



MARINE

PEST DECK



INVASIVE SPECIES GUIDE

Protecting Victoria's
marine environment
from high-risk
marine pests

Marine pests are highly invasive plants and animals from other parts of the world that pose a threat to our unique marine environment.

Marine pests damage fisheries and fish nurseries and reduce vessel performance by growing on boat hulls and inside water intakes. Marine pests spread around the coast naturally or by attaching to the hulls of vessels.

Once they become established, it is nearly impossible to get rid of marine pests.

If you enjoy the Victorian marine environment for fishing, sailing, sightseeing or water sports or it's your place of work, help us stop the spread of marine pests by keeping an eye out and reporting suspected marine pests.



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AGRICULTURE VICTORIA





Northern Pacific Seastar

SCIENTIFIC NAME:

Asterias amurensis

SCAN THIS CODE TO REPORT A SIGHTING



Northern Pacific Seastar

KEY FEATURES

- 5 arms with pointed upturned tips
- Yellow/orange with purple markings, yellow underneath
- Up to 50cm across when fully grown
- Aggregates in cooler months to spawn

HABITAT

- Found in bays, estuaries and reefs from high tide mark to 200m
- Found in a range of habitats including seagrass, mussel beds, artificial structures (marinas, ports, etc.) rock pools and rocky reefs

IMPACTS

- Aggressive predator of native and commercial species including mussels, oysters and scallops
- Harms biodiversity, aquaculture and fisheries

KNOWN ESTABLISHED POPULATIONS

- Port Phillip Bay

Please report this species
outside of its known locations

vic.gov.au/marine-pests



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Image: P. Watson

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Wakame

SCIENTIFIC NAME:

Undaria pinnatifida

SCAN THIS CODE TO REPORT A SIGHTING



Wakame

KEY FEATURES

- Frilly growth (sporophyll) at base of plant
- Usually found in cooler months
- Well defined mid-rib running up length of blade
- Smooth, thin blades that stop well before base of plant
- Green/brown

HABITAT

- Found from low tide mark to 20m
- Rock, reef and stones, artificial structures (marinas, moorings, etc.) and aquaculture equipment

IMPACTS

- Can rapidly colonise areas previously devoid of large algal species

KNOWN ESTABLISHED POPULATIONS

- Port Phillip Bay, Apollo Bay harbour, Port Welshpool, Portland

Please report this species
outside of its known locations

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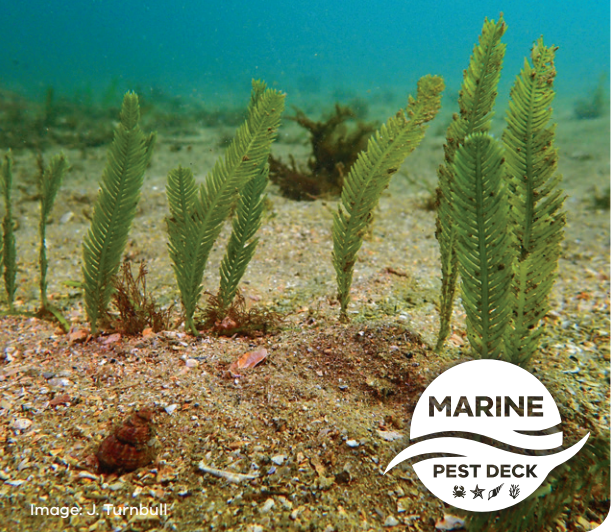


Image: J. Turnbull

Aquarium Caulerpa

SCIENTIFIC NAME:

Caulerpa taxifolia

SCAN THIS CODE TO REPORT A SIGHTING



Aquarium Caulerpa

KEY FEATURES

- Light green flattened fronds (fern-like)
- Pinnules (small leaves) curve upwards and attach directly opposite each other
- Up to 15cm long (more than 60cm in deep water)

HABITAT

- Estuaries, coastal lagoons and bays
- Rock, sand, mud and seagrass

IMPACTS

- Overgrows and outcompetes native species and degrades fish habitats
- Tangles and foul nets and anchors

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Asian green mussel

SCIENTIFIC NAME:

Perna viridis

SCAN THIS CODE TO REPORT A SIGHTING



Asian green mussel

KEY FEATURES

- Juvenile is bright green
- Older shells dark green to brown
- Smooth shell with evenly spaced grooves
- Adults 8-16cm long

HABITAT

- Attaches to hard surfaces like vessels, wharves, aquaculture equipment, buoys, intake pipes etc.
- Found from high tide mark to 40m
- Generally, a tropical species but can be transported on vessels

IMPACTS

- Forms dense colonies and outcompetes native species
- Clogs water intake pipes on vessel engines

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Image: CRIMP, CSIRO Marine Research

Black striped false mussel

SCIENTIFIC NAME:

Mytilopsis sallei

SCAN THIS CODE TO REPORT A SIGHTING



Black striped false mussel

KEY FEATURES

- Shells unequal in size - one side overlaps the other
- Small and easily crushed
- Shell sometimes has zig-zagged or striped pattern
- Forms dense clusters
- Grows up to 2.5cm long

HABITAT

- Shallow waters to a few metres deep
- Estuaries to open marine waters
- Attaches to hard surfaces like vessels, wharves, aquaculture equipment, buoys, intake pipes etc.

IMPACTS

- Fast-growing, displaces native species
- Causes major fouling of wharf pylons, marinas, vessel water intakes, aquaculture equipment etc.

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Image: A. Benson U.S. Geological Survey

Brown mussel

SCIENTIFIC NAME:

Perna perna

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Brown mussel

KEY FEATURES

- Dark brown
- Smooth shell with evenly spaced grooves
- Shell thin at edges and thickens towards narrow end
- Straight and long hinge line
- Around 9cm long but can be 5-17cm long
- Forms dense colonies

HABITAT

- Shores and shallow waters
- Often attaches to hard surfaces like buoys, piers, rocks, marinas and port infrastructure but can form colonies on soft surfaces

IMPACTS

- Fast-growing, displaces native species
- Causes major fouling of wharf pylons, marinas, vessel water intakes, aquaculture etc.
- Can accumulate heavy metals and toxins causing shellfish poisoning if eaten

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Image: DAWE



Charru mussel

SCIENTIFIC NAME:

Mytella strigata

SCAN THIS CODE TO REPORT A SIGHTING



Charru mussel

KEY FEATURES

- Broad range of shell colours - black, dark bluish, brown, grey and orange
- Range of shell patterns - zig zags, spots or concentric bands
- Shell beak generally short
- Shell 2 - 7cm long

HABITAT

- Attaches to hard surfaces like vessels, wharves, aquaculture equipment, buoys, intake pipes etc.
- Can form dense beds on or in the sediment
- Found from mid-tide mark to 8m deep

IMPACTS

- Fast-growing, displaces native species
- Causes major fouling of infrastructure

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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New Zealand green-lipped mussel

SCIENTIFIC NAME:

Perna canaliculus

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New Zealand green-lipped mussel

KEY FEATURES

- Smooth, dark brown to bright green shell
- Thin reddish brown colour rays on shell
- Evenly spaced grooves on shell
- Shell thin at edges and thickens towards narrow end
- Straight and long hinge line
- Forms dense colonies
- Shell up to 24cm long

HABITAT

- Shores and shallow waters
- Often attaches to hard surfaces like buoys, piers, rocks, marinas and port infrastructure etc.

IMPACTS

- Fast-growing, displaces native species
- Could have significant impact on mussel industry

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Image: A. Chalupa

Asian paddle crab

SCIENTIFIC NAME:

Charybdis japonica

SCAN THIS CODE TO REPORT A SIGHTING



Asian paddle crab

KEY FEATURES

- Red, purple, orange to pale green and off-white shell
- 5 distinct spines on upper surface of foreclaw
- 6 spines on each side of eyes
- Last set of legs have swimming paddles
- Shell up to 12cm wide

HABITAT

- Shallow waters to 15m deep
- Mobile, found on, or buried in, sand or mud
- Found in estuaries, coastal lagoons and bays

IMPACTS

- Aggressive, out-competes native species
- Can carry white spot syndrome virus

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Chinese mitten crab

SCIENTIFIC NAME:

Eriocheir sinensis

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Chinese mitten crab

KEY FEATURES

- Hairy 'mittens' on claws
- 4 spines either sides of the eyes
- 4 sharp spines between the eyes
- Smooth shell up to 8cm wide
- Freshwater for first 4-5yrs

HABITAT

- Mud on riverbanks
- Estuaries and coastal areas

IMPACTS

- Burrowing causes erosion on riverbanks and shorelines
- Damages aquaculture
- Host of dangerous liver fluke which harms humans
- Host of several crustacean diseases including crayfish plague

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria

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Image: M. Frey CC by-nc-sa



Harris' mud crab

SCIENTIFIC NAME:

Rhithropanopeus harrisi

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Harris' mud crab

KEY FEATURES

- Greenish brown to olive green
- White-tipped, uneven sized claws
- Hairy abdomen
- 4 blunt spines either sides of body
- Shell about 1-2cm wide

HABITAT

- Found in shallow brackish, fresh or marine waters
- Found in sandy and muddy environments, under rocks and stones, in vegetation and oyster beds and in water intake pipes

IMPACTS

- Competes with native species
- Host of several crustacean diseases
- Fouls water intake pipes
- Damages commercial catch in fishing nets

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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Asian shore crab

SCIENTIFIC NAME:

Hemigrapsus sanguineus

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Asian shore crab

KEY FEATURES

- Banded pattern on walking legs
- 3 spines on each side of eyes
- Spots on claws
- Square-shaped, green-purple to orange-brown shell
- Shell up to 4cm wide

HABITAT

- Found on hard surfaces like under rocks, shells, debris or artificial structures (marinas, moorings, etc.)
- Found in exposed rocky coasts, estuaries, tidal flats and shallow waters

IMPACTS

- Out-competes native species
- Preys on crabs and shellfish, particularly mussels and oysters.

KNOWN ESTABLISHED POPULATIONS

- Port Phillip Bay



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Image: X. Tunon CEAB-CSIC

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Carpet sea squirt

SCIENTIFIC NAME:

Didemnum vexillum

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Carpet sea squirt

KEY FEATURES

- Range of colours – pinkish, tan or pale orange, greyish-white
- Grows in an encrusting manner or forms rope-like tendrils

HABITAT

- Found on most hard surfaces including natural and artificial structures (marinas, moorings, etc.)
- Found in estuaries and marine waters from low tide mark to 80m

IMPACTS

- Overgrows and smothers native species
- Crowds out mussels and scallops
- Causes major fouling of wharf pylons, buoys, marinas, pontoons, water intake systems, aquaculture equipment, etc.

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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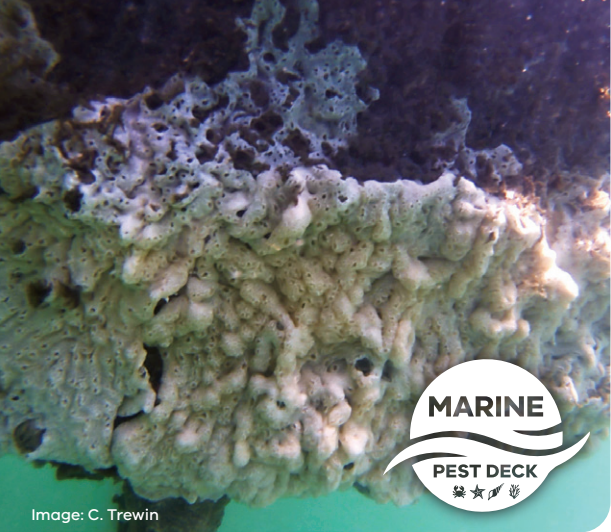


Image: C. Trewin

White colonial sea squirt

SCIENTIFIC NAME:

Didemnum perlucidum

SCAN THIS CODE TO REPORT A SIGHTING



White colonial sea squirt

KEY FEATURES

- White colouring
- Grows in an encrusting manner or forms rope-like tendrils

HABITAT

- Hard surfaces particularly artificial structures (marinas, moorings, etc.)
- Found in estuaries and marine waters
- Commonly found 1-3m deep but can be up to 8m deep

IMPACTS

- Overgrows native species
- Causes major fouling of wharf pylons, buoys, marinas, pontoons, water intake systems, aquaculture equipment, etc.

KNOWN ESTABLISHED POPULATIONS

- Not present in Victoria



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