Flatsnout Goby (*Ponticola platyrostris*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2012
Revised, August 2018
Web Version, 10/29/2019

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"Black Sea: southeast Crimea to Batum [Georgia]. Restricted to brackish water habitats [Patzner et al. 2011]."

Status in the United States

No reports of introduction into the United States. Common aquarium trade websites do not list this species as for sale in the United States.

Means of Introductions in the United States

There are no known introductions in the United States.

Remarks

Froese and Pauly (2018) contradict their own description of the species distribution (see Native Range, above) by also writing "endemic to Black and Caspian Seas." However, other authors are in agreement that this species is endemic to the Black Sea only (Engin and Bektaş 2010; Vasil'eva et al. 2015; Eschmeyer et al. 2018).

Eschmeyer et al. (2018) report the synonyms *Gobius platyrostris* and *Neogobius platyrostris* for *Ponticola platyrostris*. All three names were used in searching for information on this species.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2019):

"Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > Pisces (Superclass) > Actinopterygii (Class) > Perciformes (Order) > Gobioidei (Suborder) > Gobiidae (Family) > Gobiinae (Subfamily) > *Ponticola* (Genus) > *Ponticola platyrostris* (Species)"

From Eschmeyer et al. (2018):

"**Current status**: Valid as *Ponticola platyrostris* (Pallas 1814). Gobiidae: Gobiinae."

Size, Weight, and Age Range

From Froese and Pauly (2018):

"Max length : 22.5 cm TL male/unsexed; [Berg 1965]"

Environment

From Froese and Pauly (2018):

"Brackish; demersal."

From Engin and Bektaş (2010):

"The flat snout goby, *N. platyrostris*, […] prefers shallow water. It was observed that the flat snout goby dwelled commonly in 0.1 and 10 m depth and it was also recorded at more than 10 m depth. Adult specimens prefer to live in deeper than 2 m, especially between 2 - 8 m depth and juveniles inhabit in less than 2 m depth […]"

Climate/Range

From Froese and Pauly (2018):

"Temperate; 47°N - 41°N, 33°E - 42°E"

Distribution Outside the United States

Native

From Froese and Pauly (2018):

"Black Sea: southeast Crimea to Batum. Restricted to brackish water habitats [Patzner et al. 2011]."

Introduced

There are no known introductions.

Means of Introduction Outside the United States

There are no known introductions.

Short Description

From Froese and Pauly (2018):

"Dorsal spines (total): 7; Dorsal soft rays (total): 15-20; Anal spines: 1; Anal soft rays: 11 – 14"

From Engin and Bektaş (2010):

"Adult specimens were basically greyish or brown with five milky brown saddles."

"Juvenile specimens were much darker than the adult and with five pale saddles."

"Basic colour patterns are similar in both sexes but male become darker than female in reproduction season. Male are much longer and heavier than female."

Biology

From Engin and Bektaş (2010):

"The flat snout goby, *N. platyrostris*, is the most common inshore fish species in the south eastern Black Sea coast […]"

"This species was most frequently found in sheltered side of the breakwaters in the south eastern Black Sea coast but juveniles were also observed on gravel and cables in the area exposed to wave effects. It was rarely recorded on bedrock and boulders, but could have never been found in the soft sediments. The flat snout goby inhabits on naked rock or gravel and has rarely recorded on rocky areas covered with vegetation […]"

Human Uses

No information available.

Diseases
No information available. No OIE reportable diseases (OIE 2019) have been reported in this species.

Threat to Humans
From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions
This species has not been reported as introduced outside its native range, so no information is available on impacts of introductions.

4 Global Distribution

Figure 1. Known global distribution of *Ponticola platyrostris*, reported from the Black Sea. Map from GBIF Secretariat (2019). The occurrence in the center of the Black Sea was not used in the climate matching analysis because its position on the map did not match the verbal description of the occurrence location.

5 Distribution Within the United States
There are no known occurrences in the United States.

6 Climate Matching
Summary of Climate Matching Analysis
The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.034, which is a medium score. (Scores between 0.005 and 0.103 are classified as medium.) There were substantial areas of high match around the Great Lakes, and scattered areas of high match in the Rocky Mountains into the Southwest. Medium matches

surrounded each of the high match areas and extended along the St. Lawrence River into northern New England. The coastal Northeast and Mid-Atlantic, the Southeast, the Great Plains, and much of the West had a low match. Michigan, New York, and Pennsylvania were the only states with high climate scores. Eight states had medium climate scores: Arizona, Colorado, Montana, New Mexico, Nevada, Ohio, Utah, and Wisconsin. The remaining States had low climate scores.

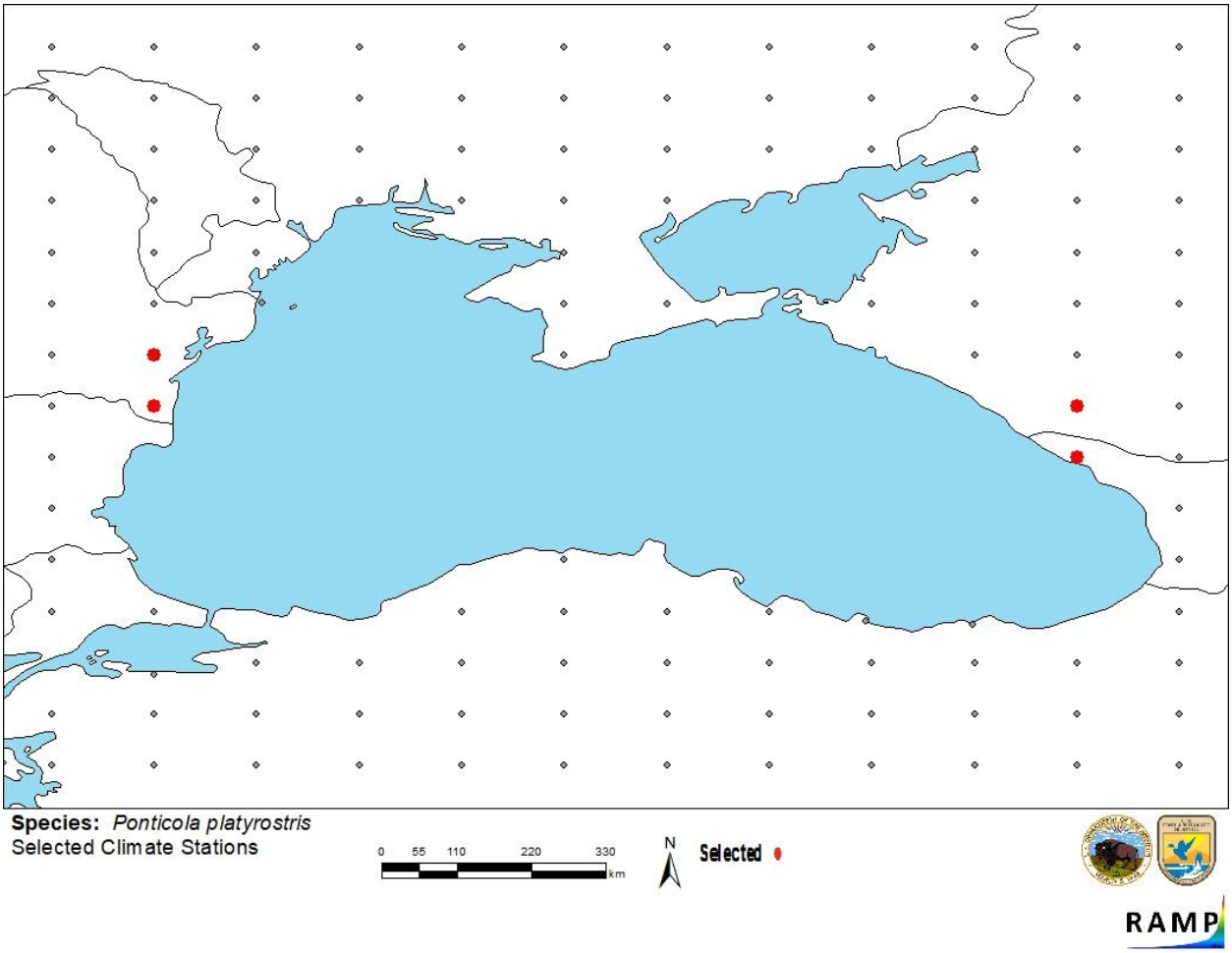

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations around the Black Sea selected as source locations (red; Romania, Russia, Georgia) and non-source locations (gray) for *Ponticola platyrostris* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

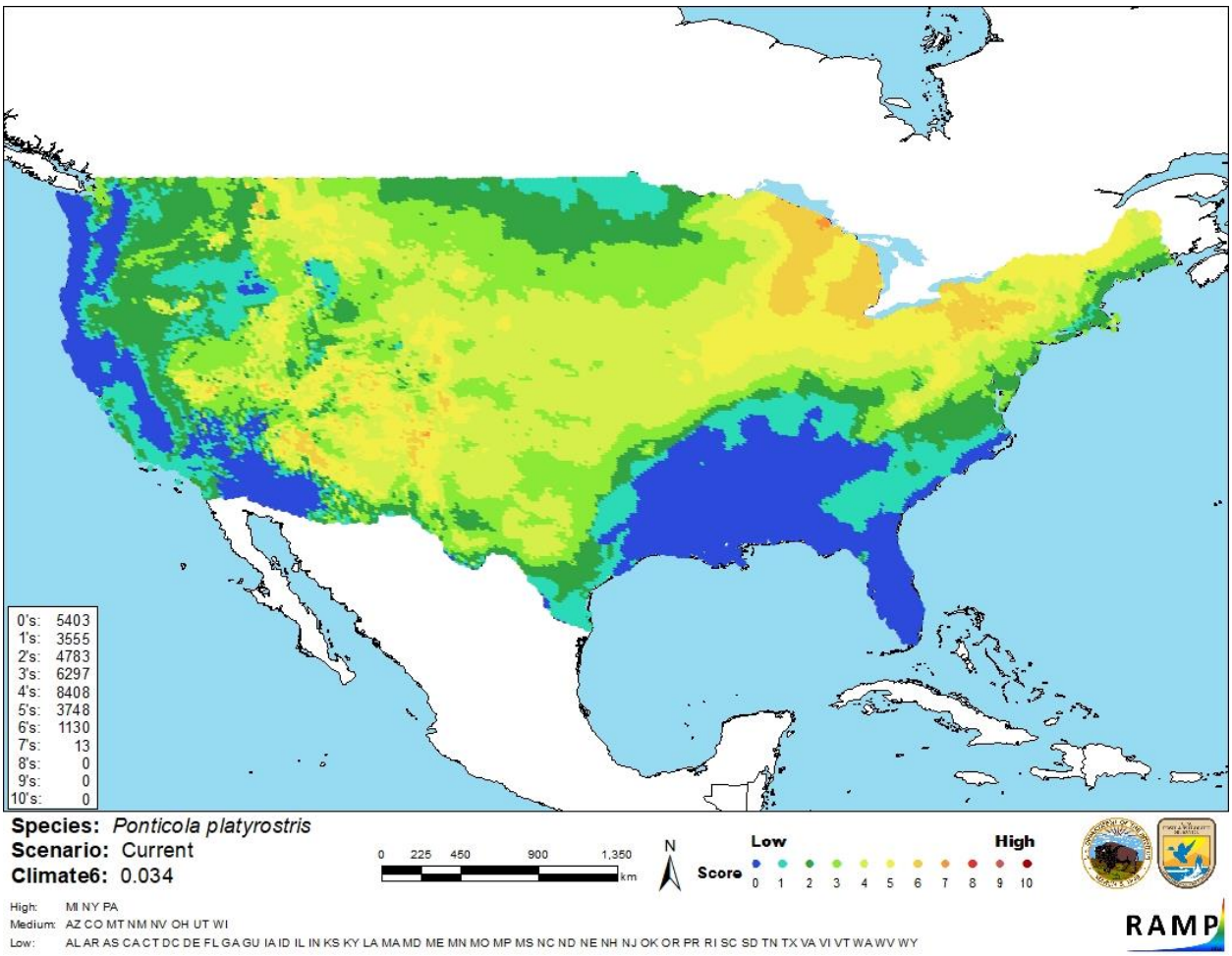

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Ponticola platyrostris* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10= Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

Little information is available on the biology, ecology, and distribution of *Ponticola platyrostris*. This fish has not been reported as introduced outside its native range. Therefore, there is no information available about impacts of introduction. Due to these information gaps, the certainty of assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Ponticola platyrostris, Flatsnout Goby, is a fish native to the Black Sea. It has not been reported as introduced outside of its native range. Therefore, there is no information about impacts if introduced. History of invasiveness is uncertain. Searches of internet aquarium trade sites did not find this species listed for sale. The climate match with the contiguous United States is medium, with patches of high match around the Great Lakes and in parts of the Rocky Mountains. Michigan, New York, and Pennsylvania were the only States with a high climate score. Due to lack of information, certainty of assessment is low. The overall risk posed by this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **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.

Engin, S., and Y. Bektaş. 2010. Morphologic and habitat characteristics of Black Sea's endemic goby *Neogobius platyrostris* (Gobiidae). Turkish Journal of Fisheries and Aquatic Sciences 10:263-267.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatget.asp?spid=18915. (August 2018).

Froese, R., and D. Pauly, editors. 2018. *Ponticola platyrostris* (Pallas, 1814). FishBase. Available: https://www.fishbase.de/summary/Ponticola-platyrostris.html. (August 2018)

Froese, R., and D. Pauly, editors. 2019. *Ponticola platyrostris* (Pallas, 1814). FishBase. *In* World Register of Marine Species. Available: http://www.marinespecies.org/aphia.php?p=taxdetails&id=1022903. (August 2018).

GBIF Secretariat. 2019. GBIF backbone taxonomy: *Ponticola platyrostris* (Pallas, 1814). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/7437013. (October 2019).

OIE (World Organisation for Animal Health). 2019. OIE-listed diseases, infections and infestations in force in 2019. World Organisation for Animal Health, Paris. Available: http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/. (October 2019).

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

Vasil'eva, E. D., H. Mousavi-Sabet, and V. P. Vasil'ev. 2015. *Ponticola iranicus* sp. nov. (Actinopterygii: Perciformes: Gobiidae) from the Caspian Sea basin. Acta Ichthyologica et Piscatoria 45(2):189-197.

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.

Berg, L. S. 1965. Freshwater fishes of the U.S.S.R. and adjacent countries. volume 3, 4th edition. Israel Program for Scientific Translations Ltd, Jerusalem. (Russian version published 1949).

Miller, P. J. 1986. Gobiidae. Pages 1019-1085 *in* P. J. P. Whitehead, M.-L. Bauchot, J.-C. Hureau, J. Nielsen and E. Tortonese, editors. Fishes of the North-eastern Atlantic and the Mediterranean, volume 3. UNESCO, Paris.

Patzner, R. A., J. L. Van Tassell, M. Kovačić, and B. G. Kapoor. 2011. The biology of gobies. Science Publishers, Enfield, New Hampshire, and CRC Press, Boca Raton, Florida.