VECTOR INTRODUCTIONS ASSOCIATED WITH DISEASE OUTBREAKS IN THE WESTERN PACIFIC REGION

by

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Aedes albopictus was probably introduced and established in the Solomon Islands in 1978, followed by a large dengue outbreak in 1982. Another dengue vector, A.aegypti, has been recently introduced into the Tokelau Islands. Local shipping was probably responsible for these two vector introductions, from Papua New Guinea and Samoa, respectively.

Guam, with a heavy influx of international travel by air and sea, has experienced the establishment of A.albopictus and Anopheles literalis from the Philippines, Anopheles barbirostris from Viet Nam and several other malaria, filariasis and encephalitis vectors from Indonesia and elsewhere. Guam does not carry out aircraft disinsection in a rigid manner, and these numerous introductions during the past 7 to 35 years illustrate what can happen if adequate control measures are not implemented by the quarantine services. Malaria transmission is deemed to be absent on the island although within the last few years two malaria cases considered to be of local origin have occurred. Among the introduced anophelines, Anopheles subpictus is the most threatening malaria vector. An outbreak of dengue fever, including some cases of dengue haemorrhagic fever, transmitted by A.albopictus occurred in 1975.

In Fiji, Aedes vigilax, a vector of Ross River virus infecton was introduced in 1957, and this species and others were implicated in the large outbreak that occurred in 1979. Tourists harbouring the virus could have been exposed to mosquito bites in the unscreened Nadi international airport, thus allowing the local mosquito populations to incubate the virus and subsequently spread it to a large component of human population throughout the country. Culicoides belkeni, a biting midge and serious pest in tourist areas, was introduced from Fiji into French Polynesia and the Cook Islands in the late 1950s by aircraft.

Aedes togoi, a potential filariasis vector, was introduced from Japan into Malaysia about 1960 in logging ships, and A.literalis, a malaria vector, from the Philippines into Malaysia by ship in 1970. In recent years, large numbers of insect vectors of malaria, dengue haemorrhagic fever, and Japanese encephalitis have been found on international aircraft arriving in Australia, Japan, Philippines and New Zealand. Although there

is a lack of data, the transport of vectors to other countries, with the risk of permanent establishment, undoubtedly occurs.

The Regional Committee for the Western Pacific, at its thirty-fourth session in Manila, in September 1983 urged Member States:

(1) to carry out regular vector surveys at international airports and seaports, in order to identify and share information on vulnerable routes and situations requiring specific control action;

(2) to strengthen rodent and vector control measures within and around international airports and seaports and to give more attention to the International Health Regulations, particularly Articles 16 and 19 on rodent and vector control;

(3) to ensure that all flights from malarious to non-malarious countries or areas receive close surveillance and are disinsected either before take-off or after arrival;

(4) to identify other high-risk flights, especially those travelling to other areas of the anopheline-free Pacific islands, and to take appropriate surveillance and control measures, and

(5) to increase the number of trained staff available for the development of surveillance and control activities.