

Other diseases of molluscs

Exotic disease

Akoya oyster disease

(Also known as mass mortality of Japanese pearl oyster or red adductor disease of pearl oyster)

Signs of disease

Important: *Animals with disease may show one or more of the signs below, but the pathogen may still be present in the absence of any signs.*

Disease signs at the farm, tank or pond level are:

- mass mortalities.

Gross pathological signs are:

- stunted growth
- slow closing of valves
- atrophied and shrunken soft tissue
- watery appearance, due to lack of nutrient storage
- red–brown adductor muscle (as opposed to creamy white in healthy oysters)
- decreased quality of pearls, including dark spots, gross pearl deformities, dark colouration and reduced lustre.

Microscopic pathological signs are:

- degenerated loose connective tissue in the mantle and an increased number of host cells
- necrosis, atrophy, swelling and vacuolisation of muscle fibres, with increased connective tissue supporting framework.

Disease agent

The causative agent of Akoya oyster disease has not been determined. Based on some infection experiments, a viral aetiology is suspected.

Host range

Species known to be susceptible to Akoya oyster disease are listed below.

Common name	Scientific name
Japanese pearl oyster or Akoya oyster ^a	<i>Pinctada fucata martensii</i>

^a Naturally susceptible

Presence in Australia

EXOTIC DISEASE—not present in Australia.

Epidemiology

- Akoya oyster disease affects oysters more than 1 year old, including juvenile, adult and seeded oysters.
- The disease results in high cumulative mortality (reported up to 80%), particularly during summer and autumn when water temperature is higher (above 20 °C).
- Susceptibility may vary with strains and subspecies of the Akoya oyster.
- Transmission is thought to be horizontal.
- The only effective control methods appear to be avoidance by restricting movement around high-risk areas and moving oysters to cooler water during the summer.

Differential diagnosis

The list of similar diseases below refers only to the diseases covered by this field guide. Gross pathological signs may be representative of a number of diseases not included in this guide, which therefore should not be used to provide a definitive diagnosis, but rather as a tool to help identify the listed diseases that most closely account for the gross signs.

Similar diseases

No diseases listed in this field guide are considered similar to Akoya oyster disease. This disease should be suspected when mass mortality occurs in Akoya oysters.

Sample collection

Due to the uncertainty in differentiating diseases using only gross pathological signs, and because some aquatic animal disease agents might pose a risk to humans, only trained personnel should collect samples. You should phone your state or territory hotline number and report your observations if you are not appropriately trained. If samples have to be collected, the state or territory agency taking your call will provide advice on the appropriate course of action. Local or district fisheries or veterinary authorities may also provide advice regarding sampling.

Emergency disease hotline

The national disease hotline number is 1800 675 888. This number will put you in contact with the appropriate state or territory agency.

Further reading

Further information can be found on the website of the Network of Aquaculture Centres in Asia-Pacific at library.enaca.org/Health/DiseaseLibrary/AkoyaDisease.pdf.

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