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Abstract: *Aedes albopictus* is a container-breeding *Stegomyia* mosquito that has dispersed widely from its origins in Southeast Asia. Because *Ae. albopictus* is a known dengue vector and a potential vector of a variety of arboviruses and it can tolerate cooler climates than *Aedes aegypti*, Australian quarantine and health authorities have strategies to detect and eliminate it from international ports. Following the detection of 42 adult *Ae. albopictus* in BG-Sentinel traps set on Yorke island in the Torres Strait of Australia in April 2005, extensive surveys were conducted to determine the distribution of *Ae. albopictus* in the Torres Strait and adjoining Cape York Peninsula. A total of 17 islands and the northern peninsula area of Cape York Peninsula were surveyed by collection of larvae and pupae from flooded containers and human bait collections of adult mosquitoes with aspirators and sweep nets. *Aedes albopictus* was detected on 10 islands and comprised 100% of the day-biting container-breeding mosquitoes on Yorke and Stephens Islands. No *Ae. albopictus* were detected in the mainland sites on Cape York. Retrospective genetic analysis of larvae collected in April 2004 and April 2005 on Yorke Island indicated that *Ae. albopictus* was present in low densities in 2004 and that there were 3 genetically distinct mitochondrial haplotypes on Yorke Island in April 2005. Additionally, on Yorke Island there is evidence that *Ae. albopictus* is displacing *Aedes scutellaris*.

Key words: *Aedes albopictus*, dengue, exotic mosquito, Australia.