

BODY OF REPORT

SEATO Medic Study No. 43 Colonization of Vector Mosquito Species

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S. E. Asia

Task 01: Military Medical Research Program
S. E. Asia

Subtask 01: Military Medical Research Program
SEASIA (Thailand)

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 Division of Medical Research Laboratories

 Department of Medical Entomology

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Objective: To establish, and develop methods of maintaining, colonies of mosquito species which are vectors of human disease, or which are important for other reasons. Mosquitoes from the colonies are used for experimental transmission of disease organisms in the laboratory, and for insecticide tolerance tests (Study 50).

Description: Wild caught mosquitoes are brought into the insectary and permitted to feed on normal animals and lay eggs. Each species is reared according to methods which produce the best results for it, and these are initially determined by trial and error when dealing with previously uncolonized species. The ultimate aim

(1) Departed for CONUS on PCS June 1964

(2) Arrived from CONUS on PCS July 1964

is to develop the simplest possible methods for the production of large numbers of mosquitoes on demand.

Progress: Colonies of Aedes aegypti, A. albopictus and Culex pipiens derived from Thai sources were reduced in size in order to make space available for the establishment of colonies of other species of mosquitoes. A colony of the important malaria vector Anopheles balabacensis is being maintained by the forced mating technique, for efforts to establish a natural mating strain of this species have thus far been unsuccessful. A strain of A. minimus was maintained through four laboratory generations by forced mating, but then declined for unexplained reasons. Greater difficulty was experienced in insemination of minimus than with balabacensis, for while coupling occurred with fair regularity it was apparently accompanied by ejaculation of spermatozoa in only a few instances. Efforts to establish a colony of A. sundaicus with material from Rayong province were also unsuccessful for reasons that are presently unknown. Renewed efforts to colonize A. minimus, A. sundaicus as well as A. maculatus will be made after the onset of the rainy season at which time the anopheline population densities increase. Natural mating colonies of Culex gelidus and C. tritaeniorhynchus, vectors of Japanese encephalitis virus, have been carried through two laboratory generations. A strain of Armigeres subalbatus derived from Bangkok is also in its second generation. Studies on the pattern of ovarian development in anophelines have been initiated with A. balabacensis in order to determine whether the criteria for estimation of physiologic age established for European and African anophelines are valid for the anophelines of SE Asia.