Report of detection of exotic mosquito importation Darwin, NT, Australia, 2 March 2000: Importation, inspection and action details

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An Australian Quarantine Inspection Service (AQIS) officer, advised the Medical Entomology Branch (MEB) of Territory Health Services (THS) at 2pm 2 March 2000, of the detection of mosquito larvae in cargo ex Dili, East Timor which appeared to be *Aedes aegypti*. A sample of collected larvae were examined by an MEB entomologist at the AQIS office at 2.30 pm and he confirmed that they were *Ae. aegypti*. There were 5 freshly killed late fourth instar larvae. The Northern Territory is currently free of *Ae. aegypti* but the species is present in Queensland and countries to the north of Australia. This is the second instance of importation of an exotic Aedes species into Darwin in two months, with the previous importation of *Aedes albopictus* occuring in late January 2000.

The large steel shipping container (reference number CRXY126) was from the vessel Arktis Atlantic, that was loaded in Dili on 24/2/20000 and arrived at the Perkins Wharf area at Frances Bay in Darwin on 26/2/2000. The container was a returning 'empty' container but was loaded with opportunistic items, which included luggage, rubbish and empty gas bottles.

The quarantine officer who first opened the shipping container on the 2 March had observed a live mosquito fly out. A mosquito was also observed to bite a quarantine officer standing next to him. He immediately closed the container doors. He thought the mosquito that was observed flying went back inside the container. AQIS organised the immediate spraying of the inside of the container and some pooling water in a plastic sheeting with a can of aircraft disinsection aerosol on hand containing permethrin, and the container was resealed.

The MEB and AQIS officers opened the container at 3pm while at the same time spraying the aerosol d-Phenothrin 20:80 aircraft spray into the opening door. They then sprayed the entire inside of the container with 2 complete cans of spray and closed the container for 15 minutes before further inspection. No flying mosquitoes were observed and no dead mosquitoes could be seen on the floor or luggage.
Mosquito larvae were found in two pools of approximately one litre of water each in the folds of a large sheet of transparent plastic protective sheeting jumbled into a large open slatted wooden box. There were two other smaller volumes of water in the sheeting without larvae. Numerous live larvae and dark coloured pupae were observed in the water. Pupal skins were observed in the water. Samples of larvae were taken and the water surface was sprayed with the d-Phenothrin. Further samples were then taken and placed in to a separate sample jar after the spraying. A thorough inspection of the container revealed two damaged truck tyres on rims, but they were completely dry inside.

The container was then sealed again while arrangements were made to conduct a fogging operation in the general area that night, and to obtain cans of aerosol permethrin. The permethrin aerosol was applied to the water in the container at approximately 3.30 p.m. and the container resealed overnight and arrangements made for the incineration of the plastic the following day, following similar spraying procedures when opening the container.

The MEB made arrangements to fog the Frances Bay Wharf area that evening. A media radio statement was released to advise the public and businesses in the area of the fogging. THS prepared an information flier and distributed it to the businesses in the area in the afternoon. Arrangements were made with the international freight manager of Perkins, to ensure access to all parts of the premises in the evening, and for the caretaker to be on hand to open all large sheds for fogging. The fogging operation was conducted by MEB between 6.10 and 7.10 p.m. 2/3/2000. A Leco ULV heavy-duty trailer mounted fogger was used to dispense Bioresmethrin ULV formulation insecticide diluted 1:1.5 with diesel. The entire Perkins facility was fogged, as well as all business premises within 400 metres of Perkins, from the Frances Bay Mooring basin to the former Powerhouse, including Darwin Ship Repairs and Fisherman's Wharf premises.

This importation had a reasonable possibility for the introduction of *Aedes aegypti* into the port area of Darwin. The steel shipping container was not air-proof and two breather holes were not mosquito proof. The fact that the container had hatched pupal skins and live adult female mosquitoes, and had been in port for 5 days, indicates a possibility that live females could have escaped. The fogging operation reduced the chance of live adults in the area, but there was still the possibility that female mosquitoes could be alive or that some could have escaped previously. Any previous escapes could have already laid eggs in the numerous water-filled tyres in the area.
Subsequent vector control and monitoring

1. All tyres and other receptacles containing water in Perkins were placed under quarantine restriction.
2. All receptacles in the Frances Bay area within 400 metres of the Perkins premises were sprayed with water emulsifiable deltamethrin (Cislin) at label recommendations. The water surfaces, and above the water surface to overflow levels, were sprayed to the point of spray run off. Each receptacle was marked with an identifiable spray mark as it is sprayed. A check was made after spraying to verify that all receptacles have been sprayed before lifting the quarantine restrictions.
3. A complete larval survey was made of all receptacles in the Frances Bay area. All larvae present in any receptacle were collected and identified. No exotic larvae were found.
4. There was an expansion of the existing ovitrap program in the Perkins vicinity. This expanded surveillance will remain for two months until the all clear is given.
5. No exotic mosquitoes have been detected by AQIS or THS to date (March 20 2000). It appears that the eradication has been a success, but surveillance is continuing.