

Onespot Barb (*Puntius terio*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013

Revised, March 2019

Web Version, 8/7/2019



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Available: <https://www.gbif.org/occurrence/2251398993>. (August 7, 2019).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

“Asia: Pakistan, India, Bangladesh [Talwar and Jhingran 1991] and Myanmar [Menon 1999].”

From Dahanukar (2010):

“*Puntius terio* occurs widely in northern India (Uttar Pradesh, Bihar, Assam, West Bengal, Orissa, Manipur, and Meghalaya), Bangladesh and Pakistan (Jayaram 1991). Recently recorded from Nepal [considered to be a previously unrecorded part of the native range] (Edds and Ng 2007).”

Status in the United States

There are no records of *Puntius terio* in the wild or in trade in the United States.

Means of Introductions in the United States

There are no records of *Puntius terio* in the wild in the United States.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

“**Current status:** Valid as *Puntius terio* (Hamilton 1822).”

From ITIS (2019):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Puntius*
Species *Puntius terio* (Hamilton, 1822)”

Size, Weight, and Age Range

From Froese and Pauly (2019):

“Max length : 10.0 cm TL male/unsexed; [Menon 1999]”

Environment

From Froese and Pauly (2019):

“Freshwater; benthopelagic; pH range: 7.0 - 8.0; dH range: 15 - 30. [...] 18°C - 28°C [Baensch and Riehl 1997] [assumed to be recommended aquarium temperature]”

Climate/Range

From Froese and Pauly (2019):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2019):

“Asia: Pakistan, India, Bangladesh [Talwar and Jhingran 1991] and Myanmar [Menon 1999].”

From Dahanukar (2010):

“*Puntius terio* occurs widely in northern India (Uttar Pradesh, Bihar, Assam, West Bengal, Orissa, Manipur, and Meghalaya), Bangladesh and Pakistan (Jayaram 1991). Recently recorded from Nepal [considered to be a previously unrecorded part of the native range] (Edds and Ng 2007).”

Introduced

There are no records of introductions of *Puntius terio* outside of its native range.

Means of Introduction Outside the United States

There are no records of introductions of *Puntius terio* outside of its native range.

Short Description

From Dahanukar (2010):

“The reddish spot on the gill-cover, punctuated lateral line running from the dark ocellus lying over the last rays of the anal fin, and sometimes a dark streak in the dorsal fin, are sufficient to characterise this species for aquarists.”

From Jha et al. (2013):

“This fish has incomplete lateral line with 22 to 24 scales on the lateral line, barbels absent, dorsal fin spine smooth and osseous and round golden-edged black blotch on 16th to 18th scales.”

Biology

From Froese and Pauly (2019):

“Found in rivers, canals, ponds, ditches and inundated fields [Rahman 1989]. Occurs in standing waters over silt and mud [Menon 1999].”

From Dahanukar (2010):

“The females are more robust when mature (Talwar and Jhingran 1991).”

Human Uses

From Froese and Pauly (2019):

“Aquarium: commercial”

From Dahanukar (2010):

“*Puntius terio* is of commercial importance in the aquarium trade industry.”

Diseases

No disease recorded for *Puntius terio*. **No OIE-reportable diseases (OIE 2019) recorded for *Puntius terio*.**

Threat to Humans

From Froese and Pauly (2019):

“Harmless”

3 Impacts of Introductions

There are no records of introductions of *Puntius terio* outside of its native range.

4 Global Distribution

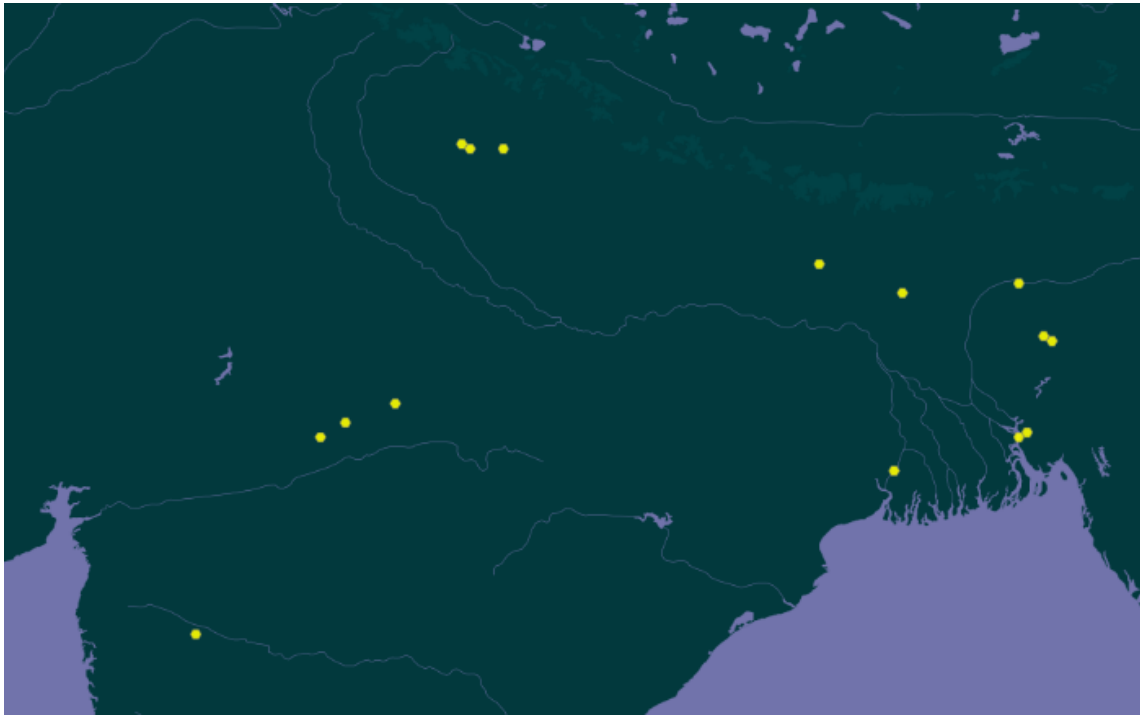


Figure 1. Known global distribution of *Puntius terio*. Locations are in northern India, Nepal, and Bangladesh. Map from GBIF Secretariat (2019).

Georeferenced observations were not available from the species' range in Pakistan or Myanmar.

5 Distribution Within the United States

There are no records of *Puntius terio* in the wild in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Puntius terio* was low for the majority of the contiguous United States. However, there were some patches of medium match along the southern border from California to Texas and in southern 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.

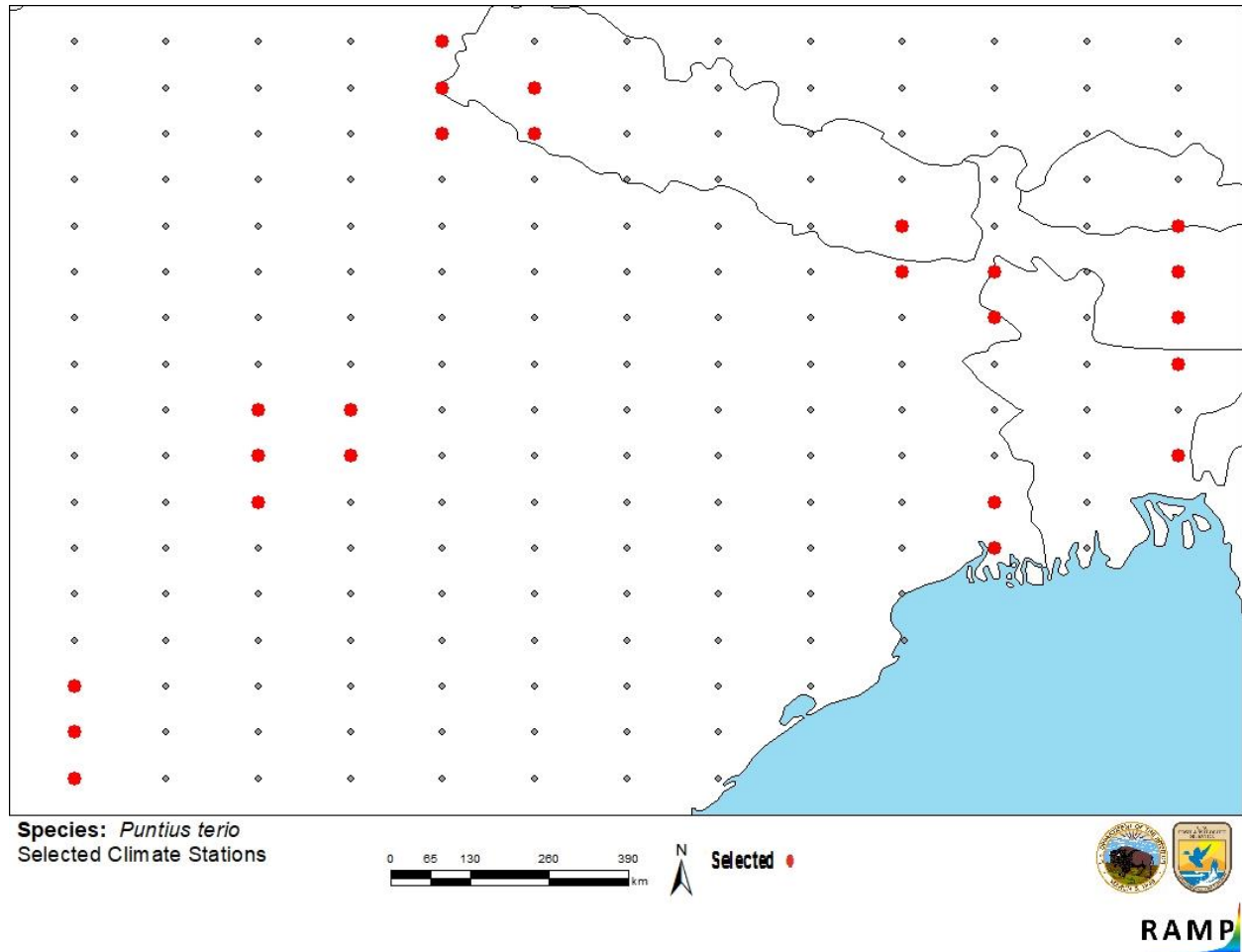


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Asia selected as source locations (red; India, Bangladesh, Nepal, and Bhutan) and non-source locations (gray) for *Puntius terio* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

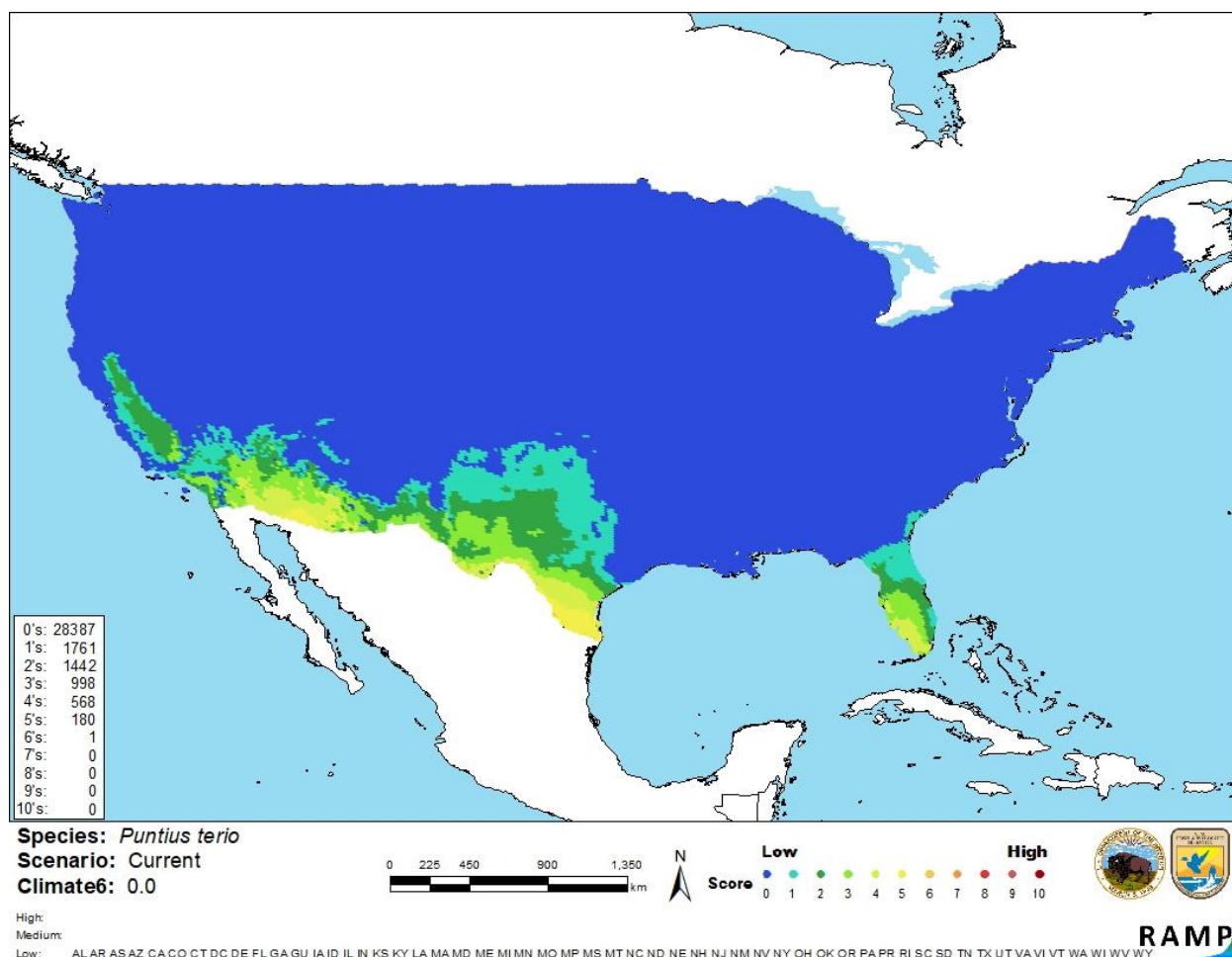


Figure 3. Map of RAMP (Sanders et al. 2018) climate matching for *Puntius terio* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

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 assessment for *Puntius terio* is low. There is minimal information available for this species. *Puntius terio* has not been recorded outside of its native range. Therefore there is no information on impacts of introductions.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The Onespot Barb (*Puntius terio*) is a fish that is native to Pakistan, India, Bangladesh, Nepal and Myanmar. The history of invasiveness is uncertain. It has not been reported as introduced or established anywhere outside of its native range, even though it is a popular aquarium fish internationally. The climate match for the contiguous United States was low with a medium match along the southern border from California to Texas and in southern Florida. The certainty of assessment is low due to lack of information. The overall risk assessment category is uncertain.

Assessment Elements

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

- Dahanukar, N. 2010. *Puntius terio*. The IUCN Red List of Threatened Species 2010: e.T166560A6236743. Available: <https://www.iucnredlist.org/species/166560/6236743> (March 2019).
- Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2019. Eschmeyer's catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (March 2019).
- Froese, R., and D. Pauly, editors. 2019. *Puntius terio* (Hamilton, 1822). FishBase. Available: <https://www.fishbase.se/summary/Puntius-terio.html>. (March 2019).
- GBIF Secretariat. 2019. GBIF backbone taxonomy: *Puntius terio* (Hamilton, 1822). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2364088>. (March 2019).
- ITIS (Integrated Taxonomic Information System). 2019. *Puntius terio* (Hamilton, 1822). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689859#null. (March 2019).

Jha, K. K., O. Tamuk, T. K. Ghosh, and V. C. Jha. 2013. First ever record of the threatened Onespot Barb fish, *Puntius terio* (Hamilton) from Arunachal Pradesh, India: a biodiversity hot spot. *International Journal of Fisheries and Aquaculture* 5(5):66–70.

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Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. 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. 1997. *Aquarien atlas*, band 5. Mergus Verlag, Melle, Germany.

Edds, D. R., and H. H. Ng. 2007. Additions to the ichthyofauna of Nepal, with a redescription of *Neoeucirrhichthys maydelli* (Teleostei: Cobitidae). *Ichthyological Exploration of Freshwaters* 18(2):125–132.

Jayaram, K. C. 1991. Revision of the genus *Puntius* Hamilton from the Indian region (Pisces: Cypriniformes, Cyprinidae, Cyprininae). *Records of the Zoological Survey of India Occasional Paper* 135:1–178.

Menon, A. G. K. 1999. Check list - fresh water fishes of India. *Recreational Zoological Survey. India, Miscellaneous Publications, Occasional Papers* 175.

Rahman, A. K. A. 1989. *Freshwater fishes of Bangladesh*. Zoological Society of Bangladesh. Department of Zoology, University of Dhaka.

Talwar, P. K., and A. G. Jhingran. 1991. *Inland fishes of India and adjacent countries*, volume 1. A.A. Balkema, Rotterdam, the Netherlands.