

Dark false mussel (*Mytilopsis leucophaeata*)



Photo © Annick Verween, University of Ghent, Belgium

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| Common name(s) in English | Dark false mussel. Conrad's false mussel. Brackish water mussel. False dark mussel. |
| ... and in other languages | German: Brackwasserdreiecksmuschel. |
| Scientific name | <i>Mytilopsis leucophaeata</i> (<i>Mytilopsis leucophaeta</i>). See also <i>Mytilopsis leucophaeata</i> (<i>Mytilopsis leucophaeta</i>). |
| Organism group | Molluscs. Bivalves. |
| Size and appearance | <p><i>Mytilopsis leucophaeata</i> is a member of the family Dreissenidae, along with the zebra mussel (<i>Dreissena polymorpha</i>) and the quagga mussel (<i>Dreissena rostriformis</i> or <i>D. bugensis</i>). These three mussels are very similar and can be difficult to distinguish, especially as immature individuals. A fully grown dark false mussel is, like the zebra mussel, dark brown. Immature zebra mussels have a characteristic zigzag or striped pattern on their shells, and in juvenile dark false mussels, too, the shell is striped. Adult specimens of <i>M. leucophaeata</i> are small, rarely exceeding 2 cm in length. The shell, which is less angular than that of the zebra mussel, is closer in shape to the shell of a blue or common mussel (<i>Mytilus edulis</i>).</p> <p>To be sure that a mussel is in fact <i>M. leucophaeata</i>, it is necessary to examine the internal shell structure, and in particular to look for the tooth-like projection inside the end of the shell.</p>  <p>Photo: Ari O. Laine</p> |
| May be confused with | The zebra mussel and the quagga mussel. See above under "Size and appearance". |
| Geographical origin | There are conflicting views on the origin of this species. It probably comes from the Atlantic coast of North America, with a range extending from Hudson Bay in Canada in the north to Mexico in the south. It is also conceivable that it originates in West Africa. Other reports suggest that the species may hail from the Caribbean. |

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| 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 | Specimens of <i>Mytilopsis leucophaeata</i> were recorded as early as 1835 in the port of Antwerp, but that population disappeared. In 1886 the species was reported from a canal near Brussels, and in 1895 from the river Amstel in the Netherlands. Over the ensuing decades, it spread in Belgian and Dutch inland waters, and to the Zuiderzee. Around 1910 the first finds were made in the Wadden Sea. In Germany, the species was first discovered in the Kiel Canal in 1928, but it is believed to have arrived there some years earlier. The dark false mussel now occurs widely in European estuaries. As well as along the North Sea coast from Germany to France, it is found in the Baltic Sea and the Black Sea. The species has also spread to Britain. In 2004 it was found in the Gulf of Finland, near a Finnish nuclear power plant (Loviisa); previously, no finds had been made further north than the Baltic Sea coast of Germany. |
| Probable means of introduction | Probably with shipping, as a fouling organism and in ballast water. |
| Habitat(s) in which species occurs | <p><i>Mytilopsis leucophaeata</i> is regarded by some scientists as a genuine brackish-water species. It can withstand wide variations in salinity, but is most commonly found in fresh- and brackish-water environments, such as rivers, canals, lagoons and estuaries, with salinities from 0.5 to 5 psu. However, the species may also be found in coastal waters of higher salinity. In European waters, such as the Wadden Sea, it occurs at salinities of up to just over 12 psu. It does best in areas with salinities between 1.4 and 12.7 psu. It needs relatively warm water, 18–20°C, to reproduce successfully. During cold winters, entire populations can die out.</p> <p>Using its foot and strong byssal threads, the dark false mussel can attach to various hard substrates, and it is able to exploit both natural and man-made surfaces. In western European waters, it coexists on substrates with both common mussels and zebra mussels. Particularly in waters of low salinity, between 0.2 and 3 psu, mixed populations of dark false and zebra mussels are often found. <i>M. leucophaeata</i> can form very large aggregations: up to 28,000 individuals (wet weight: 9.8 kg) per square metre have been recorded.</p> |
| Ecological effects | <i>Mytilopsis leucophaeata</i> competes for space and food with barnacles and other filter feeders. |
| Other effects | Like the zebra mussel and other bivalve species, <i>Mytilopsis leucophaeata</i> is a nuisance fouling organism, especially when large accumulations of the species clog the cooling-water intakes of industrial installations. The dark false mussel is highly resistant to the methods used to control it, including chemical biocides (chlorination) and heat treatment. It also fouls aquaculture cages, boat hulls and ropes. |
| <p><i>FIND OUT MORE</i></p> <ul style="list-style-type: none"> • FIMR, Baltic Sea Portal: First record of Conrad's false mussel, <i>Mytilopsis leucophaeata</i>, in the northern Baltic Sea - a local population found in the Gulf of Finland http://www.itameriportaali.fi/en/tietoa/artikkelit/ihminen/en_GB/mytilopsis/ • Aquatic Invasions (2006): First record of the brackish water dreissenid bivalve <i>Mytilopsis leucophaeata</i> in the northern Baltic Sea http://www.aquaticinvasions.ru/2006/index.html | |

-  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
- Global Invasive Species Database: *Mytilopsis leucophaeata*
<http://www.issg.org/database/species/ecology.asp?si=707&fr=1&sts=>
-  1,1 MB: University of Gent, Department of Biology: Can Biology Control Brackish Mussel (*Mytilopsis leucophaeata*) Fouling in Industrial Cooling Water Systems?
http://www.icaiss.org/pdf/22Wednesday/B/wed_b_e_am/Annick_Verween.pdf
- Vlaams Instituut voor de Zee: Reducing the economic impact of an invasive bivalve, *Mytilopsis leucophaeata*, in the harbour of Antwerp
<http://www.vliz.be/Vmdcdata/imis2/Ref.php?show=html&refid=23436>
- SeaGrant Nonindigenous Species (SGNIS): Where Exotic Mussels *Dreissena polymorpha* and *Mytilopsis leucophaeta* Meet in the Brackish Noordzeekanaal, the Netherlands
<http://sgnis.org/publicat/6017.htm>
-  84 kB: Wadden Sea Newsletter 1999:1: Introduced Macrozoobenthic Species at the German North Sea Coast - A Review
<http://www.waddensea-secretariat.org/news/publications/Wsnl/Wsnl99-1/articles/05-nehring.pdf>
- Joint Nature Conservation Committee: *Mytilopsis leucophaeata*
<http://www.jncc.gov.uk/page-1721>
- European Nature Information System Database (EUNIS): *Mytilopsis leucophaeata*
<http://eunis.eea.europa.eu/species-factsheet.jsp?idSpecies=101385&idSpeciesLink=101385>
-  3,4 MB: Nationaal Natuurhistorisch Museum: Non-indigenous marine and estuarine species in The Netherlands: *Mytilopsis leucophaeata*
<http://www.marbee.fmns.rug.nl/pdf/marbee/2005-Wolf-ZoolMed.pdf>
- Marine and estuarine macroinvertebrates, macroalgae and fish introduced to the Netherlands: *Mytilopsis leucophaeata*
<http://home.hetnet.nl/~faassema/introduced%20Mollusca.html>
- North European and Baltic Network on Invasive Alien Species: *Mytilopsis leucophaeata*
<http://www.nobanis.org/speciesInfo.asp?taxaID=2349>
- Baltic Sea Alien Species Database: *Mytilopsis leucophaeata*
http://www.ku.lt/nemo/directory_details.php?sp_name=Mytilopsis+leucophaeta
- US Army Corps of Engineers, Environmental Lab: *Mytilopsis leucophaeata*
http://el.erdc.usace.army.mil/zebra/zmis/zmishelp4/mytilopsis_leucophaeata_the_false_dark_mussel.htm
-  3,6 MB: NOAA Chesapeake Bay Office: An introduction to Dark False Mussel
http://www.chesapeakebay.net/pubs/calendar/LRSC_09-30-04_Presentation_1_5352.pdf
- National Aquatic Nuisance Species Clearinghouse: *Mytilopsis* spp. [dark false mussel]
http://www.aquaticinvaders.org/nan_browse.cfm?level=2&key=050000000000&desc1=Mytilopsis%20spp%2E%20%5Bdark%20false%20mussel%5D

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<http://www.ugent.be>
- © Ari O. Laine, Finnish Institute of Marine Research (FIMR)
http://www.fimr.fi/en/tietoa/tulokaslajit/en_GB/mytilopsis/

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