

Infection with *Mikrocytos mackini* (Denman Island Disease)

Disease agent: *Mikrocytos mackini* is a small (2-3 micron) “microcell” protozoan parasite from the Order Mikrocytida within the Phylum Cercozoa.



Presence in Australia: **Exotic**

Presence in Queensland: **Exotic**

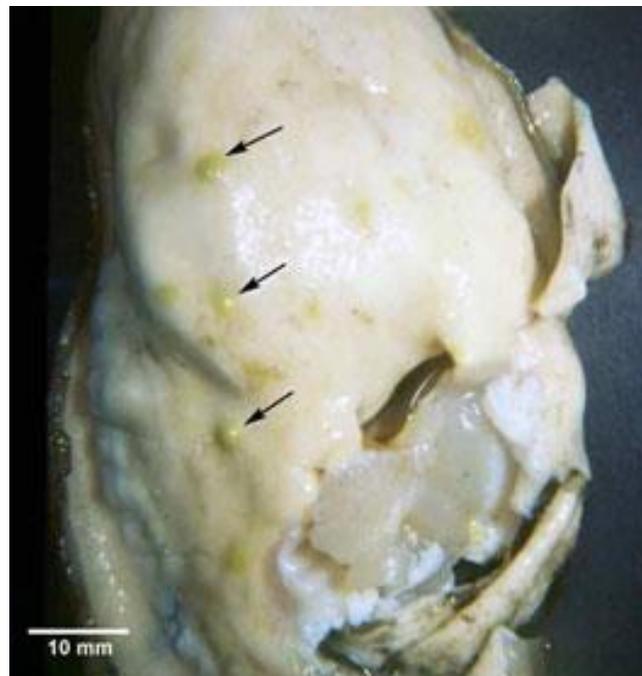


Mikrocytos mackini has never been recorded in Australia and is considered exotic. However given the presence of other microcell species (e.g. *Bonamia*) in Australia, any diagnosis of *Mikrocytos* spp. requires specific confirmation using molecular techniques.

Signs of Disease:

Molluscs infected with these parasites may exhibit the following signs:

- gaping and weakened shell closure, stunted growth, and high mortalities in oysters > 2 years old
- multiple yellowish/green lesions on the surface of the gonad, gills, palps or mantle



Infection with *Mikrocytos mackini*: Left. Pacific oyster (left) and a flat oyster (right) infected with *M. mackini*. Both show characteristic greenish pustules (arrows) on the surface of internal organs. Photos: S. Bower.

Host Species affected may include:

Pacific oysters Sydney rock oysters
Flat (angasi) oysters

Imported seafood including:

Pacific oysters American oysters
European flat oysters Olympia oysters

At risk fisheries in QLD may include:

Rock Oyster Industry

Introduction Pathways to avoid:

Do not translocate oysters of unknown disease status from areas where *Mikrocytos mackini* 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). *Mikrocytos mackini* is also likely to be inactivated by treatments that inactivate other microcells (e.g. *Bonamia* sp.), namely temperatures above 60°C for over 15 minutes, or exposure to 10-50 mg/L (0.001-0.005%) acetic acid (vinegar). This parasite is also likely to be inactivated by freshwater and common disinfectants including chlorine, ozone, hydrogen peroxide and benzalkonium chloride, however effective doses/durations for these 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 *Mikrocytos mackini* 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>

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