

***Pontogammarus setosus* (an amphipod, no common name)**

Ecological Risk Screening Summary

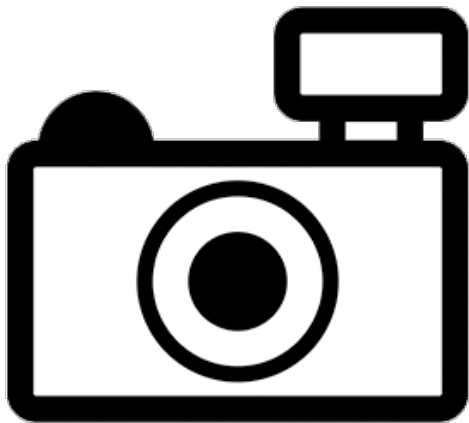
U.S. Fish & Wildlife Service, December 2021

Revised, February 2022

Web Version, 12/21/2022

Organism Type: Crustacean

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

Pontogammarus setosus is found in the Caucasus Range (Copilaş-Ciocianu and Sidorov 2022).

Status in the United States

No records of *Pontogammarus setosus* in the wild in the United States were found.

Means of Introductions in the United States

No records of *Pontogammarus setosus* in the wild in the United States were found.

Remarks

Information for this assessment was searched for using the valid name *Pontogammarus setosus* and the synonym *Dikerogammarus setosus*. There is no common name for *P. setosus*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Horton et al. (2019):

“Animalia (Kingdom) > Arthropoda (Phylum) > Crustacea (Subphylum) > Multicrustacea (Superclass) > Malacostraca (Class) > Eumalacostraca (Subclass) > Peracarida (Superorder) > Amphipoda (Order) > Senticaudata (Suborder) > Gammarida (Infraorder) > Gammaridira (Parvorder) > Gammaroidea (Superfamily) > Pontogammaridae (Family) > *Pontogammarus* (Genus) > *Pontogammarus setosus* (Species)”

Size, Weight, and Age Range

No information available on the size, weight, or age of *Pontogammarus setosus*.

Environment

From Horton et al. (2019):

“**Environment** [...] fresh”

Climate

No information on climate for *Pontogammarus setosus* was found.

Distribution Outside the United States

Native

Pontogammarus setosus is found in the Ponto-Caspian region in the Caucasus basin (Copilaş-Ciocianu and Sidorov 2022).

Introduced

Pontogammarus setosus has not been reported as introduced or established anywhere in the world outside of its native range.

Means of Introduction Outside the United States

Pontogammarus setosus has not been reported as introduced or established anywhere in the world outside of its native range.

Short Description

No short description of *Pontogammarus setosus* was found. The following is information on the genus *Pontogammarus* which includes *Pontogammarus setosus*.

From Barnard (1983):

“Genera with fully fossorial antenna 1 are the *Pontogammarus* kind in which articles 2-3 are considerably shortened and articles 1-2 are often strongly setose on the ventral margin. Antenna 1 becomes dominated by article 1, the flagella are shortened but the accessory flagellum remains less than half as long as the primary flagellum”.

“[...] *Pontogammarus* (3) have a normal coxa 4 with the excavation and posterior margin distinct in equal degree. *Pontogammarus* differs from *Obesogammarus* by the coalescence of all posterior setae on article 4 of pereopods 3-4 into a single even row [...]”

Biology

No information on the biology of *Pontogammarus setosus* was found.

Human Uses

No information on human uses was found for *Pontogammarus setosus*.

Diseases

No records of OIE-reportable diseases (OIE 2022) were found for *Pontogammarus setosus*.

No information on diseases was found for *Pontogammarus setosus*.

Threat to Humans

No information on threats to humans was found for *Pontogammarus setosus*.

3 Impacts of Introductions

Pontogammarus setosus has not been reported as introduced or established anywhere in the world outside of its native range; therefore there is no information on impacts of introductions.

4 History of Invasiveness

No reports of introductions of *Pontogammarus setosus* outside its native range were found. Therefore, the history of invasiveness is classified as No Known Nonnative Population.

5 Global Distribution



Figure 1. Known distribution of *Pontogammarus setosus*. Map from GBIF Secretariat (2022). Observations are reported from Armenia.

6 Distribution Within the United States

Pontogammarus setosus has not been reported as introduced or established anywhere in the United States.

7 Climate Matching

Summary of Climate Matching Analysis

Most of the contiguous United States had a medium to high climate match with a high-medium to high match in much of Rocky Mountains and northern Great Lakes. The central plains had a medium match along with most of the Northeast. The southeast and the northern Pacific Coast had a low match. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous

United States was 0.419, High (scores greater than 0.103, inclusive, are categorized as High). About half the States had a high individual Climate 6 score. Kansas, Maryland, Massachusetts, Missouri, North Dakota, and Virginia had medium individual scores. Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Jersey, North Carolina, Rhode Island, South Carolina, and Tennessee had low individual scores.

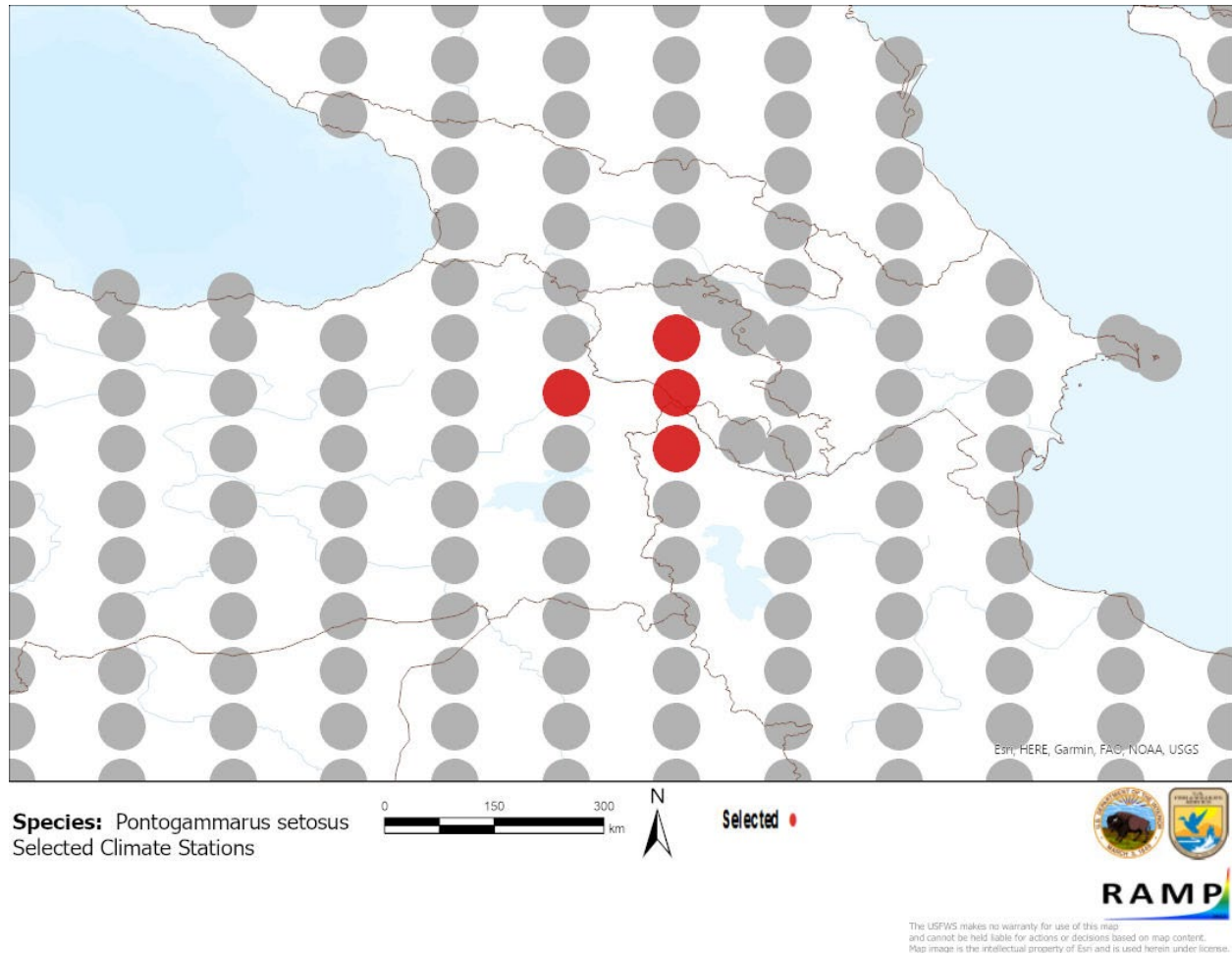


Figure 2. RAMP (Sanders et al. 2021) source map showing weather stations in the Ponto-Caspian region selected as source locations (red; Armenia, Iran, Turkey) and non-source locations (gray) for *Pontogammarus setosus* climate matching. Source locations from GBIF Secretariat (2022). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

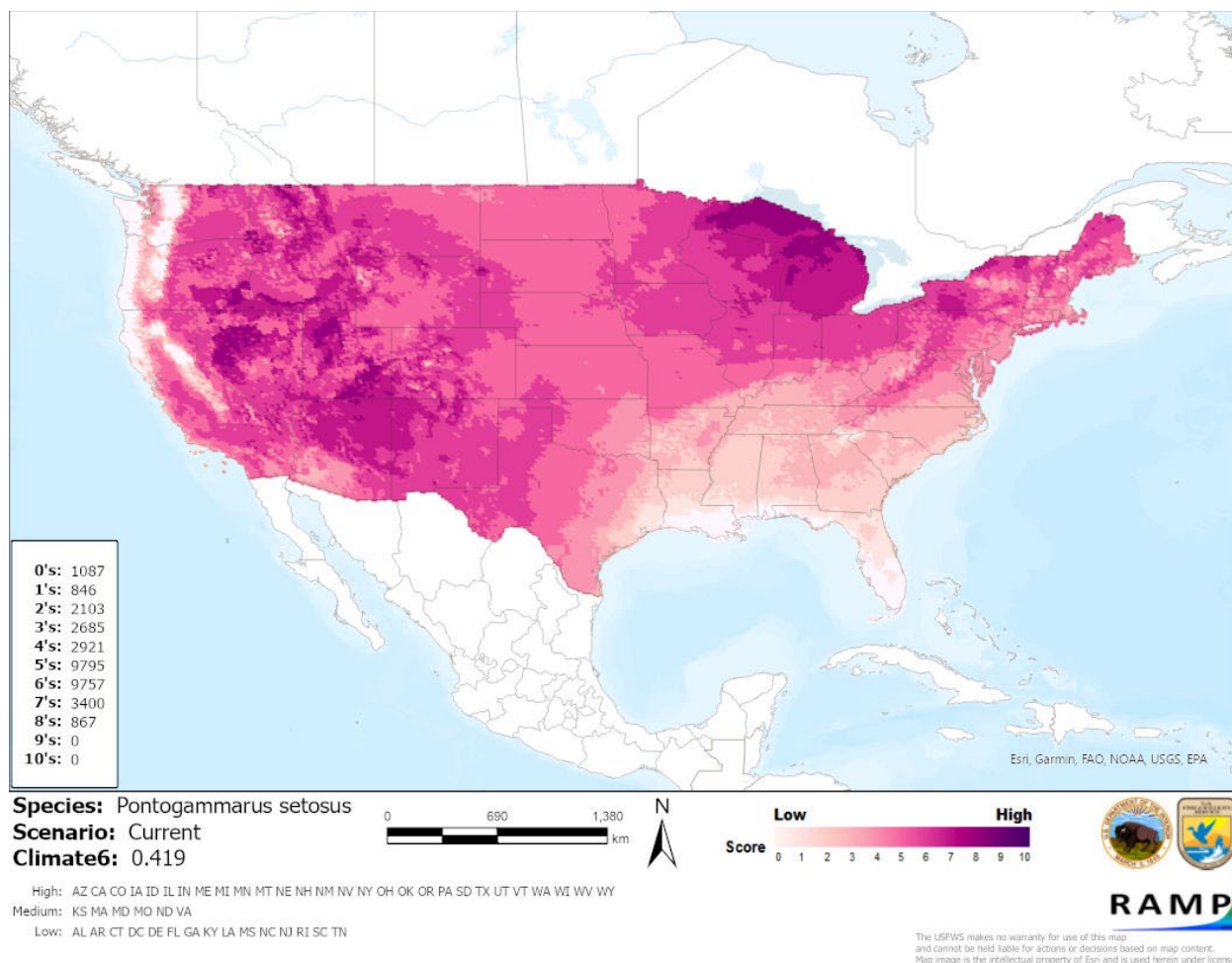


Figure 3. Map of RAMP (Sanders et al. 2021) climate matches for *Pontogammarus setosus* in the contiguous United States based on source locations reported by GBIF Secretariat (2022). Counts of climate match scores are tabulated on the left. 0/Pale Pink = Lowest match, 10/Dark Purple = Highest match.

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

The certainty of assessment for *Pontogammarus setosus* is Low. There was very little information available for this species. There was no information regarding any introductions or impacts from introductions.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pontogammarus setosus is an amphipod that is found in freshwater in the Ponto-Caspian region. *P. setosus* has not been reported anywhere outside of its native distribution. History of invasiveness is classified as No Known Nonnative Population. The overall climate match for the contiguous United States is High. Most of the contiguous United States had a high to medium match with areas of high match found in the Rocky Mountains and northern Great Lakes. Much of the northern Pacific Coast and the Southeast had a low match. The certainty of assessment is Low due to an overall lack of information. The overall risk assessment category for *Pontogammarus setosus* is Uncertain.

Assessment Elements

- History of Invasiveness (Sec. 4): No Known Nonnative Population
- Overall Climate Match Category (Sec. 7): High
- 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.

Barnard JL, Barnard CM. 1983. Freshwater Amphipoda of the World. I. Evolutionary Patterns 95–96.

Copilaş-Ciocianu D, Sidorov D. 2022. Taxonomic, ecological and morphological diversity of Ponto-Caspian gammaridean amphipods: a review. *Organisms Diversity & Evolution* 1–36.

GBIF Secretariat. 2022. GBIF backbone taxonomy: *Pontogammarus setosus* (Schäferna, 1914). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/6462108> (December 2022).

Horton T, Lowry J, De Broyer C, Bellan-Santini D, Coleman CO, Corbari L, Costello MJ, Daneliya M, Dauvin J-C, Fišer C, Gasca R, Grabowski M, Guerra-García JM, Hendrycks E, Hughes L, Jaume D, Jazdzewski K, Kim Y-H, King R, Krapp-Schickel T, LeCroy S, Lörz A-N, Mamos T, Senna AR, Serejo C, Sket B, Souza-Filho JF, Tandberg AH, Thomas JD, Thurston M, Vader W, Väinölä R, Vonk R, White K, Zeidler W. 2019. *Pontogammarus setosus*. World Register of Marine Species. Available: <https://www.marinespecies.org/aphia.php?p=taxdetails&id=550253> (January 2022).

[OIE] World Organisation for Animal Health. 2021. Animal diseases. Available: <https://www.oie.int/en/what-we-do/animal-health-and-welfare/animal-diseases/> (December 2021).

Sanders S, Castiglione C, Hoff M. 2021. Risk Assessment Mapping Program: RAMP. Version 4.0. U.S. Fish and Wildlife Service.

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.

No references in this section.