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REPORT OF EXOTIC MOSQUITOES IMPORTED INTO DARWIN PORT AREA 31 JANUARY 2001

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Territory Health Services and the Australian Quarantine Inspection Service recently released details of the interception of a high-risk importation of exotic mosquitoes into the Frances Bay port facilities in Darwin in the Northern Territory.

The importation occurred in a damaged vehicle offloaded from a cargo vessel, which arrived from Dili in East Timor 31/1/2001. An Australian Quarantine Inspection Service (AQIS) officer detected the importation after live flying mosquitoes were observed flying from the just offloaded vehicle on the afternoon 31/1/2001. Live larvae and pupae were observed on the poorly accessible floor of the vehicle in approximately one litre of shallow water.

The quarantine officers collected all larvae and water, and the Medical Entomology Branch (MEB) of Territory Health Services (THS) was immediately notified of a risk situation. Foggling of the vehicle was undertaken with aerosol cans of knockdown insecticide soon after the detection. This was followed by spraying of the floor of the vehicle with the residual insecticide deltamethrin.

The larvae and pupae were submitted soon after to MEB and identified as a mixture of *Aedes aegypti*, *Aedes albopictus*, *Tripteroides punctulatularis*, *Culex quinquefasciatus* and *Aedes notoscriptus*. The majority of the 42 larvae were *Ae. albopictus* (17) and *Ae. aegypti* (12). All larvae were fourth stage except for one third stage *Ae. aegypti*. The other larvae included *Tr. punctulatularis* (10), *Aedes notoscriptus* (2) and *Culex quinquefasciatus* (1).

The first four species above are recorded from Timor (Whelan and Hapgood 2000). The presence of *Ae. notoscriptus* has to be a tentative record for Timor, as it has not been recorded from there previously, and contamination of the larval collection in Darwin cannot be ruled out with certainty. This does raise the possibility of reverse importation of local Australian species into the port area of Dili, and requires follow up by the relevant authorities. The first two species are vectors of dengue, with both being exotic to the NT and the second exotic to Australia.

A coordinated response between THS and AQIS was carried out immediately after the detection according to established procedures (Whelan 1998), and the Commonwealth Health authorities were notified. The immediate port vicinity and the surrounding area was fumigated with heavy-duty ultra low volume insecticide application of biocresmethrin. This foggling was repeated on the evening 1/2/2001. The vessel agent were requested to close the vessel overnight and the vessel was fumigated internally on the early morning 1/2/2001 by a private pest control company using back pack foggers and biocresmethrin after the crew were evacuated. The vessel was covered by tarpaulin and treated with methyl bromide on morning 1/2/2001. A general media release was prepared and released 2/2/2001.

Increase surveillance has been put in place both inside and outside the 400m quarantine zone around the port facility. AQIS has placed 6 additional mosquito ovitraps in the port facility and will conduct repeated carbon dioxide mosquito trapping of the area over the next week. THS has placed 3 additional ovitraps outside the 400m zone. All ovitraps will be monitored weekly for the next three months for the presence of exotic mosquitoes. Receptacle inspection and treatment in the area is a continuing operation. As at 1 March 2001 there has been no further evidence of establishment of exotic vectors in the port area.

The pupae recovered were bred out under isolation facilities. The first pupae bred out by 9am 1/2/2001 were all *Aedes aegypti* with a mixture of males (7) and females (5). This indicated that the flying escapees were all probably *Aedes aegypti*. The remaining pupae bred out from 9am 1/2/2001 to 9am 2/2/2001 were *Aedes aegypti* males (9), females (15), and *Aedes albopictus* males (4), females (1).

The presence of four instar larvae of *Aedes aegypti* and *Aedes albopictus* indicated that all had to be present on the vehicle in Dili before it embarked to Darwin. This points to a failure of inspection and control procedures in the port area of embarkation.

This is the second risk situation in the Darwin area in two months. In the previous month a floating hotel from Dili which docked at the new Darwin Port facilities was discovered with mosquito breeding under floorboards in an upstairs bar area. Two *Ae. aegypti* adults were caught biting quarantine officers conducting a search. Heavy breeding of *Culex quinquefasciatus* was discovered under floorboards. On this occasion all water and larvae could not be collected, but it was assumed that the site was the probable source of the exotic mosquito well. The breeding site was superchlorinated and the whole vessel was quarantined and fumigated internally by a pest control operative on the evening of detection.

The latest detection was an illustration of the excellent inspection procedures by AQIS officers and the well-coordinated and cooperative response between AQIS and THS staff. The NT has been free of the *Aedes* vectors of dengue since the late 1950’s, despite many instances of importations. This continued absence is due to the vigilance of local quarantine officers and speedy elimination measures. The continued absence of these *Aedes* species ensures the NT remains free of dengue and Australia remains free of *Ae. albopictus*.

References


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