Chilean (Blue) Mussel

Mytilus chilensis [1]

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Pathway
• Hull fouling

Impacts

Biodiversity
Potential for competition and inbreeding with other native mussel species.

Human Health
Can carry toxins which cause paralytic shellfish poisoning.

Economy
Outcompeting native mussels could impact local fisheries.

Key ID Features

Description

There are two hinged teardrop shaped shells of the same size and shape, except the beaks at the thinnest end, which are not symmetrical. The outside of the shell has concentric, curved, growth rings radiating to the wider end. The inside of the shell has a curve of scars where the mussel attaches to it at the wider end of the shell. It also has a smaller, circular, scar at the narrow end. The body wall of the animal has a double margin, one of which is plain, smooth and yellow-brown in live animals, the other is fringed or toothed. Due to high physical variability between members of *Mytilus* and the ability of different species to hybridise with others, species are difficult to tell apart, and the most reliable way to tell the difference is genotyping.

Size
The average size is around 7 cm with a maximum length of 18 cm.

Colour
The outside of the shell is purple, blue or brown in colour, sometimes with prominent dark brown radial markings. The inside of the shell is pearly white with a wide border of silvery blue or purple.

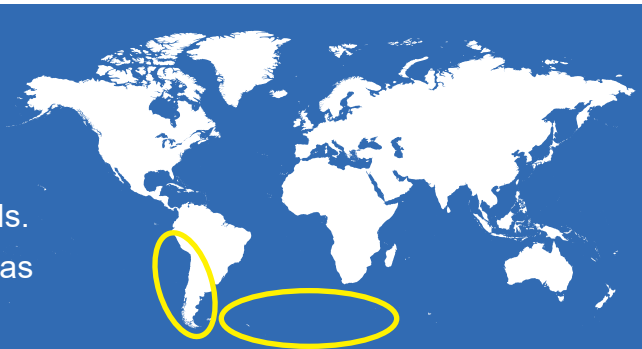
*Note: Images not to scale

[1] Previously known as *Mytilus edulis platensis* or *Mytilus edulis chilensis*

Distribution

Native range: Southeast Pacific, parts of the southwest Atlantic and the Antarctic. Chile, Argentina, Uruguay, the Falkland Islands and the Kerguelen islands.

Non-native range: Difficulty in identifying this species has resulted in uncertainty of the introduced range.



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Habitat and Ecology

Habitat: Found on soft sandy and muddy bottoms and particularly on rocky substrates where it attachs itself to solid surfaces and seaweed fronds. Can live for 18 – 24 years and form dense reefs of mussels, often with up to six layers of mussels, which attach to each other using thin byssus threads.

Environmental preferences: It tolerates a wide range of salinity (9 – 26 PSU) and prefers temperatures around 10°C but evidence suggests they can survive -1.8°C. It prefers to be fully covered by water at all times but they can be found in lower densities in the intertidal zone.

Diet: Chilean mussels are filter feeders and take phytoplankton and other organic matter from the water column.

Reproduction: Swimming larvae in the water column then settle and anchor themselves permanently to a solid surface and develop into an adult mussel. Reproduction occurs in the summer months and, if the environmental conditions are good, can continue until early autumn.

Confusion with similar species

The blue mussel (below left), *Mytilus edulis*, is very similar in appearance to *M. chilensis*. The chilean mussel also bears similarities to the Mediterranean mussel (below right), *Mytilus galloprovinicalis*, which has a slightly more wedge-shaped shell than the teardrop shape of other *Mytilus* species, and the bay mussel (*Mytilus trossolus*), which is typically smaller than other *Mytilus* species. However, variability in the physical appearance of all *Mytilus* species and the potential of hybridization makes visual differentiation difficult and genotyping is the most reliable way to identify species.

If you think you have seen this species, please contact the person below who will confirm its identity.

Please also refer to the mitigation strategies guidance document, provided as part of the Marine Biosecurity Toolkit.

Further Information

- https://www.sealifebase.ca/summary/Mytilus-chilensis.html
- Flores, C.A.M., Gomez, M.A.D., Muñoz, C.B.A., Pérez, L.E.C., Arribas, S.L.M., Opazo, M.P.A. and Huaquin, E.J.E.N., 2015. Spatial distribution pattern of Mytilus chilensis beds in the Reloncaví fjord: hypothesis on associated processes. Revista chilena de historia natural, 88(1), p.11.
- http://www.fao.org/fishery/culturedspecies/Mytilus_edulis/en
- https://www.marlin.ac.uk/species/detail/1421

Images

Front: © Pacaypalla
Reverse: Left © Eirian Kettle / Right © Adam Britton

NNSS GB non-native species secretariat
JNCC
Marine Management Organisation
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