

Fish-hook water flea (*Cercopagis pengoi*)

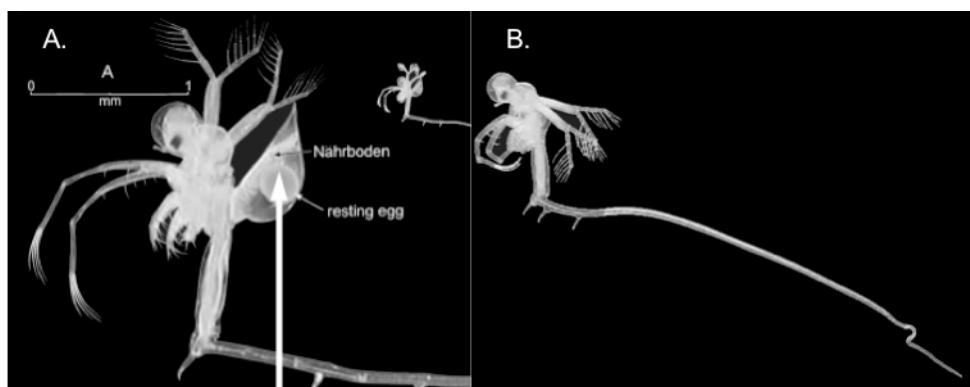


Photo © Dr. MacIsaac, Great Lakes Institute for Environmental Research, University of Windsor, Canada

Common name(s) in English	Fish-hook water flea.
... and in other languages	Estonian: Röövtoiduline vesikirp. Finnish: Petovesikirppu. German: Kaspischer Wasserfloh. Russian: Cercopag. Swedish: Rovvattenloppa.
Scientific name	<i>Cercopagis pengoi</i>
Organism group	Crustaceans. Cladocerans (water fleas).
Size and appearance	The actual body is just 1–2 mm long, but with their centimetre-long tail, with barbs and a loop, these water fleas easily hook together, forming large clumps. In the Great Lakes and the Caspian Sea the body of <i>Cercopagis pengoi</i> is smaller (1.4–1.7 mm) than in the Baltic. The fish-hook water flea is greyish white, almost transparent, and has a large, black eye.
May be confused with	The Eurasian spiny water flea (<i>Bythotrephes cederstroemii</i>), a native cladoceran species to be found in Swedish lakes.
Geographical origin	Ponto-Caspian region, in and around the Black Sea and the Caspian Sea.
First observed in Swedish waters	1997
Occurrence in Swedish seas and coastal areas	Along the Swedish coast, <i>Cercopagis pengoi</i> is found in the Gulf of Bothnia and the Baltic Sea proper, and seems to be becoming increasingly common.
Occurrence in other sea areas	In the Baltic, <i>Cercopagis pengoi</i> was first discovered in 1992 in Pärnu Bay (in the Gulf of Riga) and off the coast of Finland. Since 1999 the species has been present in most parts of the Baltic, and has also become an invasive species in the Great Lakes of the United States and Canada.

Cercopagis pengoi
förekomst i Eurasien.

Lila = ursprungliga populationer
Rött = introducerade populationer

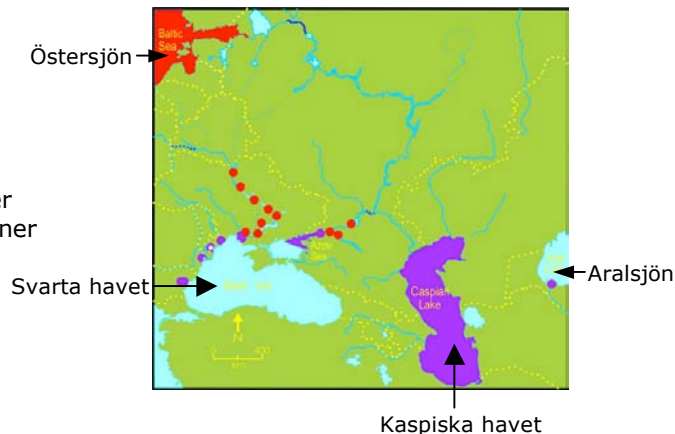


Bild från <http://web2.uwindsor.ca/courses/biology/macisaac/pages/cercopagis.htm>

Probable means of introduction	Shipping, in ballast water.
Habitat(s) in which species occurs	<i>Cercopagis pengoi</i> is a pelagic species, living in the open water. It can cope with different types of water – estuaries, lakes, rivers, wetlands and sea areas – ranging from freshwater conditions to a salinity of around 15–17 psu. It will also tolerate varying temperatures, from about +3°C to +38°C. The highest population densities occur at summer temperatures (16–26°C) and lower salinities, up to around 10 psu. The spread of the species in the sea is therefore probably dependent on the salinity. The “resting eggs” of this water flea can be transported long distances, and can even survive cold winters on the seabed, hatching only when the water is warmer and food is available.
Ecological effects	Mass occurrences of <i>Cercopagis pengoi</i> change the structure of native zooplankton communities. The species feeds on other species of zooplankton, and can compete with other plankton-feeding organisms. If zooplankton abundance is markedly depleted, higher concentrations of phytoplankton may result (owing to reduced grazing by zooplankton), and ultimately this may exacerbate problems of eutrophication.
Other effects	Clogging of fishing nets and ropes. <i>Cercopagis pengoi</i> causes major problems in the late summer, when it occurs in great abundance. The water fleas aggregate into sticky masses reminiscent of wallpaper paste, choking and fouling fishing gear. The highest density so far recorded in the Baltic is around 2,000 individuals per cubic metre of water.
Additional information	Fishermen who have cleaned their nets of fish-hook water fleas have complained of allergic reactions. <i>Cercopagis pengoi</i> is on the list of the world’s 100 worst invasive species (Global Invasive Species Database).

FIND OUT MORE

- North European and Baltic Network on Invasive Alien Species: *Cercopagis pengoi*
<http://www.nobanis.org/speciesInfo.asp?taxaID=1626>
- 276 kB: North European and Baltic Network on Invasive Alien Species: *Cercopagis pengoi* Fact sheet
http://www.nobanis.org/files/factsheets/cercopagis_pengoi.pdf
- AquAliens: *Cercopagis pengoi* – an invader threatening the biodiversity of the Baltic Sea

and inland waters. (Work Package 3/4 Invertebrates in AquAliens)
<http://www.ecology.su.se/projects/projects.asp?id=19>


- Swedish Centre for School Biology and Biotechnology
<http://www.bioresurs.uu.se/myller/hav/rovvattenloppa3.htm>
http://www.bioresurs.uu.se/myller/hav/havhelp_barlastvatten.htm
- Baltic Sea Alien Species Database: *Cercopagis pengoi*
http://www.ku.lt/nemo/directory_details.php?sp_name=Cercopagis+pengoi
- Baltic Sea Alien Species Database: *Cercopagis pengoi*
<http://www.ku.lt/nemo/cercopag.html>
- Regional Biological Invasions Centre: Aquatic Invasive Species of Europe: *Cercopagis pengoi*.
<http://www.zin.ru/projects/invasions/gaas/serpen.htm>
- Global Invasive Species Database: *Cercopagis pengoi*
<http://www.issg.org/database/species/ecology.asp?si=118&fr=1&sts=>
- Caspian Environment Programme: *Cercopagis pengoi*
<http://www.caspianenvironment.org/biodb/eng/zooplankton/Cercopagis%20pengoi/main.htm>
- European Nature Information System Database (EUNIS): *Cercopagis pengoi*
<http://eunis.eea.europa.eu/species-factsheet.jsp?idSpecies=257992&idSpeciesLink=257992>
- US Environmental Protection Agency: *Cercopagis pengoi* invades the Great Lakes.
<http://www.epa.gov/glnpo/monitoring/indicators/exotics/cercopagis.html>
-  484 kB: US Army Corps of Engineers, Environmental Laboratory: Fishhook Waterflea
http://el.erdc.usace.army.mil/ansrp/cercopagis_pengoi.pdf
- Hugh MacIsaac's Laboratory for the Study of Biological Invasions: *Cercopagis pengoi*
<http://web2.uwindsor.ca/courses/biology/macisaac/pages/cercopagis.htm>
- Ontario Federation of Anglers and Hunters: Invading Species Awareness Programme: Fishhook waterflea
<http://www.invadingspecies.com/Invaders.cfm?A=Page&PID=13>
- Wisconsin Department of Natural Resources: Spiny Waterflea and Fishhook Waterflea
<http://dnr.wi.gov/invasives/fact/spiny.htm>
- Illinois-Indiana Sea Grant College Program: Exotic aquatics on the move: Fishhook waterflea
<http://www.iisgcp.org/EXOTICSP/fishhook.html>
- University of Tennessee: Institute for biological invasions: Spiny Water Flea
<http://invasions.bio.utk.edu/invaders/flea.html>
- SeaGrant: Nab the Aquatic Invader: Fiton, the "offender", fishhook flea
http://www.sgnis.org/kids/suspect_fiton.html

PHOTO CREDIT

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University of Windsor, Canada
<http://web2.uwindsor.ca/courses/biology/macisaac/pages/cercopagis.htm>

MORE ABOUT BYTHOTREPHES CEDERSTROEMII (for comparison)

- Global Invasive Species Database: *Bythotrephes longimanus* • *Bythotrephes cederstroemii*
<http://www.issg.org/database/species/ecology.asp?fr=1&si=151&sts=>

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