

Yellow Catfish (*Tachysurus fulvidraco*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, November 2016

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“Asia: Nam Ma basin (Laos) and Viet Nam to southeastern Siberia [Kottelat 2001]. Recorded from Amur river basin [Bogutskaya and Naseka 1996].”

From Zhao (2011):

“Laos (Nam Ma basin) and Viet Nam to China (Pearl River, Heilong Jiang, and the Yangtze) and southeastern Siberia (from Amur River basin).”

Status in the United States

There were no records of *Tachysurus fulvidraco* in the United States found.

Means of Introductions in the United States

There were no records of *Tachysurus fulvidraco* in the United States found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2016):

“Kingdom Animalia
Phylum Chordata
Class Actinopterygii
Order Saccopharyngiformes
Family Monognathidae
Genus *Tachysurus*”

According to Eschmeyer et al. (2016), *Tachysurus fulvidraco* (Richardson 1846) is the valid name for this species. It was originally described as *Pimelodus fulvidraco* Richardson 1846 and has previously been known as *Pseudobagrus fulvidraco* and *Pelteobagrus fulvidraco*.

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length: 34.5 cm TL male/unsexed; [Berg 1964]; common length: 8.0 cm SL male/unsexed; [Nichols 1943]; max. published weight: 300.00 g [Novikov et al. 2002]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal; non-migratory. [...] 16°C - 25°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1991]”

Climate/Range

From Froese and Pauly (2016):

“Temperate; [...] 55°N - 15°N, 100°E - 143°E”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“Asia: Nam Ma basin (Laos) and Viet Nam to southeastern Siberia [Kottelat 2001]. Recorded from Amur river basin [Bogutskaya and Naseka 1996].”

From Zhao (2011):

“Laos (Nam Ma basin) and Viet Nam to China (Pearl River, Heilong Jiang, and the Yangtze) and southeastern Siberia (from Amur River basin).”

Introduced

From Zhao (2011):

“It has been introduced into Lake Fuzian very successfully.”

Means of Introduction Outside the United States

No information was found on means of introduction outside the United States.

Short Description

From Froese and Pauly (2016):

“Dorsal spines (total): 2; Dorsal soft rays (total): 7; Anal soft rays: 19 – 20”

Biology

From Froese and Pauly (2016):

“Adults occur mainly in river channels and lakes. They feed on the bottom on insects (particularly on trichopterans and chironomids), mollusks, occasionally on fishes [Burgess 1989]. Oviparous [Breder and Rosen 1966]. Eggs are guarded by the males [Breder and Rosen 1966]. Important food fish [Shiming et al. 2011].”

“Males have been reported to guard both the eggs and larvae in the nest hole, previously dug by the male in the clay bottom [Nikolskii 1954].”

From Zhao (2011):

“Present in slow waters in the littoral zone. Successfully introduced into lakes.”

Human Uses

From Froese and Pauly (2016):

“Fisheries: minor commercial; aquaculture: commercial”

From Zhao (2011):

“Important food fish. Successfully cultivated.”

From Ke et al. (2016):

“The yellow catfish *Tachysurus fulvidraco* (Richardson 1846) has become an important farmed fish species in China (Dan et al., 2013).”

Diseases

No records of OIE reportable disease were found.

From Froese and Pauly (2016):

“Camallanus Infection 12, Parasitic infestations (protozoa, worms, etc.)
Procamallanus Infection 15, Parasitic infestations (protozoa, worms, etc.)”

From Li et al. (2016):

“This paper gave detailed description of the fine structure of *Apiosoma piscicola* Blanchard 1885. These parasites were collected from the fry of *Tachysurus fulvidraco* during parasite surveys of fish at Jiangxia Fish Hatchery in Wuhan, Hubei province in May 2011.”

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

No information on the impacts of the introduction of *Tachysurus fulvidraco* was found.

4 Global Distribution



Figure 1. Known global distribution of *Tachysurus fulvidraco* along the southeastern coast of Asia as reported by GBIF Secretariat (2016).

5 Distribution Within the United States

There were no records of *Tachysurus fulvidraco* in the United States found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Tachysurus fulvidraco* was highest in the upper Midwest. It was also high along the southern Atlantic Coast, Florida, and the middle of the country including areas of Texas, Oklahoma, and Kansas. It was especially low in the western forth of the country and northern Atlantic Coast. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.192, high. The following states had high individual climate scores: Florida, Georgia, Iowa, Kansas, Minnesota, Montana, Nebraska, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Texas, and Wisconsin.

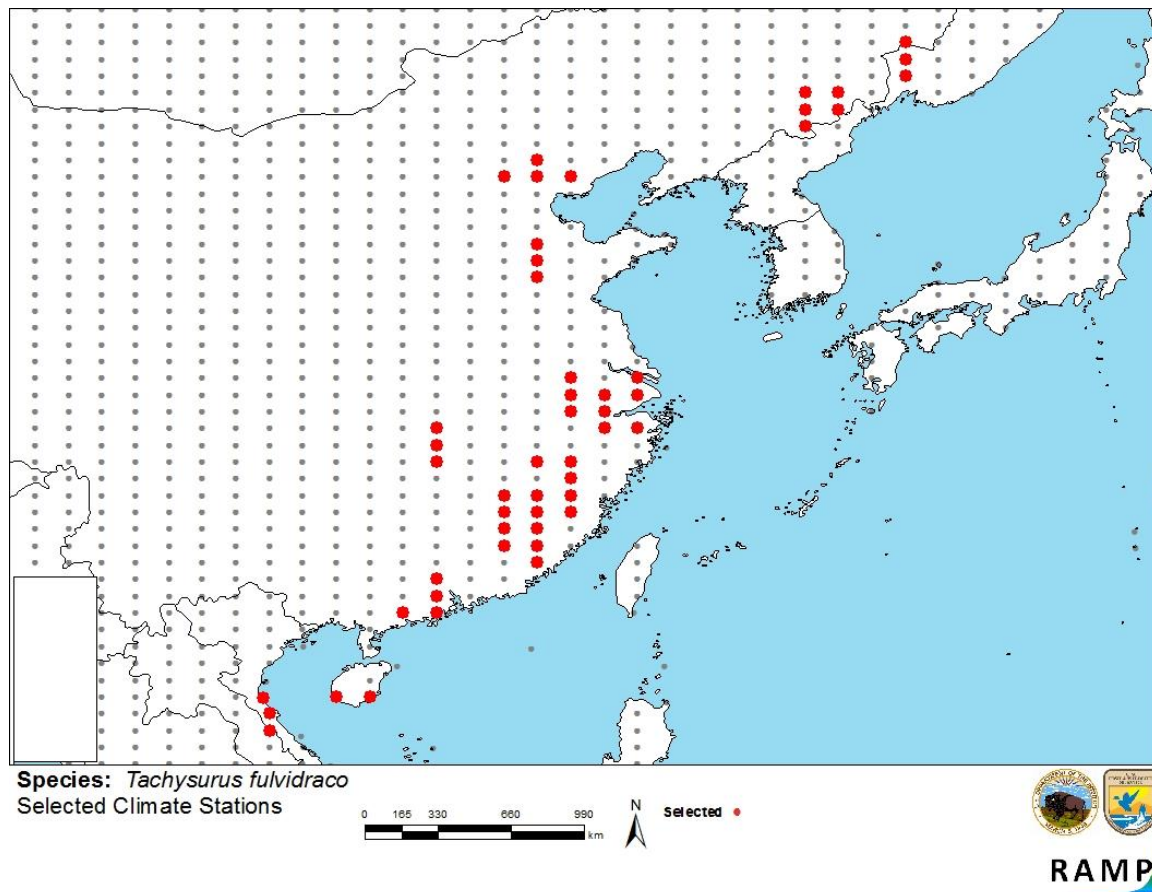


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected along the southeastern coast of Asia as source locations (red) and non-source locations (gray) for *Tachysurus fulvidraco* climate matching. Source locations from GBIF Secretariat (2016).

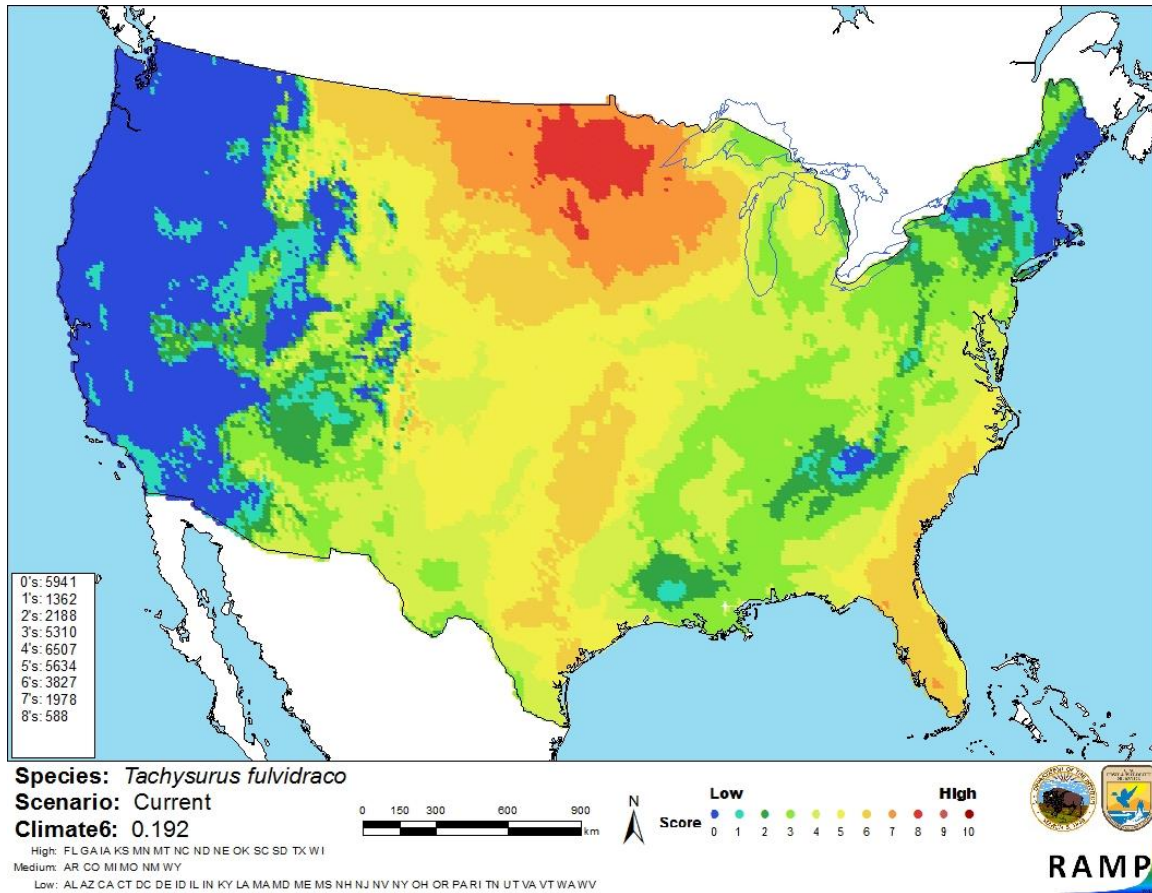


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Tachysurus fulvidraco* in the contiguous United States based on source locations reported by GBIF Secretariat (2016). 0 = Lowest match, 10 = Highest match.

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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

The certainty of this assessment is low. Minimal information about *Tachysurus fulvidraco* was available. A single record of introduction was found with minimal information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Tachysurus fulvidraco* is not documented. A single record of introduction was found but no information on impacts of that introduction was available. No records of introductions were found outside of its native range. The climate match is high with high matches in portions of the upper Midwest, southern Atlantic Coast, Texas, Oklahoma, and Kansas. The certainty of assessment is low due to general lack of information. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): High**
- **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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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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