

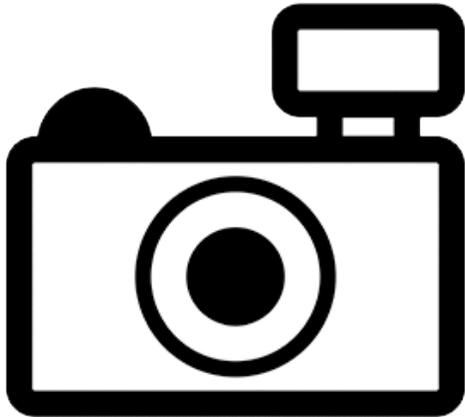
Greenstripe Barb (*Puntius vittatus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013

Revised, April 2019

Web Version, 8/8/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

“Asia: Pakistan, India and Sri Lanka.”

From Dahanukar (2011):

“*Puntius vittatus* is known from India, Sri Lanka and Pakistan (Jayaram 1991). It is widely distributed in west and east flowing rivers of peninsular India and is known from Kerala (Beevi and Ramachandran 2009, Radhakrishnan and Kurup 2010, Baby et al. 2010), Goa (Tilak 1972), Karnataka (Talwar and Jhingran 1991), Tamil Nadu (Daniels and Rajgopal 2004, Ramanujam and Anbarasan 2009), Maharashtra (Chandanshive et al. 2007), Kutch (Talwar and Jhingran 1991), Bihar (Talwar and Jhingran 1991), Rajasthan (Talwar and Jhingran 1991) and Uttarkhand (Atkore et al. 2011).”

Status in the United States

There are no records of any wild or established populations of *Puntius vittatus* in the United States. There were no records of this species in trade in the United States.

Means of Introductions in the United States

There are no records of any wild or established populations of *Puntius vittatus* 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 vittatus* Day 1865.”

From ITIS (2019):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysii
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Puntius*
Species *Puntius vittatus* Day, 1865”

Size, Weight, and Age Range

From Froese and Pauly (2019):

“Max length : 5.0 cm TL male/unsexed; [Pethiyagoda 1991]; common length : 3.5 cm TL male/unsexed; [Menon 1999]”

Environment

From Froese and Pauly (2019):

“Freshwater; brackish; benthopelagic; pH range: 6.0 - 6.5; dH range: 8 - 15. [...] 20°C - 24°C [Baensch and Riehl 1985] [assumed to be the 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 and Sri Lanka.”

From Dahanukar (2011):

“*Puntius vittatus* is known from India, Sri Lanka and Pakistan (Jayaram 1991). It is widely distributed in west and east flowing rivers of peninsular India and is known from Kerala (Beevi and Ramachandran 2009, Radhakrishnan and Kurup 2010, Baby et al. 2010), Goa (Tilak 1972), Karnataka (Talwar and Jhingran 1991), Tamil Nadu (Daniels and Rajgopal 2004, Ramanujam and Anbarasan 2009), Maharashtra (Chandanshive et al. 2007), Kutch (Talwar and Jhingran 1991), Bihar (Talwar and Jhingran 1991), Rajasthan (Talwar and Jhingran 1991) and Uttarkhand (Atkore et al. 2011).”

Introduced

According to Froese and Pauly (2019) *Puntius vittatus* has been introduced into the Maldivian Islands but its current status in the area, where it was introduced from, and how it was introduced is not available.

Means of Introduction Outside the United States

From FAO (2019):

“Reasons of Introduction: 1) ornamental”

Short Description

There is no information on a short description of *Puntius vittatus*.

Biology

From Froese and Pauly (2019):

“Occurs in ponds, streams and lakes in plains [Menon 1999]. Often found in rice fields. Enters brackish water. Feeds mainly on filamentous algae and blue-green algae [Pethiyagoda 1991].”

From Dahanukar (2011):

“Found in shallow waters, with moderate flow and submerged vegetation. They are generally seen at the edges of small pools.”

Human Uses

From Froese and Pauly (2019):

“Fisheries: of no interest; aquarium: commercial; bait: usually”

From Dahanukar (2011):

“Collected for aquarium trade as well as feed for predatory fishes and ducks. Also used as a food fish during monsoon season in Kerala (K. Krishnakumar pers. comm.).”

Diseases

No records of OIE-reportable diseases (OIE 2019) were found. According to Poelen et al. (2014) *Puntius vittatus* is host to the parasite *Dactylogyroides*.

Threat to Humans

From Froese and Pauly (2019):

“Harmless”

3 Impacts of Introductions

Even though *Puntius vittatus* has been recorded as introduced into the Maldives there was no information found in regard to establishment or impacts of introduction.

4 Global Distribution



Figure 1. Known global distribution of *Puntius vittatus*. Locations are in India, Sri Lanka, and the Maldives Islands. Map from GBIF Secretariat (2019). The point in the Maldives was not used to select source points for the climate match as it is unknown if it is representative of an established population.

The point that seems to be located in the ocean to the southwest of India (Figure 1) is a valid point as it is located on the Maldives Islands.

Dahanukar (2011) and Froese and Pauly (2019) report *Puntius vittatus* as native to Pakistan but no georeferenced locations were found in that country.

5 Distribution Within the United States

There are no records of any established populations of *Puntius vittatus* in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Puntius vittatus* was low for the majority of contiguous United States with some patches of medium match in southern Florida, Texas, and the southwest. 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 a low individual Climate 6 scores except for Florida, which had a medium score.

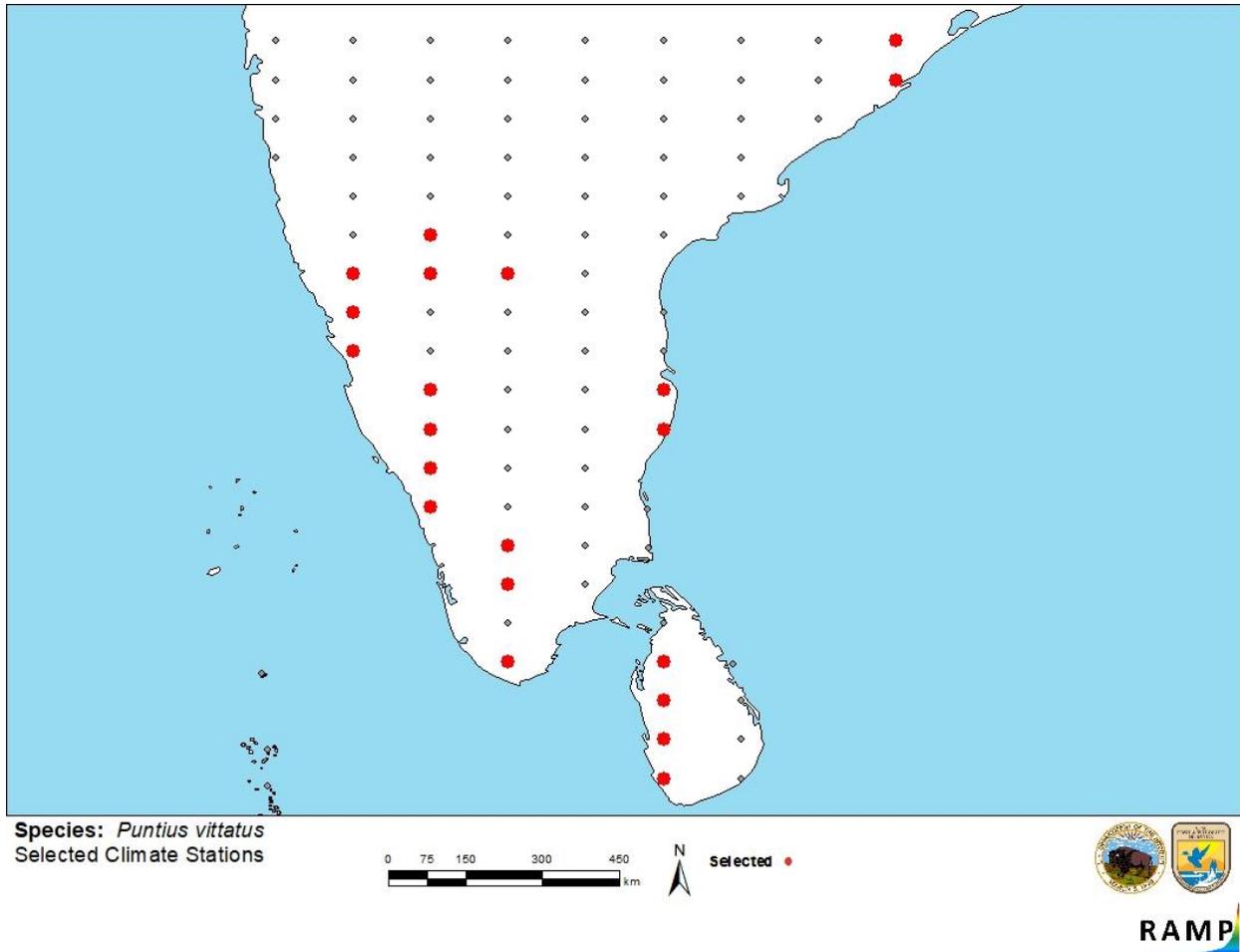


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southern Asia selected as source locations (red; India, Sri Lanka) and non-source locations (gray) for *Puntius vittatus* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100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

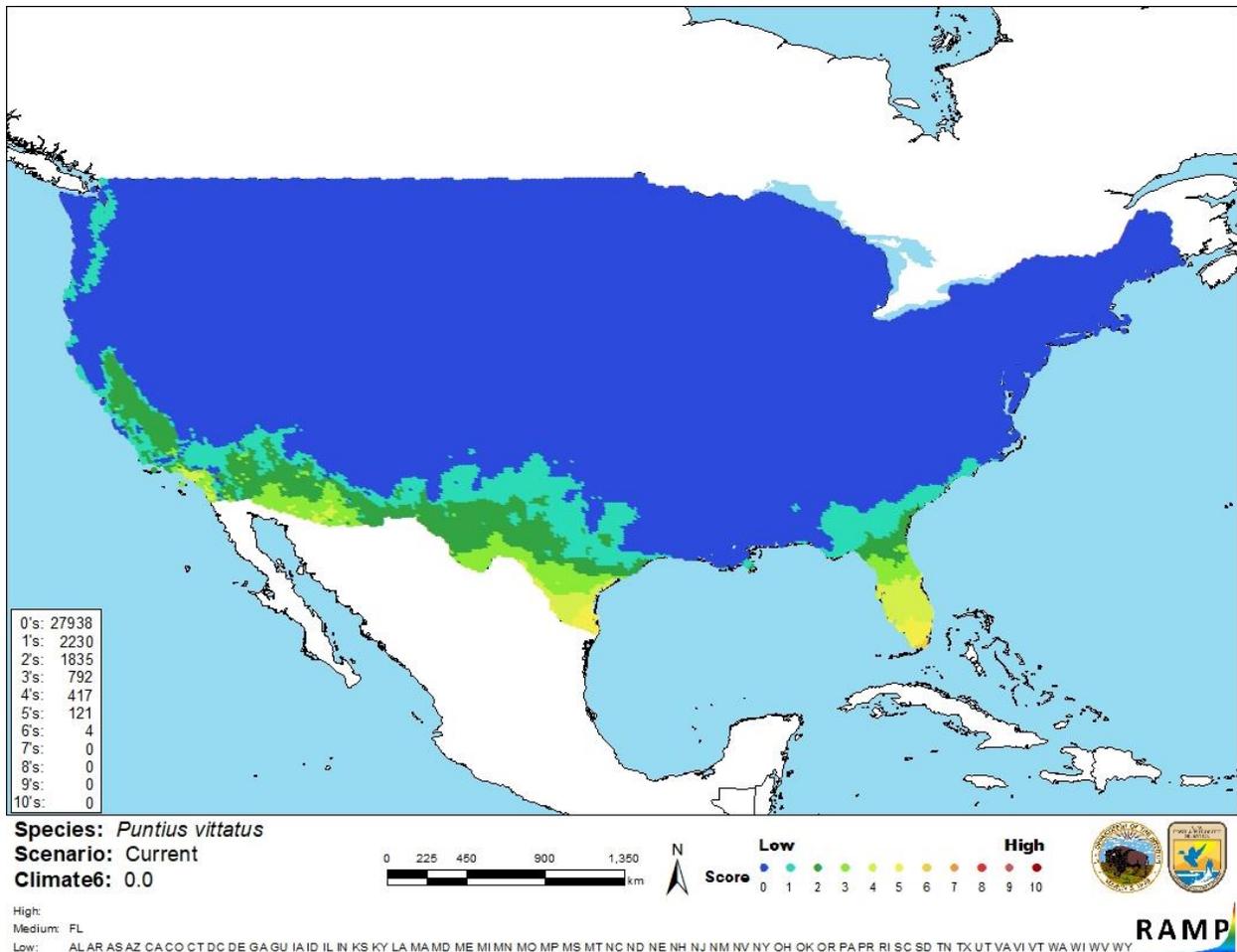


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Puntius vittatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

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 vittatus* is low. There is minimal information available for this species. *Puntius vittatus* has been recorded as introduced in the Maldive Islands but it is unknown if it became established or if it had any impacts.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Puntius vittatus is a fish endemic to Pakistan, India and Sri Lanka. This fish is found in the aquarium trade but it is not certain to what extent. *P vittatus* is also used for bait, to feed fish and ducks, and as a human food source during monsoons. *Puntius vittatus* has been recorded as introduced to the Maldiv Islands but there is no information available stating if it became established or if it had any impact. The history of invasiveness is uncertain. The climate match for the contiguous United States is low. Areas of medium match were found in southern Florida, southern Texas, and the southwest. The certainty of assessment is low due to lack of information. The overall risk assessment category for *Puntius vittatus* 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.

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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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