

SPECIES INFORMATION SHEET

Monoporeia affinis

English name: –	Scientific name: <i>Monoporeia affinis</i>	
Taxonomical group: Class: Malacostraca Order: Amphipoda Family: Pontoporeiidae	Species authority: Lindström, 1855	
Subspecies, Variations, Synonyms: <i>Pontoporeia affinis</i> Lindström, 1855	Generation length: 1–3 years	
Past and current threats (Habitats Directive article 17 codes): –	Future threats (Habitats Directive article 17 codes): –	
IUCN Criteria: –	HELCOM Red List Category:	LC Least Concern
Global / European IUCN Red List Category: NE/NE	Habitats Directive: –	
Protection and Red List status in HELCOM countries: Denmark –/–, Estonia –/–, Finland –/–, Germany –/3 (Vulnerable), Latvia –/–, Lithuania –/–, Poland –/–, Russia –/–, Sweden –/–		

Distribution and status in the Baltic Sea region

Monoporeia affinis is distributed over most of the Baltic Sea, with its western distribution limit in the Arkona Basin and the Bay of Mecklenburg. The species forms the major part of the benthic fauna in the Gulf of Bothnia. In the Bothnian Sea, the abundance reaches the highest values of macrofauna in the open parts of the Baltic. In the western Baltic Sea (Arkona Basin, Bornholm Basin) its distribution is restricted to areas deeper than 10 m (needs colder water), whereas in the eastern and northern sea areas it is also found in the shallow water (Gosselck 2009).

Eutrophication and the loss of oxygen in the Baltic Sea have reduced the abundance of *M. affinis* – especially in the south-western Baltic Sea and on the bottoms of the Gulf of Finland (Gosselck 2009).



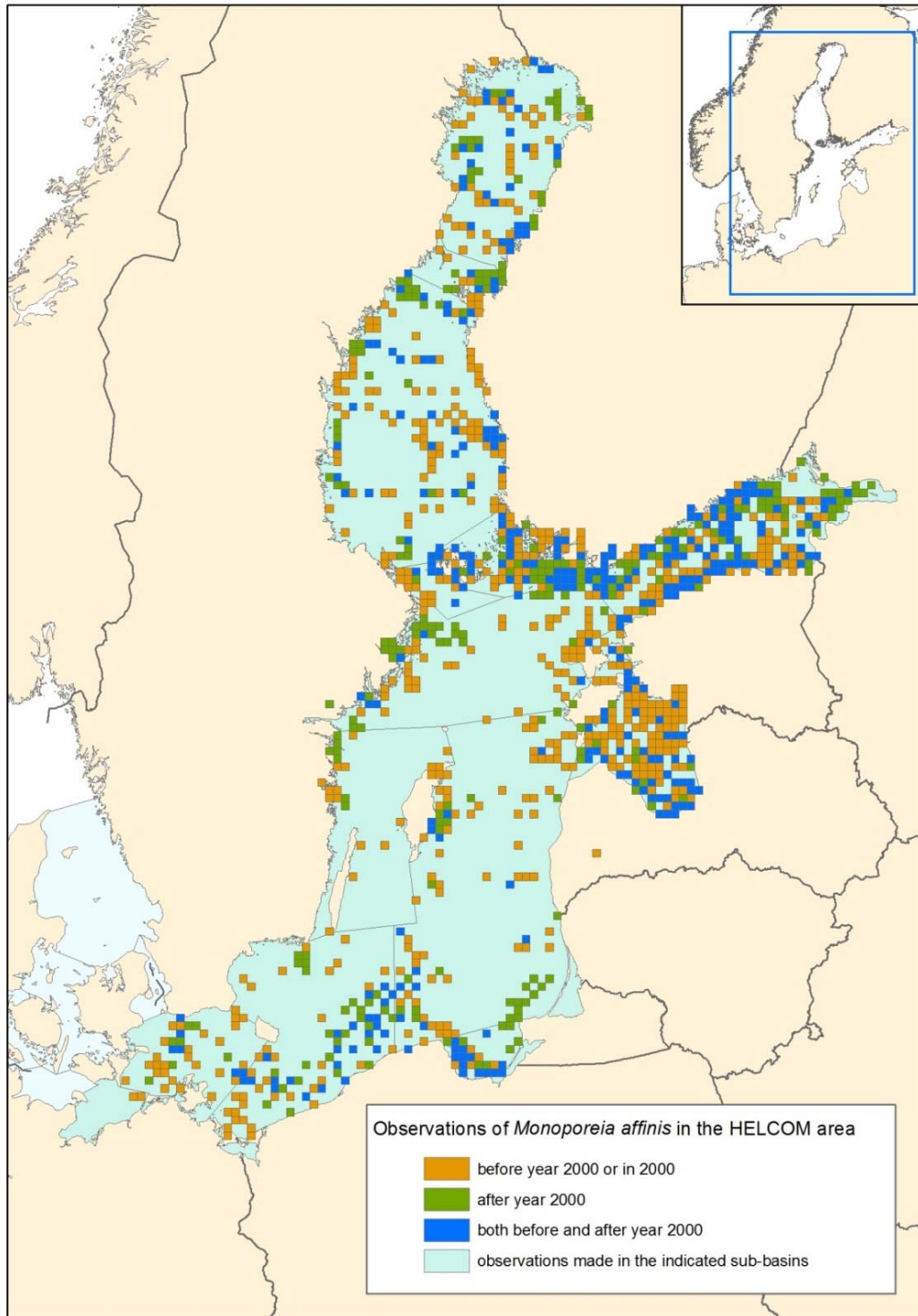
Photo by Metsähallitus NHS/Ari Laine.

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Distribution map

The georeferenced records of species compiled from the Danish national database for marine data (MADS), from the databases of the International Council for the Exploration of the Sea (ICES), Finnish Environment Institute, Estonian Marine Institute, and the Leibniz Institute for Baltic Sea Research (IOW). Additional data was received from Finland, Latvia, Poland, Russia, and Sweden from other sources.



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Habitat and ecology

M. affinis is a glacial relict species left in the Baltic Sea area after the last glaciation. It lives on soft bottoms from the surface down to about 80 meters. The species has an important role in the benthic community as they mix and oxygenise the top layer of the sediment. The species *M. affinis* and *P. femorata* are the dominant deposit feeding invertebrates over wide areas of soft sediments in the Baltic Proper. Sometimes dense populations of 10 000–20 000 ind./m² are observed. *M. affinis* shows strong oscillations in the abundance with a cycle of 6–7 years.

The individuals have a lifespan of between 1 and 3 years and breed only once (Segerstråle 1937). Mating occurs in the fall and the female carries the developing young through winter. *M. affinis* feeds on plankton sinking to the bottom and other detritus. In summer, when food is abundant, the fat percentage of the individual can rise to half of the individual's total weight. In winter, partly due to ice cover, *M. affinis* uses this stored fat reserve as energy. Due to the high energy content *M. affinis* is a very important food source for many fish species.

Description of major threats

Eutrophication and the loss of oxygen in the Baltic Sea have reduced the abundance of *M. affinis* – especially in the south-western Baltic Sea and on the bottoms of the Gulf of Finland (Gosselck 2009). It has also been shown that the competition for food with the invasive *Marezzelleria viridis* is likely to affect the population of *M. affinis* in the northern Baltic (Kotta & Olafsson 2003).

Assessment justification

Monoporeia affinis is a widespread and common species in the Baltic Sea. It has declined clearly due to eutrophication and loss of oxygen, e.g. in the south-western Baltic Sea and in the Gulf of Finland. However, the species is short-lived and for the population decline estimation the minimum time period of 10 years is used. Within the period of the latest 10 years, there is no indication of overall decline that would meet the A criterion. Thus the species is categorized as Least Concern (LC).

Recommendations for actions to conserve the species

The species is considered not threatened in the HELCOM area. Long-term work against eutrophication would eventually benefit the species in areas where it has declined due to oxygen depletion.

Common names

Denmark: hvid ferskvandstangloppe/ hvide østersøtangloppe, Estonia: –, Finland: valkokatka, Germany: –, Latvia: –, Lithuania: –, Poland: pontoporeja czarnooka, Russia: –, Sweden: vitmärla

References

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International Council for the Exploration of the Sea ICES data portal. Available at

<http://ecosystemdata.ices.dk/inventory/index.aspx>.

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http://www.itameriportaali.fi/fi/tietoa/sanakirja/fi_FI/valkokatkat/

Kotta, J. & Olafsson, E. 2003. Competition for food between the introduced polychaete *Marezzelleria viridis* (Verrill) and the native amphipod *Monoporeia affinis* Lindström in the Baltic Sea. *Journal of Sea Research* 50: 27–35.

MADS, The Danish national database for marine data. NERI: University of Aarhus;

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Rachor, E., Bönsch, R., Boos, K., Gosselck, F., Grotjahn, M., Günther, C.-P., Gusky, M., Gutow, L., Heiber, W., Jantschik, P., Krieg, H.-J., Krone, R., Nehmer, P., Reichert, K., Reiss, H., Schröder, A., Witt, J. & Zettler, M. L. 2012. Rote Liste und Artenliste der bodenlebenden wirbellosen Meerestiere. Vierte Fassung, Stand Dezember 2007, einzelne Aktualisierungen bis 2012. Naturschutz und Biologische Vielfalt 70(2). Bundesamt für Naturschutz.

Segerstråle, S.G. 1937. Studien über die Bodentierwelt in südfinnländischen Küstengewässern III. Zur Morphologie und Biologie des Amphipoden *Pontoporeia affinis*, nebst einer Revision der *Pontoporeia*-Systematik. Societas Scientiarum Fennica 7(1): 1–181+19 plates.

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<http://www.marinespecies.org/aphia.php?p=taxdetails&id=103077>.