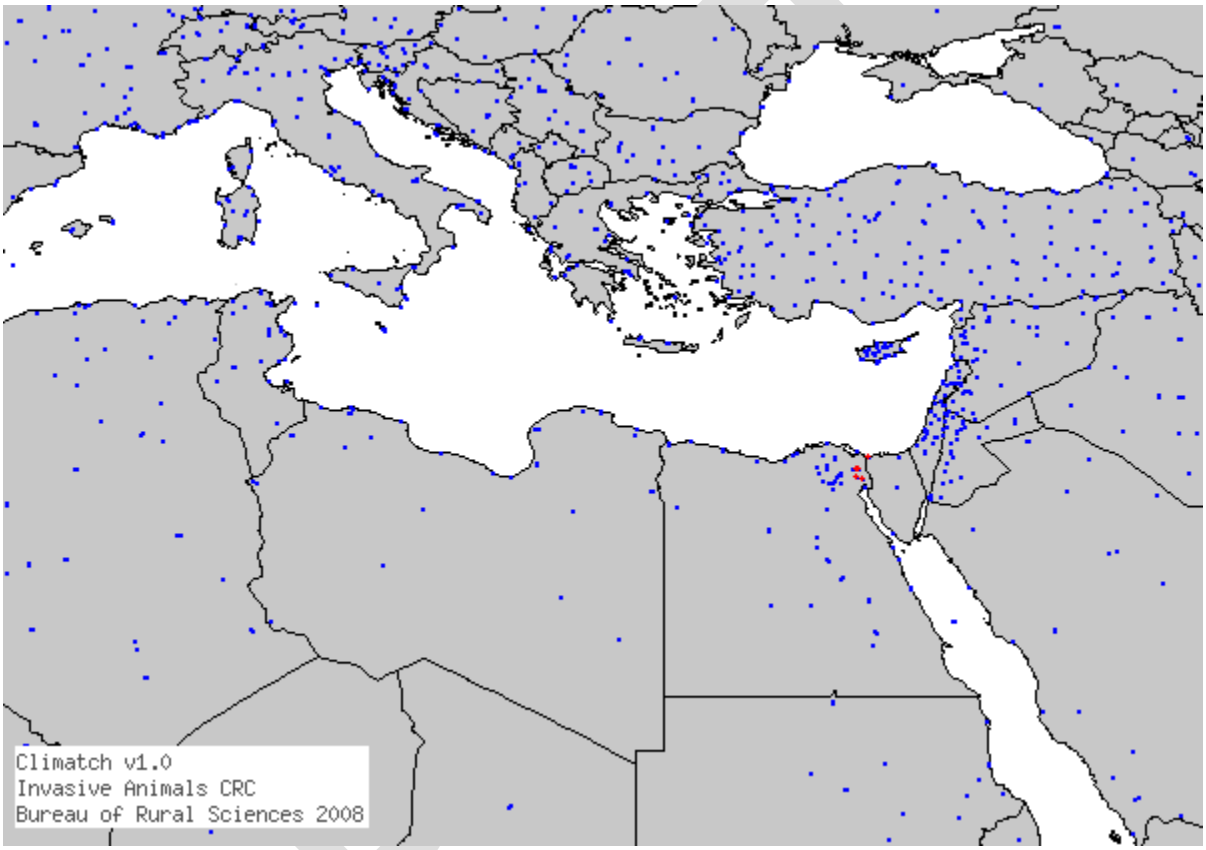

Figure 2. CLIMATCH (Australian Bureau of Rural Sciences 2010) source map showing weather stations selected as source locations (red) and non-source locations (blue) for *T. ismailiaensis* climate matching. Source locations from Froese and Pauly (2012).

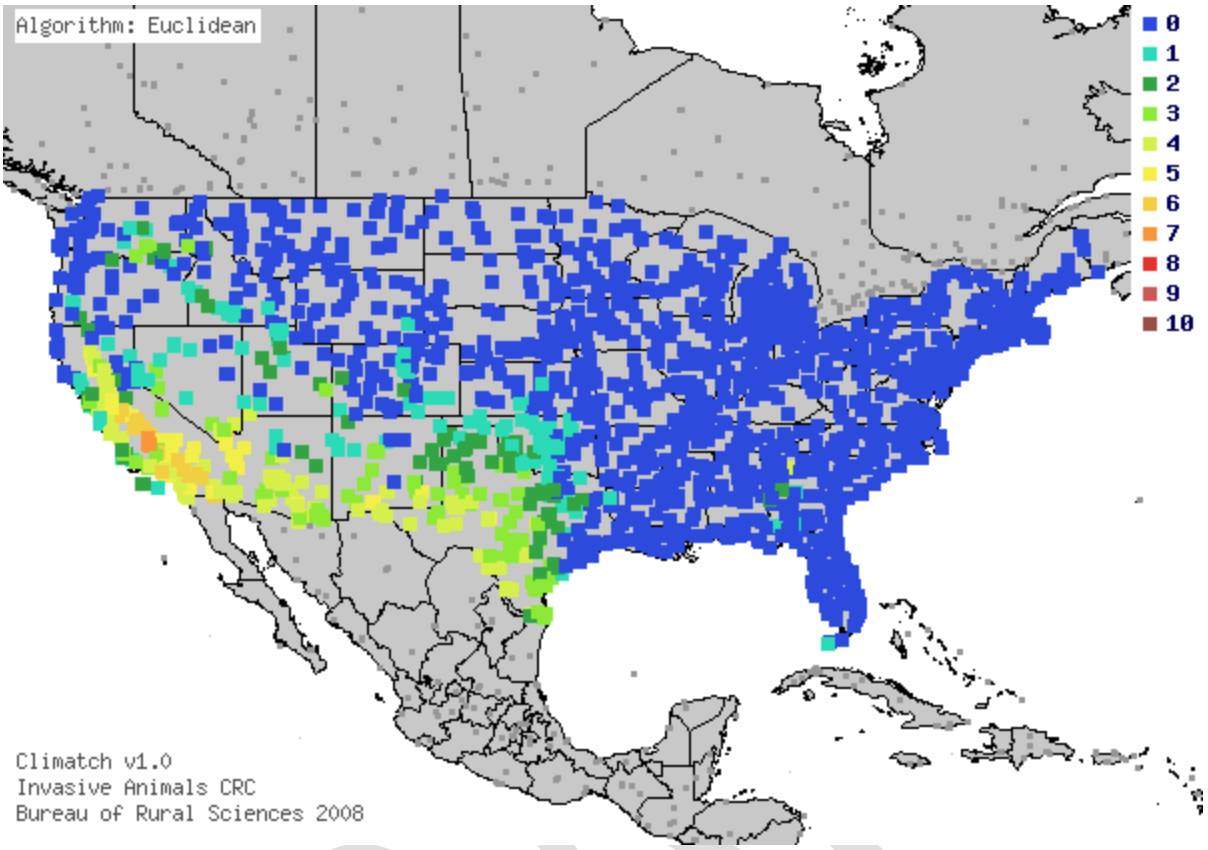

Figure 3. Map of CLIMATCH (Australian Bureau of Rural Sciences 2010) climate matches for *T. ismailiaensis* in the continental United States based on source locations reported by Froese and Pauly (2012). 0= Lowest match, 10=Highest match.

Table 1. CLIMATCH (Australian Bureau of Rural Sciences 2010) climate match scores.

CLIMATCH Score	0	1	2	3	4	5	6	7	8	9	10
Count	1451	127	97	105	122	43	23	4	0	0	0

Climate 6 Proportion = 0.0137 (Medium)

7 Certainty of Assessment

The biology and ecology of *T. ismailiaensis* are poorly known. It has never been introduced outside its native range. The certainty of this assessment is high because the lack of information about the species and potential impacts of its introduction precludes any assessment other than "uncertain" risk.

8 Risk Assessment

Summary of Risk to the Continental United States

T. ismailiaensis has a medium climate match in the continental United States. This species is only known from one location in Egypt. It has not been introduced outside of its native range. Without being able to observe introductions in other parts of the world, it is impossible to know

the potential impacts of introduction of *T. ismailiaensis* to the U.S. The overall risk of this species is uncertain.

Assessment Elements

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

Australian Bureau of Rural Sciences. 2010. CLIMATCH. Available: http://data.daff.gov.au:8080/Climatch/climatch.jsp. (May 2012).

Azeroual, A. 2010. *Tilapia ismailiaensis*. The IUCN Red List of Threatened Species, version 2015.2. Available: http://www.iucnredlist.org/details/182491/0. (June 2015).

Froese, R., and D. Pauly, editors. 2012. *Tilapia ismailiaensis* Mekkawy, 1995. FishBase. Available: http://www.fishbase.org/summary/61390. (April 2012).

Global Biodiversity Information Facility (GBIF). 2015. GBIF backbone taxonomy: *Tilapia ismailiaensis* Mekkawy, 1995. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2370630. (June 2015).

Integrated Taxonomic Information System (ITIS). 2012. *Tilapia ismailiaensis* Mekkawy, 1995. Integrated Taxonomic Information System, Reston, Virginia. Available: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648973. (April 2012).

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.

Mekkawy, I. A. A. 1995. Description of *Tilapia ismailiaensis* sp.n. (Cichlidae) from Egypt. Bulletin of the Faculty of Science, Assiut University 24(2-E):29-43.