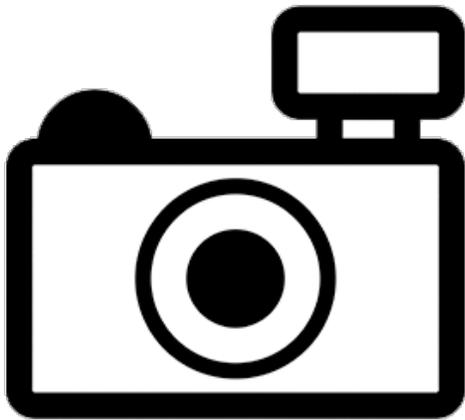


# Shalyni Barb (*Pethia shalynius*)

## Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013  
Revised, April 2019  
Web Version, 7/1/2020

Organism Type: Fish  
Overall Risk Assessment Category: Uncertain



No Photo Available

## 1 Native Range and Status in the United States

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### Native Range

From Froese and Pauly (2019a):

“Asia: Assam and Meghalaya in India.”

### Status in the United States

There are no records of *Pethia shalynius* in the wild or in trade the United States.

### Means of Introductions in the United States

There are no records of any introductions of *Pethia shalynius* in the United States.

## Remarks

*Pethia shalynius* recently underwent a name change from *Puntius shalynius* to *Pethia shalynius* (Fricke et al. 2019), therefore the information search was conducted using both names. According to Dahanukar (2015), this species is listed as Vulnerable by the IUCN.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

“**Current status:** Valid as *Pethia shalynius* (Yazdani & Talukdar 1975).”

From Froese and Pauly (2019b):

“Animalia (Kingdom).> Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Cypriniiformes (Order) > Cyprinidae (Family) > Barbinae (Subfamily) > *Pethia* (Genus) > *Pethia shalynius* (Species)”

### Size, Weight, and Age Range

From Froese and Pauly (2019a):

“Max length : 6.0 cm TL male/unsexed; [Talwar and Jhingran 1991]”

From Manorama and Ramanujam (2017):

“In Meghalaya and Assam in India the size of this fish ranges from 6.3 to 7.0 cm in total length (Manorama et al. 2014).”

### Environment

From Froese and Pauly (2019a):

“Freshwater; benthopelagic.”

### Climate

From Froese and Pauly (2019a):

“Tropical”

### Distribution Outside the United States

Native

From Froese and Pauly (2019a):

“Asia: Assam and Meghalaya in India.”

## Introduced

There are no records of introductions of *Pethia shalynius* outside of its native range.

## Means of Introduction Outside the United States

There are no records of introductions of *Pethia shalynius* outside of its native range.

## Short Description

A short description of *Pethia shalynius* was not available.

## Biology

From Froese and Pauly (2019a):

“Found in hill streams [Talwar and Jhingran 1991].”

From Dahanukar (2015):

“It occurs only in the hill streams and ponds of Meghalaya restricted to less than 15,000 km<sup>2</sup> range.”

“*Pethia shalynius* spawns in rice paddies (Engeszer et al. 2007).”

From Manorama and Ramanujam (2017):

“Gut content analysis revealed that the food items of *P. shalynius* consist of detritus, phytoplankton, nematodes, zooplankton, insects, plant matter and unidentified algae based on the frequency of occurrence and volumetric method.”

“The study revealed that the *P. shalynius* is an omnivorous, bottom feeder in nature and that the environment plays an important role in governing the food and feeding habits of the species.”

## Human Uses

From Froese and Pauly (2019a):

“Fisheries: minor commercial”

From Manorama and Ramanujam (2017):

“*Pethia shalynius* (Yazdani and Talukdar 1975), [...] important species known for its food and ornamental value.”

## Diseases

There are no records of disease available for *Pethia shalynius*. **There are no OIE reportable diseases (OIE 2020) recorded for *Pethia shalynius*.**

## Threat to Humans

From Froese and Pauly (2019a):

“Harmless”

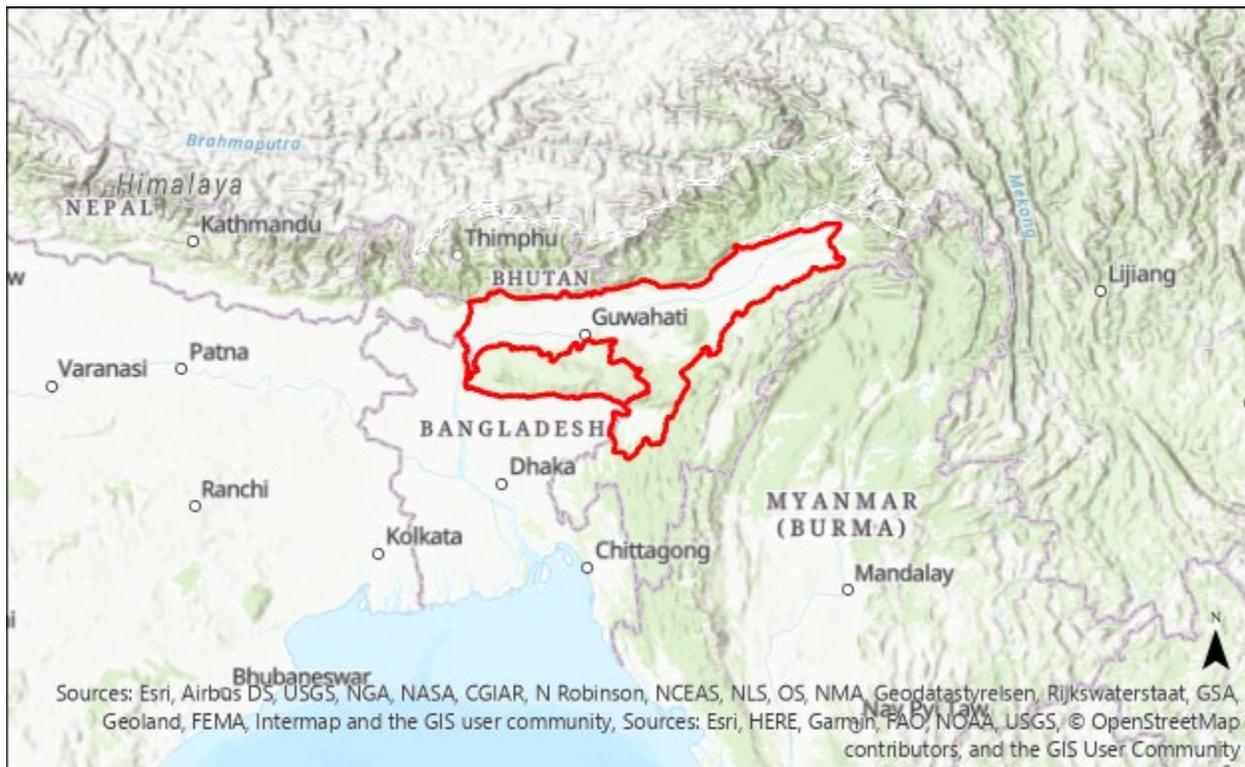
## 3 Impacts of Introductions

There are no records of introductions of *Pethia shalynius* outside of its native range.

## 4 History of Invasiveness

There are no records of introductions of *Pethia shalynius* outside of its native range, therefore the history of invasiveness is classified as No Known Nonnative Population.

## 5 Global Distribution



**Figure 1.** Known global distribution of *Pethia shalynius*. *P. shalynius* is native to the provinces of Meghalaya and Assam, India (Froese and Pauly 2019a). Map created with ArcGIS Pro (Esri 2019).

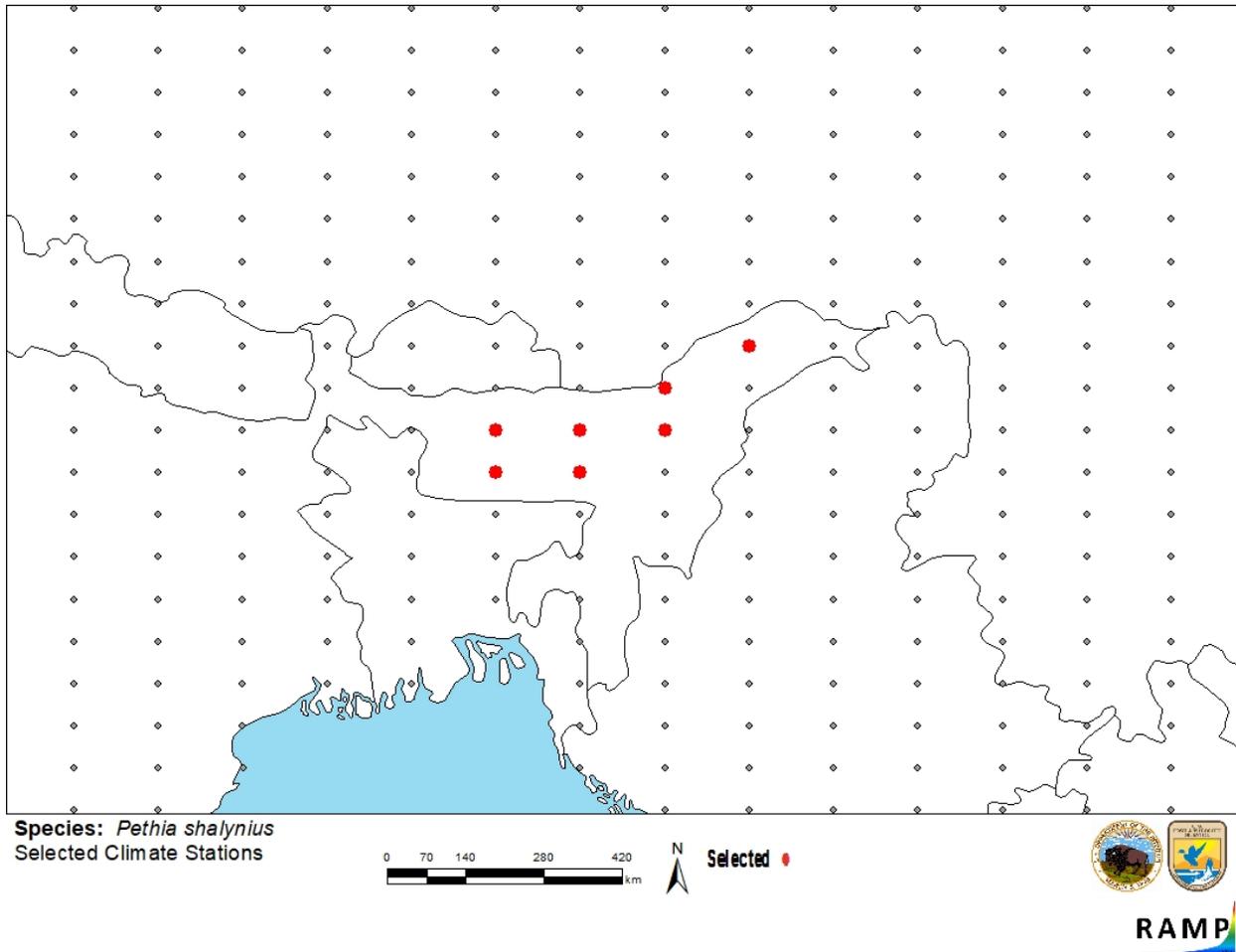
## 6 Distribution Within the United States

There are no records of any introductions of *Pethia shalynius* in the United States.

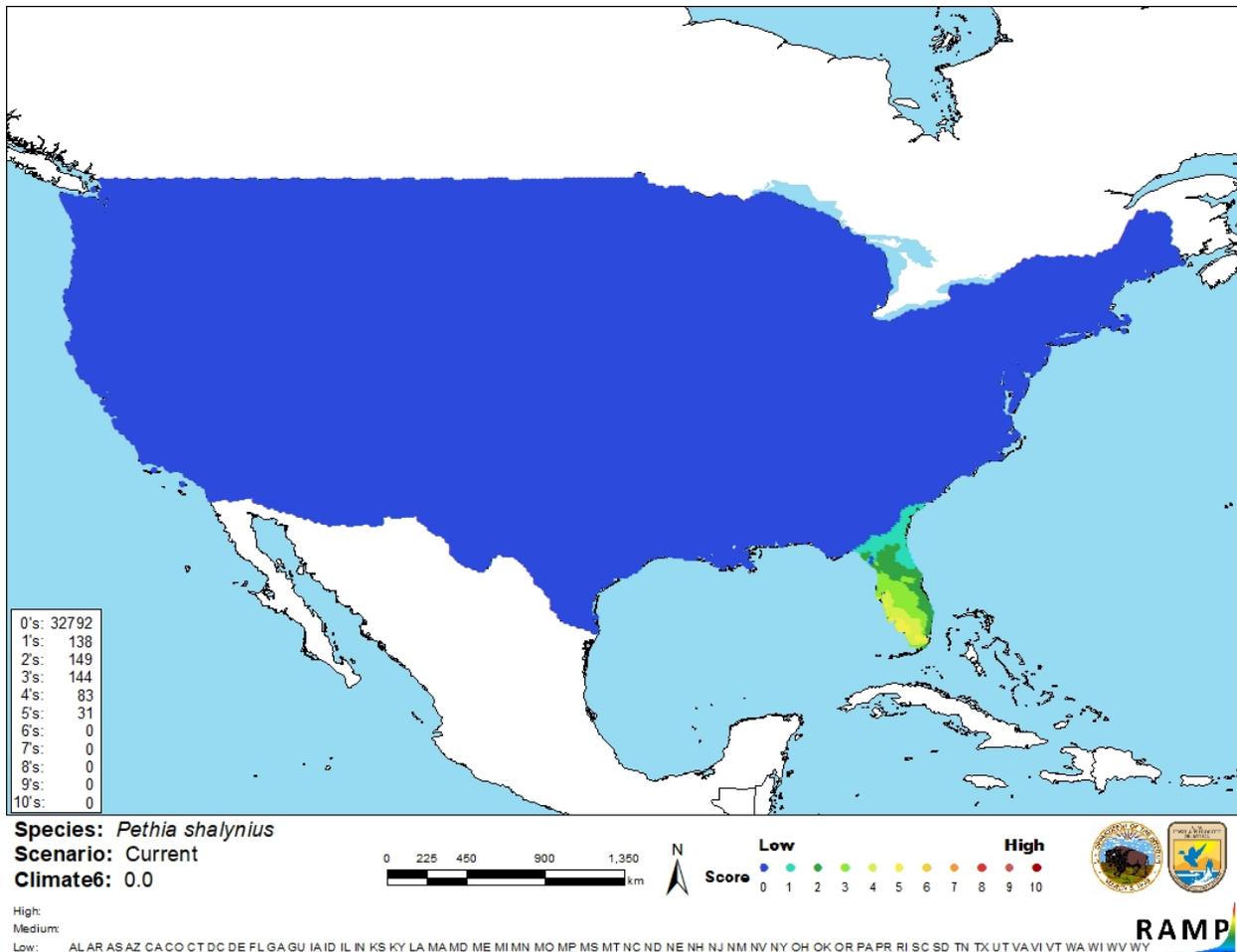
# 7 Climate Matching

## Summary of Climate Matching Analysis

The climate match for *Pethia shalynius* was low for a majority of the contiguous United States. There were some patches of medium match along the southwestern coast of Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual Climate 6 scores. No georeferenced observations were available to use in selecting source points for the climate match.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in southern Asia (showing portions of India, Nepal, Bhutan, Bangladesh, China, and Myanmar) selected as source locations (red; India) and non-source locations (gray) for *Pethia shalynius* climate matching. Source points represent the geographic area of the Meghalaya and Assam provinces in India, the described range of *P. shalynius* (Froese and Pauly 2019a).



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Pethia shalynius* in the contiguous United States based on source locations reported by Froese and Pauly (2019a). 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
$\geq 0.103$	High

## 8 Certainty of Assessment

The certainty of assessment for *Pethia shalynius* is low. *Pethia shalynius* has not been reported as introduced outside of its native range; therefore there is no information to assess a history of invasiveness. Further, no georeferenced locations were available for the climate match. Range

was estimated based on verbal description in Froese and Pauly 2019a which reduces the confidence in the climate match results.

## 9 Risk Assessment

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### Summary of Risk to the Contiguous United States

Shalyni Barb (*Pethia shalynius*) is a fish endemic to the Meghalaya and Assam provinces in northeastern India. This species is classified on the IUCN Red List as Vulnerable. *P. shalynius* has minor commercial value for food, and is also an ornamental fish. The history of invasiveness is classified as No Known Nonnative population. It has not been reported outside of its native range. The overall climate match for the contiguous United States was low with a medium match only along the western coast of peninsular Florida. There were no georeferenced observations available to use for selecting source points for the climate match, therefore the confidence in the results is reduced. The certainty of assessment is low due to a lack of information. The overall risk assessment category for *Pethia shalynius* 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: IUCN classification as Vulnerable.**
- **Overall Risk Assessment Category: Uncertain**

## 10 Literature Cited

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

Dahanukar N. 2015. *Pethia shalynius*. The IUCN Red List of Threatened Species 2015: e.T166441A70416071. Available: <https://www.iucnredlist.org/species/166441/70416071> (March 2019).

Esri. 2019. ArcGIS Pro: release 2.4.3. Redlands, California: Environmental Systems Research Institute.

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> (March 2019).

Froese R, Pauly D, editors. 2019a. *Pethia shalynius* (Yazdani and Talukdar, 1975). FishBase. Available: <https://www.fishbase.se/summary/Pethia-shalynius.html> (March 2019).

Froese R, Pauly D, editors. 2019b. *Pethia shalynius*. In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1012860> (March 2019).

Manorama M, Ramanujam SN. 2017. Diet of threatened fish *Pethia shalynius* (Yazadani and Talukdar 1975) in the Umiam River, Northeast India. *Asian Fisheries Society* 30:38–49.

[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.

## 11 Literature Cited in Quoted Material

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**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.**

Engeszer RE, Patterson LB, Rao AA, Parichy DM. 2007. Zebrafish in the wild: a review of natural history and new notes from the field. *Zebrafish* 4:21–40.

Manorama M, Ramanujam SN, Dey S. 2014. Scanning electron microscopy of some vital structures of *Puntius shalynius* Yazdani and Talukdar 1975, an endemic hill-stream fish of North East India. *Journal of Advanced Microscopy Research* 9:1–7.

Talwar PK, Jhingran AG. 1991. Inland fishes of India and adjacent countries. Volume 1. Rotterdam, Netherlands: A.A. Balkema.