



Ministry of Fisheries – Marine Biosecurity

ACTION PLAN FOR UNWANTED SPECIES



Chinese mitten crab (*Eriocheir sinensis*)

Photo courtesy of Thomas Niesen

Summary

The Chinese mitten crab (*Eriocheir sinensis*) is a highly invasive species that can affect human health and cause major ecological and economic damage.

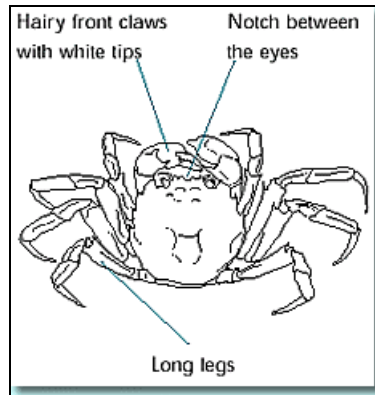
Post-larval stages settle in salt water then migrate to freshwater. This means that they could survive in both salt and fresh ballast water. Because of this, there is a significant risk of introducing the Chinese mitten crab to New Zealand, particularly in fresh ballast water (which is not required to be exchanged enroute). This crab is considered a delicacy in Asia and has been imported live by several countries. This activity is also a potential pathway for introducing the Chinese mitten crab into New Zealand.

The Ministry of Fisheries is taking the following steps to decrease the risk of Chinese mitten crabs establishing in New Zealand:

- Reducing the risk of the crab arriving in New Zealand by amending the ballast water Import Health Standard
- Increasing the chances of detecting the crab if it arrives by determining *E. sinensis* unwanted and notifiable; targeting this species in the national surveillance programme; and disseminating information on the crab to the public
- Increasing our understanding of the crab and how to respond to an incursion.

Description

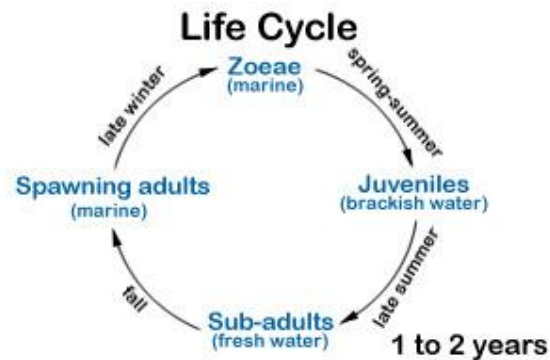
The Chinese mitten crab is light brown in colour with a carapace (body) width of up to 8 cm. Adults and larger juveniles have dense patches of hairs on the claws (from which the species gets its name). The crab has a round body shape and a distinctive notch between the eyes. Its legs are twice as long as its body width.



Eriocheir sinensis

Biology

Chinese mitten crab adults reproduce in salt water and the offspring migrate to freshwater habitats. Mating and fertilisation occurs in late autumn and winter, usually in salinities greater than 20‰. The females carry their eggs until hatching and both sexes die soon after reproduction. A single female can carry 250 000 to 1 million eggs. After hatching, larvae are planktonic for approximately 1 to 2 months. The juvenile crabs settle in salt or brackish water in late spring and migrate to freshwater habitats. Maturing crabs migrate to salt water in late autumn and early winter to complete the life cycle.



Chinese mitten crabs are omnivores, with juveniles eating mostly plant material, then animals (especially small invertebrates) as they grow. They are adept walkers on land and readily leave the water to bypass obstructions such as dams or weirs.

Distribution

The Chinese mitten crab is native to the coastal rivers and estuaries of the Yellow Sea (China and Korea). It was introduced to Germany in the early 1900's and has spread to many northern European rivers and estuaries. Similarly, it has spread rapidly throughout the San Francisco Estuary area since 1992.

The young juvenile crabs are found in tidal freshwater areas, and usually burrow in banks and levees between the high and low tide marks. They apparently do not burrow as extensively in non-tidal areas, probably because they are not subject to desiccation during low tides. Older juveniles are found further upstream and have been reported several hundred kilometres from coastal areas.

Vectors

Larvae and juveniles can be transported in ships' ballast water, while adults can be transported in seachests (the cavities around the water intake area of a vessel). The crab is considered a delicacy by some people and has been imported live to markets in Los Angeles and San Francisco. Illegal introduction of live crabs into New Zealand for food is a possibility.

Impacts

The presence of Chinese mitten crabs could have several impacts in New Zealand. High densities of juveniles may accelerate the erosion of riverbanks through their burrowing activity. This may affect the habitats of native fishes such as whitebait. Chinese mitten crabs could also reduce populations of native invertebrates through predation. They can also adversely affect fishing. In Europe, high densities of Chinese mitten crabs have damaged commercial fishing nets and catches. The crab has also become a nuisance for shrimp trawlers in San Francisco Bay, where large numbers of crabs get caught in the nets.

In its native range the Chinese mitten crab is the intermediate host for parasitic lung flukes (*Paragonimus* spp.), which infect humans and other mammals mainly through consumption of raw or poorly cooked crabs. These flukes could be introduced to New Zealand by infected crabs.

Action Plan

The Ministry of Fisheries is taking the following steps to decrease the risk of Chinese mitten crabs establishing in New Zealand:

- Reducing the risk of the Chinese mitten crab arriving in New Zealand by amending the ballast water Import Health Standard (IHS). The IHS will be amended either by not allowing discharge of fresh ballast water and/or by adding high-risk areas where *E. sinensis* is present to Annex 1 (ballast water from areas in Annex 1 of the IHS cannot be discharged into New Zealand waters under any circumstances)
- Increasing the chances of detecting Chinese mitten crabs if they arrive by determining *E. sinensis* unwanted and notifiable (declaring an organism to be notifiable places a duty on any person who becomes aware of the presence of the organism in a new place to notify the Chief Technical Officer); targeting this species in the national surveillance programme; and disseminating information on the crab to the public
- Increasing our understanding of this species and how to respond to an incursion by developing a risk profile and an incursion response plan.

What you can do:

Please do not bring Chinese mitten crabs into New Zealand for any purpose. Report any suspected sightings of Chinese mitten crabs to the Ministry of Fisheries.

Contact Details

For further information on this action plan or any marine biosecurity issue please contact:

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