

***Pethia thelys* (a fish, no common name)**

Ecological Risk Screening Summary

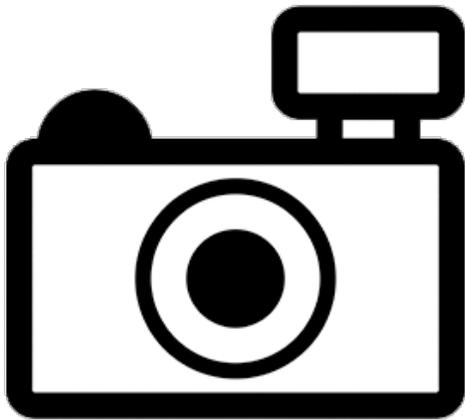
U.S. Fish & Wildlife Service, February 2013

Revised, April 2019

Web Version, 7/10/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

“Asia: Myanmar in streams near Myitkyina and in Lake Indawgyi.”

Status in the United States

Pethia thelys has not been reported as introduced or established in the wild, or in trade in the United States.

Means of Introductions in the United States

Pethia thelys has not been reported as introduced or established in the United States.

Remarks

Research was conducted using both the current valid name, *Pethia thelys*, and the original name *Puntius thelys* (Fricke et al. 2019).

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

“**Current status:** Valid as *Pethia thelys* (Kullander 2008).”

From GBIF Secretariat (2019):

Kingdom Animalia

Phylum Chordata

Class Actinopterygii

Order Cypriniformes

Family Cyprinidae

Genus *Pethia*

Species *Pethia thelys* (Kullander, 2008)

Size, Weight, and Age Range

From Froese and Pauly (2019):

“Max length : 4.2 cm SL male/unsexed; [Kullander 2008]”

Environment

From Froese and Pauly (2019):

“Freshwater; benthopelagic.”

Climate

From Froese and Pauly (2019):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2019):

“Asia: Myanmar in streams near Myitkyina and in Lake Indawgyi.”

Introduced

Pethia thelys has not been reported as introduced anywhere outside of its native range.

Means of Introduction Outside the United States

Pethia thelys has not been reported as introduced anywhere outside of its native range.

Short Description

From Froese and Pauly (2019):

“Dorsal soft rays (total): 11-12; Anal soft rays: 8. Belongs to the *Puntius conchoni* species group distinguished by the following combination of characters: absence of barbels, absence of humeral mark; presence of prominent dark blotch anteriorly on caudal peduncle, chiefly on scales 17-18 or 18-19 in lateral row; dorsal fin in males with two rows of dark blotches and dark margin, blotches anteriorly on fin most prominent; anal and pelvic fins immaculate; lateral line short, on 6-11 scales; scales in lateral row 20-23. Differs from similar species *Puntius macrogramma*, and *Puntius stoliczkanus* by having short lateral line (vs. complete or almost complete) and the absence of humeral mark; from *Puntius conchoni* by having larger caudal peduncle blotch and dark color of dorsal fin in two rows of spots crossing middle of fin (vs. forming a dark marginal blotch) [Kullander 2008].”

Biology

From Singh (2015):

“*Pethia thelys* inhabits ponds, swamps, streams, rivers and lakes.”

Human Uses

From Singh (2015):

“This species [is] of no interest to fisheries. However, the fish may be used as a good aquarium fish. The fish available in the local fish market in Myanmar.”

Diseases

No OIE-reportable diseases (OIE 2020) were found to be associated with *Pethia thelys*. No information on diseases was found.

Threat to Humans

From Froese and Pauly (2019):

“Harmless”

3 Impacts of Introductions

Pethia thelys have not been reported as introduced anywhere outside of their native range.

4 History of Invasiveness

Pethia thelys have not been reported as introduced anywhere outside of their native range. Therefore, the history of invasiveness is classified as No Known Nonnative Population.

5 Global Distribution

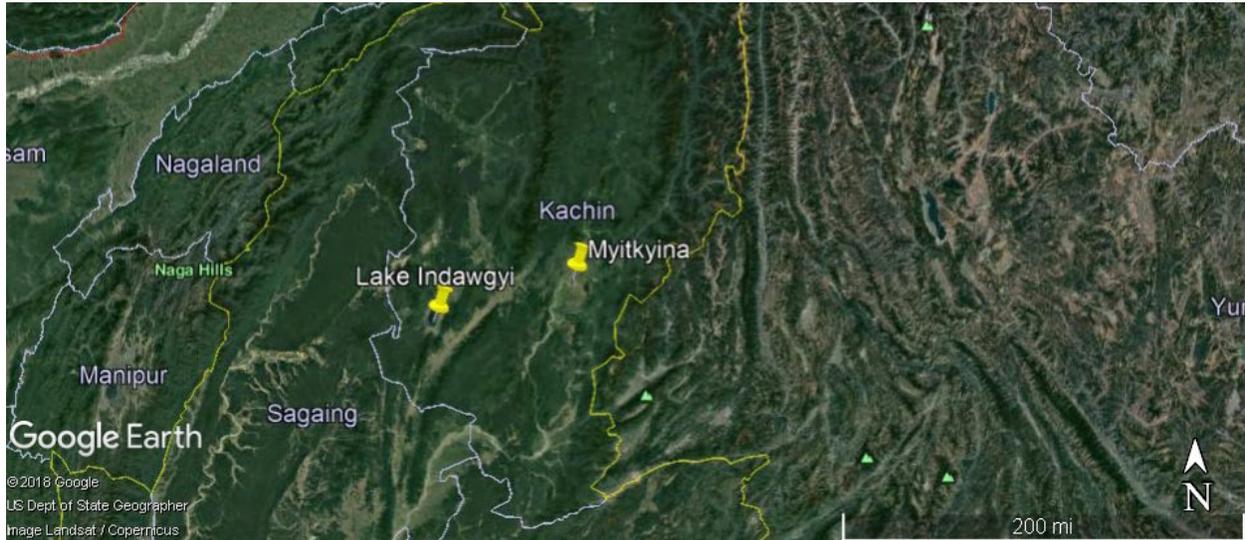


Figure 1. Map of northern Myanmar in southeastern Asia. According to Froese and Pauly (2019), *Pethia thelys* is found in Lake Indawgyi and the streams of Myitkyina. Map from Google Earth (2019).

No georeferenced observations were available for *Pethia thelys* to use as source locations for the climate match. Source points for the climate match were chosen to represent the reported localities in Myanmar from Froese and Pauly (2019).

6 Distribution Within the United States

Pethia thelys has not been reported in the United States.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for the contiguous United States was low. No areas of high or medium match were found. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.000, a low score (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual climate scores. No georeferenced observations were available to use in selecting source points for the climate match. Source points for the climate match were chosen to represent the reported localities in Myanmar from Froese and Pauly (2019).

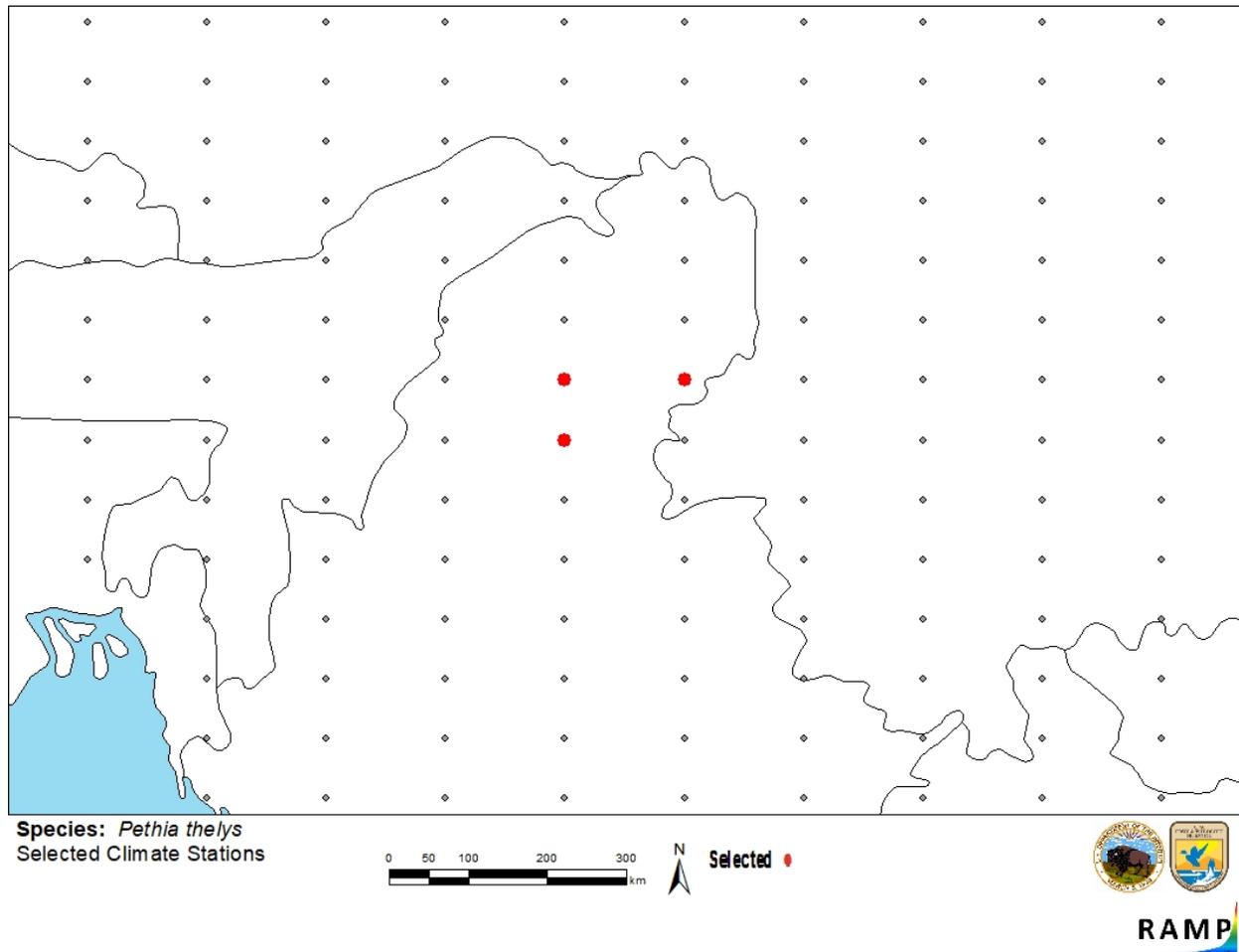


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southeast Asia selected as source locations (red; Myanmar) and non-source locations (gray) for *Pethia thelys* climate matching. Source locations from Froese and Pauly (2019). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

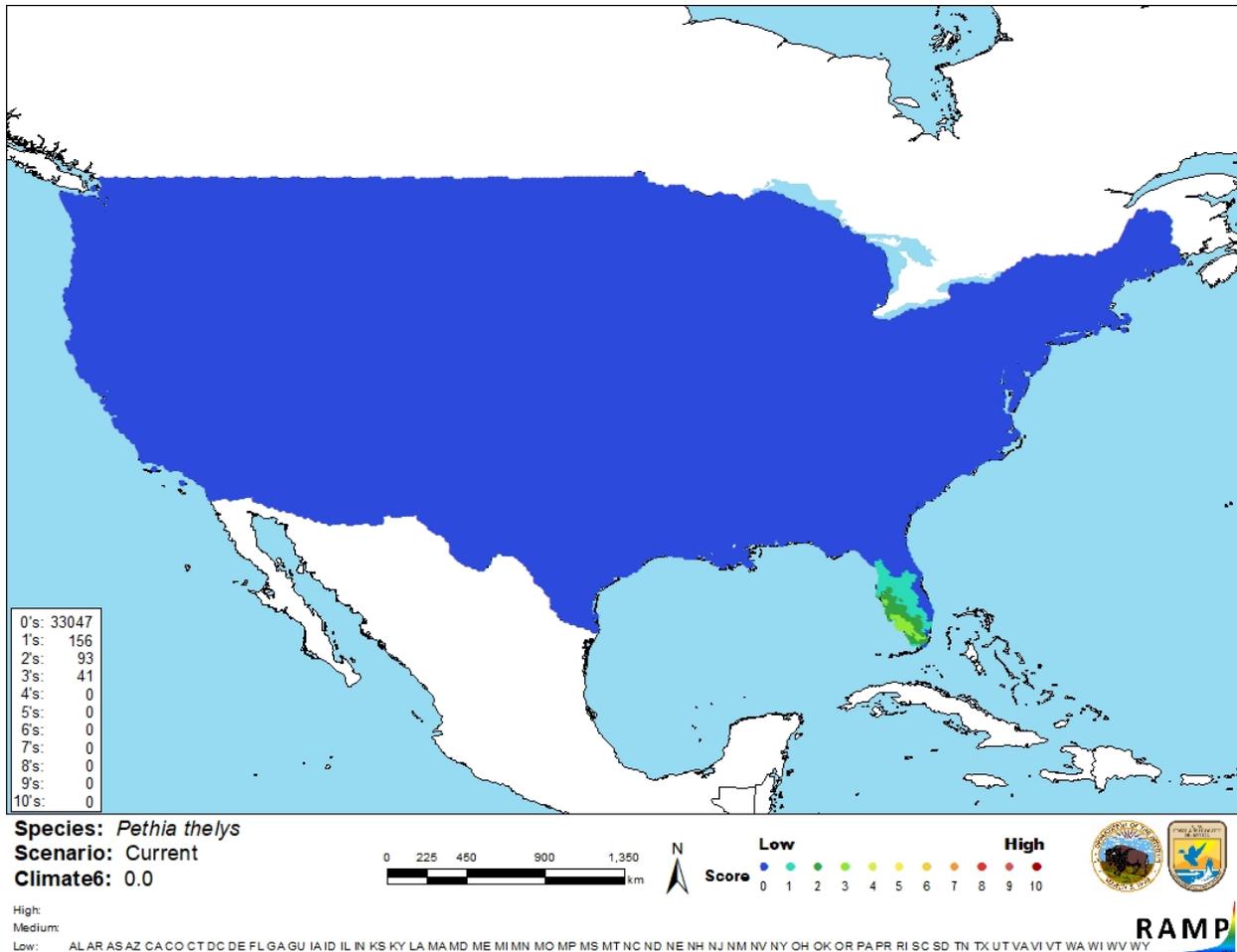


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Pethia thelys* in the contiguous United States based on source locations reported by Froese and Pauly (2019). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

Certainty of assessment is low. The range of the species is known but minimal biological information was available for *Pethia thelys*. No georeferenced observations were available to use in selecting source points for the climate match. However, the description of the range mentioned

specific water bodies that were used to select source points. This species has not been reported as introduced outside of its native range.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pethia thelys is a freshwater fish native to northern Myanmar. The species is found in local fish markets in Myanmar, presumably as a food source. There was also a report that it may be present in the aquarium industry. This species has not been reported anywhere outside of its native range. History of invasiveness is classified as No Known Nonnative Population. No georeferenced points were available, so the climate match is based on a verbal description of the species range. The climate match for the contiguous United States is low; no areas of high or medium match were found. The certainty of this assessment is low due to a lack of information. The overall risk assessment category for *Pethia thelys* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information: No additional remarks**
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Fricke R, Eschmeyer WN, van der Laan R, editors. 2019. Eschmeyer's catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (April 2019).

Froese R, Pauly D, editors. 2019. *Pethia thelys* (Kullander, 2008). FishBase. Available: <http://www.fishbase.org/summary/Pethia-thelys.html> (April 2019).

GBIF Secretariat. 2019. GBIF backbone taxonomy: *Pethia thelys* (Kullander, 2008). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/7854963> (April 2019).

[OIE] World Organisation for Animal Health. 2020. OIE-listed diseases, infections and infestations in force in 2020. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2020/> (July 2020).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

Singh L. 2015. *Pethia thelys*. The IUCN Red List of Threatened Species 2015: e.T168429A70431990. Available: <http://dx.doi.org/10.2305/IUCN.UK.2015-1.RLTS.T168429A70431990.en> (April 2019).

11 Literature Cited in Quoted Material

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.

Kullander SO. 2008. Five new species of *Puntius* from Myanmar (Teleostei: Cyprinidae). *Ichthyological Explorations of Freshwater* 19:59–84.