

Quarterly report of investigations of suspected exotic aquatic pests and diseases: April to June 2020

“Japanese” sea squirt, Nelson

A member of the public reported seeing an organism he believed was a “Japanese sea squirt”. A photo of the organism was provided for species determination. The Incursion Investigator was confident that it was the non-indigenous ascidian *Didemnum vexillum*, which is established in the north of the South Island. A second opinion was sought from a NIWA ascidian taxonomist. From the photo the taxonomist could not tell whether it was *D. vexillum* or another non-indigenous ascidian, *Diplosoma listerianum*. The latter is established in many locations in New Zealand, but the Marine Biosecurity Porthole has no records of it near Nelson. The taxonomist noted that *D. listerianum* is widespread in the area and visited the site to retrieve a live specimen. The organism was finally confirmed to be the non-indigenous colonial ascidian *Didemnum vexillum*, which does not represent a biosecurity risk. The investigation was closed.

Fouling on pilot vessel, Wellington

A Port of Wellington pilot launch was hauled out for hull cleaning and was found to be infested with a large amount of fouling. As this launch works closely with ships from overseas there was a risk that the fouling might include non-indigenous species. A sample of the fouling organisms was provided to the Marine Invasives Taxonomic Service (MITS) for species identification. MITS identified several indigenous and non-indigenous organisms: the indigenous dredge oyster (*Ostrea chilensis*); the cryptogenic ascidian *Asterocarpa humilis*; the non-indigenous bryozoans *Tricellaria inopinata* and *Watersipora subatra*; and the serpulid tubeworms *Spirobranchus cariniferous*, *Galeolaria hystrix* and *Hydroides elegans*. All these species are present and established in Wellington Harbour so the biosecurity risk was low and the investigation was closed.

New nematode, Wellington

A NIWA nematode taxonomist has

described a nematode species that is new to science, *Chromadorina tangaroa* (Chromadoridae), which was found on the hull of the NIWA research vessel *Tangaroa*. Male and female nematodes were found in algae collected from the vessel. A Marine Exotic Species Note was prepared by MITS. Nematodes in this family feed predominantly on diatoms and other microalgae and pose a low biosecurity risk. However, *C. tangaroa* is considered most likely to be an endemic species, as the vessel had been moored in Wellington Harbour for the previous 4 weeks and had not left New Zealand waters during the previous 4 months.

Suspect *Aphanomyces invadans* on king salmon

MPI was notified that unusual lesions had been observed on king salmon (*Oncorhynchus tshawytscha*) at a land-based freshwater aquaculture facility. The aquaculture facility had previously had issues with *Aeromonas* sp. bacteria, but the lesions seen in this case were not consistent with *Aeromonas* infection. The differential diagnosis included the possibility that the infection was caused by the notifiable and unwanted organism *Aphanomyces invadans*, the causal agent of eusepizootic ulcerative syndrome (EUS), although this has not previously been detected in New Zealand. The MPI Animal Health Laboratory received salmon specimens and carried out diagnostic tests to identify the causal agent and rule out *A. invadans*. Histology and PCR tests identified several organisms including *A. frigidophilus*, a closely related species that has recently been described. It is thought to be a saprobe and has not been associated with lesions in the past. This is the first record of *A. frigidophilus* in New Zealand. It is not listed as an unwanted organism, nor is it listed by the OIE as a disease of significance. Pathogen testing also detected *Flavobacterium psychrophilum* and the fungus *Saprolegnia delica*, which are present in New Zealand and are known to cause lesions on salmonids. It is likely that the infections were secondary to injuries caused by rubbing

on nets in the fish pens. As exotic disease was ruled out, the investigation was closed.

Dead eels in stream, Napier

A member of the public contacted MPI after seeing three dead eels floating in a local creek the previous day. The notifier was concerned that the mortality might be related to a disease. As eels don't naturally float it appeared that they had been dead for some time, limiting the possibility of getting a high-quality sample. Additionally, as the notification occurred while under the national level 4 lockdown for Covid-19 it was deemed a low priority for sending staff out to investigate further without an indication that the issue was more widespread. Staff of the Hawke's Bay Regional Council were contacted for their awareness and for local advice about the waterway where the dead eels were seen. Council staff stated that they were aware of high water temperatures and low flows caused by unseasonably warm autumn weather and a drought-induced lack of rainfall. They believed this had caused eel deaths in other similar waterways in the area. It appears unlikely the cause of death was an exotic disease, so the investigation was closed.

Unusual jellyfish, Marlborough Sounds

The Department of Conservation contacted MPI regarding a report of a suspect new jellyfish species in the Marlborough Sounds. Photographs were forwarded to MITS for identification. The jellyfish taxonomist tentatively identified the jellyfish as *Desmonema* sp., though a specimen would be required to confirm the identification because the morphological features needed to confirm were either missing or not visible in the pictures. It is highly likely that this was the indigenous species *D. gaudichaudi*, as jellyfish are transient in time and space and the Marlborough Sounds is on the edge of the known range for this species. As no specimen was available the investigation was closed.

Suspect grey side-gilled sea slugs, Auckland

A member of the public contacted MPI after seeing a large number of sea slugs washed up on Kohimarama Beach, Auckland. The person was concerned that sea slugs can be toxic and pose a risk to pets. In 2009, several dogs died after eating grey side-gilled sea slugs (*Pleurobranchaea maculata*) washed up

on Auckland beaches. MPI requested images of the sea slugs for identification. The images were consistent with the ragged sea hare (*Bursatella leachii*), which has previously been identified from the same location and is native to New Zealand. Ragged sea hares often wash up dead in large numbers after spawning. As this did not represent an exotic pest risk or a health risk, the investigation was closed.

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