

# Infection with *Marteilia refringens* (Marteiliosis)

Disease agent: *Marteilia refringens* is a protozoan parasite from the Order Paramyxida within the Phylum Cercozoa.



Presence in Australia: **Exotic**

Presence in Queensland: **Exotic**



*Marteilia refringens* has never been recorded in Australia and is considered exotic. However given the presence of other species of *Marteilia* in Australia, any diagnosis of *Marteilia* spp. requires specific confirmation using molecular techniques.

## Signs of Disease:

Molluscs infected with these parasites may exhibit the following signs:

- gaping and weakened shell closure
- stunted growth and poor condition with watery appearance of flesh and shrunken gonad
- high cumulative mortalities (50-90%) associated with sporulation during late summer/autumn



**Infection with *Marteilia refringens*:** Flat oysters from Europe infected with *Marteilia refringens*. Left. Normal oyster. Right. Oyster infected with *M. refringens* with thin, watery translucent digestive gland (arrow). Photos: IFREMER.

**Host Species affected may include:**

Flat (angasi) oysters      Pacific oysters  
Sydney rock oysters      Milky oysters  
Blood cockles              Mussels  
Planktonic copepods

**Imported seafood including:**

European flat oysters      Pacific oysters  
New Zealand Flat oysters      Mussels  
Argentinian flat oysters      Cockles  
Clams

**At risk fisheries in QLD may include:**

Rock Oyster Industry

**Introduction Pathways to avoid:**

Do not translocate oysters, clams, mussels or other potential hosts (e.g. planktonic copepods) of unknown disease status from areas where *Marteilia refringens* infections are known to occur. Do not use imported seafood (including mollusc products) for bait or berley.

**Basic decontamination information:**

This disease agent can be inactivated by the following treatments: Dessication (drying out). *Marteilia refringens* is also likely to be inactivated by exposure to 200 mg/L chlorine for 4 hours, as well as heat, freshwater and other common disinfectants including ozone, hydrogen peroxide and benzalkonium chloride, however effective doses/durations for these latter processes or chemicals have not been published.

**What to do if this disease is suspected:**

If you suspect this disease is present please contact the Department of Agriculture and Fisheries (13 25 23) or the National 24 hr Emergency Animal Disease Hotline (1800 675 888) immediately.

**How to collect and store samples for diagnosis:**

If you are taking samples to help authorities to test for this disease, whole molluscs should be provided alive (if possible) or chilled and on ice.

**Learn more**

For more information about *Marteilia refringens* and other diseases of aquatic animals of significance to Australia, download the **Aquatic Disease Field Guide App** available for iOS, android and windows devices at these locations:

**IOS**<https://goo.gl/9UJNp9>**ANDROID**<https://goo.gl/T4Tn1X>**WINDOWS**<https://goo.gl/Y8Vibi>

Photographs and content reproduced with permission courtesy of the Aquatic Diseases Field Guide 4<sup>th</sup> edition.