

**Vector mosquitoes surveillance and identification:
Training workshop
Commonwealth of the Northern Mariana Islands (CNMI),
28 August – 1 September 2006**

Only a few, mostly endemic, mosquito species were present in Micronesia at the beginning of the 20th century and no major disease vector was present. Subsequent decades saw significant changes with the introduction of the dengue vector *Aedes aegypti* and, after WWII, *Anopheles* species and *Ae. albopictus* in the Mariana Islands.

Sixteen species of mosquitoes have been reported in CNMI, including *Ae. aegypti*. Although it seems that this species has been eradicated, its characteristics cannot be ignored since it is one of the most dangerous mosquitoes in the world. As its worldwide distribution is constantly expanding, it is likely to be reintroduced at any moment.

The mosquito fauna of the Federated States of Micronesia (FSM) adds up to at least 24 species, many of them having a distribution of just one or a few islands. Most of these species are not disease vectors, and some of them never bite humans. Those that can be a matter of concern are the following.

<i>Aedes aegypti</i> (CNMI & FSM) <i>Ae. Albopictus</i> (CNMI & FSM)	Major vectors of dengue and other arboviruses
<i>Anopheles indefinitus</i> (CNMI)	Possible vector of malaria and filariasis
<i>Culex quinquefasciatus</i> (CNMI & FSM)	Potential vector of filariasis and West Nile virus
<i>Culex annulirostris annulirostris</i> (FSM) <i>C. annulirostris marianae</i> (CNMI) <i>C. tritaeniorhynchus</i> (CNMI)	Vectors of Japanese encephalitis

In order to build capacity to identify and monitor the activity and density of these insects, and therefore the outbreak risk, a five-day training workshop on identification and surveillance of vector mosquitoes was held from 28 August to 1 September 2006 in Saipan (CNMI).

Eleven participants from Saipan, Tinian and Rota attended the workshop, including staff of the Bureau of Environmental Health and the Department of Animal Health. Five environmental health personal from FSM joined the training, including staff working at federal level and at state level in Chuuk, Pohnpei and Kosrae.

The workshop was organised by Mr John Tagabuel and Mr Perry Sablan of the Bureau of Environmental Health. It took place at Northern Marianas College, where a classroom had been made available by Dr Jack Tenorio; Dr Tenorio also facilitated his laboratory. The instructors were Dr Narendra Singh, Pandemic Preparedness and Training Specialist at SPC, and Mr Laurent Guillaumot, Entomologist at the Pasteur Institute of New Caledonia.

The activities of the workshop included:

- Classroom lectures on:
 - mosquito classification, biology and ecology
 - vector surveillance and control: principles and methods
 - vector-borne diseases likely to occur in the Pacific Islands: epidemiology, etiology, vectors and mode of transmission
- Field work:
 - Collection of immature mosquitoes in inhabited and uninhabited environments
 - Collection of adult mosquitoes using CDC light traps
 - Use of classic and sticky ovitraps

- Lab work:
 - Larval mosquito identification
 - Calculation of *Aedes* larval density indices
 - Adult mosquito identification
 - Mosquito rearing and handling

The fieldwork aspect was emphasised as much as possible, and five days was not too long to embrace the whole of the subject. Nevertheless, we strongly believe that a vector surveillance network could be set up in Micronesia, and that it would help protect the population from the burden of vector-borne diseases.

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