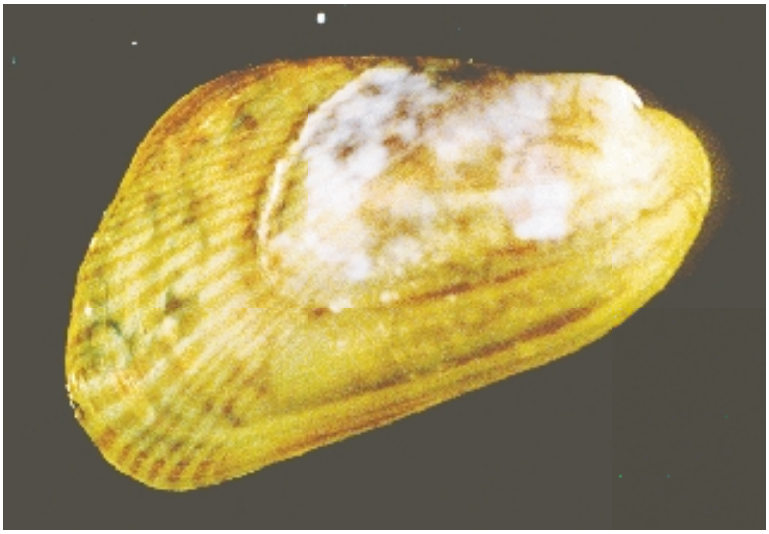
CSIRO MARINE RESEARCH

# MARINE PEST INFORMATION SHEET

CRIMP Centre for Research on Introduced Marine Pests

## Asian Mussel

## *(Musculista senhousia)*



***Description:*** *Musculista senhousia* is a small mussel that reaches a maximum length of around 30 mm. Its shell is thin and the shell surface is smooth. Shell colour is olive green to brown with darker radial lines or zigzag markings. The mussel has a well developed byssus which it uses to construct a cocoon, made of byssal threads and sediment, to protect the thin shell.

***Distribution:*** *Musculista* is native to the north western Pacific. Its range extends from Siberia and the Kuril Islands through Korea, Japan and China. The mussel has been introduced to the Pacific coast of the US (1940's), New Zealand (1970's), Australia (1980's) and the Mediterranean (1980's).

In its native range the mussel occurs form the intertidal to the shallow subtidal on soft or hard substrates, and it will foul wharf piles and other man-made structures. *Musculista* is often found in dense aggregations (up to 3,000 mussels per square metre). When densities are high, individual byssal cocoons fuse to form continuous byssal carpets. The mussel grows rapidly and can reach adult size in only 9 months. Individual mussels are thought to live no more than 2 years.

***Impacts:*** *Musculista* is considered a pest because of its capacity to dominate bottom communities and potentially exclude similar native species. In some areas in southern California, the mussel has been reported to reach densities of 15,000 individuals per square metre. The byssus mats formed by the mussel may restrict the growth of some less robust species of seagrass.

***Current Status:*** The first record of *Musculista* from Australia is from the Swan River, Western Australia, in the early 1980's. The mussel became established in Victoria in the late 1980's and is now known to occur in Port Phillip Bay, Western Port Bay and Portland Harbour. *Musculista* was reported from the Tamar River, northern Tasmania, in 1995.

The abundance of the mussel has increased significantly in Port Phillip Bay over the 10 years up to 1998. In 1987, the maximum density of *Musculista* in Corio Bay was 3 mussels per 0.1 square metre. A subsequent survey in 1998 reported densities of up to 473 mussels per 0.1 square metre in some areas.

***Distribution Vectors:*** Introductions of *Musculista* into North America have been attributed to ballast water, vessel fouling and accidental importation with Pacific oysters. Both ballast water and hull fouling are likely vectors for the introduction of *Musculista* to Australia. The mussel has been found in the water intakes of a coastal vessel in South Australia. Uptake of larvae in ballast water, fouling of vessels or marine farming equipment, and the movement of mariculture species all have the potential to spread the mussel in Australian waters.