





***Caspian mud shrimp* (*Corophium curvispinum*)**



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Common name(s) in English	Caspian mud shrimp
... and in other languages	Dutch: Kaspische slijkgarnaal. Finnish: Liejukatka. German: Süßwasser-Röhrenkrebs. Schlickkrebs (sometimes also used to refer to the species <i>Corophium volutator</i>). Polish: Bęłkaczek wschodni.
Scientific name	<i>Corophium curvispinum</i> . See also <i>Chelicorophium curvispinum</i> .
Organism group	Crustaceans. Amphipods.
Size and appearance	<i>Corophium curvispinum</i> grows to about 9 mm in length and is a yellowish colour. In adult males especially, the second pair of antennae are very large.
May be confused with	<i>Corophium volutator</i> , another species of mud shrimp.
Geographical origin	Ponto-Caspian region, in and around the Caspian and Black Seas.
First observed in Swedish waters	Has not yet been observed in Swedish waters.
Occurrence in Swedish seas and coastal areas	Has not yet been observed in Swedish waters.
Occurrence in other sea areas	In the Baltic Sea area, this species is found in Danish parts of the Kattegat and the Belt Sea, and in the Oder/Odra, Vistula and Curonian Lagoons. It occurs widely across Europe: in rivers on the continent and in Britain, and in the North Sea, including the Wadden Sea. It is also one of the species invading the Great Lakes of the United States and Canada.
Probable means of introduction	<i>Corophium curvispinum</i> probably found its way into the Baltic Sea as a fouling organism on ships' hulls or via rivers. It was presumably introduced into the rivers of Europe from the Caspian or Black Sea by river and canal traffic. The species was discovered in German rivers as early as 1912, near Berlin. According to German reports, an initial wave of immigration occurred via the Dnieper, Pripyat, Bug, Vistula and Warta rivers. The spread of the species then continued via the canals of northern Germany, and since 1987 <i>C. curvispinum</i> has been present in the Rhine. A second wave came via the Danube, with the

	building of the Main–Danube Canal (opened in 1992). The two populations then mixed, and the species has since spread rapidly and efficiently to lakes, rivers and canals across Germany.
Habitat(s) in which species occurs	<i>Corophium curvispinum</i> builds tubes on firm surfaces such as rocks, wood, submerged vegetation or bivalve shells on otherwise sandy or muddy substrata. It prefers rivers, estuaries and other areas with brackish water, but tolerates both entirely freshwater and more marine conditions, at least up to a salinity of about 6 psu. The species is a filter feeder, living on detritus, plankton and the algae to be found around its tubes. It is highly tolerant of pollution and copes well in environments affected by industrial and mining discharges. This also gives it a competitive edge over other, more sensitive species.
Ecological effects	<p>Following explosive growth in its numbers, the species now has such dense populations in several major European rivers, including the Rhine, that it is significantly affecting the functioning and biology of their benthic environments. Up to 200,000 individuals may be found per square metre of river bed.</p> <p><i>Corophium curvispinum</i> has had a profound impact on the habitats of other benthic fauna, for example in the Rhine. It is an efficient filter feeder, and also very markedly affects its environment by building networks of mud tubes that cover the bottom. These tubes also cover other benthic animals that are an important source of food for bottom-dwelling fish.</p> <p>The species' tolerance of pollution and resultant competitive advantage over other, more susceptible species have resulted in dramatic declines in the populations of species such as the zebra mussel (<i>Dreissena polymorpha</i>) in areas where <i>C. curvispinum</i> is present.</p>
<p style="text-align: center;"><i>FIND OUT MORE</i></p> <ul style="list-style-type: none"> • North European and Baltic Network on Invasive Alien Species: <i>Corophium curvispinum</i> http://www.nobanis.org/speciesInfo.asp?taxaID=1741 • North European and Baltic Network on Invasive Alien Species: <i>Chelicorophium curvispinum</i> http://www.nobanis.org/speciesInfo.asp?taxaID=975 •  85 kB: Wadden Sea Secretariat: Introduced Macrozoobenthic Species at the German North Sea Coast http://www.waddensea-secretariat.org/news/publications/Wsnl/Wsnl99-1/articles/05-nehring.pdf • Universität Koblenz-Landau: Einwanderer am Rhein: Neozoen im Rhein http://www.uni-koblenz.de/~odsbcg/rheinwan/neozoen.htm • Wikipedia: Süßwasser-Röhrenkrebs http://de.wikipedia.org/wiki/Süßwasser-Röhrenkrebs • Wikipedia: Tierarten, die von der Donau über den Main-Donau-Kanal nach Westeuropa gelangten (Süßwasser-Röhrenkrebs) http://de.wikipedia.org/wiki/Main-Donau-Kanal • Flohkrebse.de: <i>Corophium curvispinum</i> http://www.flohkrebse.de/Gesamtartenliste/curvispinum.html •  4,4 MB: Christian-Albrechts-Universität zu Kiel: Untersuchungen des Makrozoobenthos im Fehmarnbelt, einem hydrographisch besonders instabilen Übergangsbereich zwischen zentraler und westlicher Ostsee http://e-diss.uni-kiel.de/diss_475/d475.pdf •  8,7 MB: Bundesanstalt für Gewässerkunde: Neozoa (Makrozoobenthos) an der deutschen Nordseeküste: Eine Übersicht. http://www.stefannehring.de/downloads/083_Nehring+Leuchs-1999_BfG-Bericht-1200_neozoa-nordsee.pdf • Hydra-Institute: <i>Corophium curvispinum</i> http://www.hydra-institute.com/ifah/neozoen.htm •  3,4 MB: Nationaal Natuurhistorisch Museum: Non-indigenous marine and estuarine species in The Netherlands: <i>Chelicorophium curvispinum</i> http://www.marbee.fmns.rug.nl/pdf/marbee/2005-Wolf-ZoolMed.pdf 	

- Ministerie van Verkeer en Waterstaat: Trends in water.nl: Groeiende rol exoten in het ijsselmeergebied: Kaspische slijkgarnaal (*Corophium curvispinum*)
<http://www.trends in water.nl/index.cfm?page=dossier.Monitoringresultaten&artikel=87&zoekveld=&zoek=>
- Natuurlijk mooi: *Corophium curvispinum*
http://www.natuurlijk mooi.net/zeeland/overige/corophium_curvispinum.htm
- Baltic Sea Alien Species Database: *Corophium curvispinum*
http://www.ku.lt/nemo/directory_details.php?sp_name=Corophium+curvispinum
- Alien species in Poland: *Chelicorophium curvispinum*
<http://www.iop.krakow.pl/ias/species.asp?25>
- European Nature Information System Database (EUNIS): *Corophium curvispinum*
<http://eunis.eea.europa.eu/species-factsheet.jsp?idSpecies=22090&idSpeciesLink=22090>
- National University of Ireland: North East Atlantic and Mediterranean amphipods: *Chelicorophium curvispinum*
<http://www.amphipoda.com/curvispi.html>
- SeaGrant National Aquatic Nuisance Species Clearinghouse: Ecology and impact of exotic amphipod, *Corophium curvispinum* in the River Rhine and Meuse
http://www.aquaticinvaders.org/nan_browse.cfm?level=6&DocumentID=DP0116&key=130100000000
- Redpath Museum & McGill School of Environment: *Corophium curvispinum*
<http://www.redpath-staff.mcgill.ca/ricciardi/corophium.html>

PHOTO CREDIT

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<http://www.natuurlijk mooi.net/>

See also, for comparison, mud shrimp *Corophium volutator*

- Aquascope: Slammärla
<http://www.vattenkikaren.gu.se/fakta/arter/crustace/amphipod/corovolu/corovo.html>
- University of Gdansk, Hel Marine Station: Bełkaczek pospolity
<http://hel.hel.univ.gda.pl/jurek/org/sko/bel/bel.htm>
- Marine Life Information Network for Britain & Ireland (MarLIN): *Corophium volutator*
<http://www.marlin.ac.uk/species/Corophiumvolutator.htm>

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