

Mosquito Fauna of Thailand

Principal Investigators: Douglas J. Gould, Ph.D.
Bruce A. Harrison, CPT, MSC*
Y.M. Huang, Ph.D.*
E.L. Peyton*
Rampa Rattanarithikul
John F. Reinert, MAJ, MSC*
Sunthorn Sirithanakarn*
R.N. Wilkinson, CPT, MSC

OBJECTIVE: To collect, identify, catalogue and redescribe the mosquito species of Thailand. Information is also gathered on the distribution, larval habitats and other aspects of the bionomics of various species. The eventual goal is the production of monographs on the mosquitoes of the area, together with keys, handbooks and other identification aids, for use of workers in public health and associated fields.

DESCRIPTION: Mosquitoes are collected from many areas of Thailand in connection with various studies on malaria and other arthropod-borne diseases. Additional collections of a specialized nature are made to obtain a correlated series of larvae, pupae and adults for illustration and taxonomic studies. The majority of this material is shipped to the Smithsonian Institution for study by specialists in the Southeast Asia Mosquito Project (SEAMP).

PROGRESS: During this year 318 mosquito collections were made in 6 provinces of Thailand. The majority of these collections were made in Chonburi, Trat, Chantaburi, Kancharaburi, Nakhon Ratchasima and Pratoomthani provinces. These collections resulted in 2,414 pinned adults, 3,557 slide mounts of larvae, larval and pupal skins, and 49 slide mounts of terminalia. Progeny rearings of the *Culex vishnui* subgroup were obtained from 194 individual gravid females, from which a total of 1,894 pinned adults, 2,735 slide mounts of larvae, and larval and pupal skins were obtained. An additional 185 collections of adult and larval mosquitoes from Chiangmai were made, and a total of 705 *Aedes* larvae and pupae were received from SEAMP for mounting.

Anopheles: During this period "An Illustrated Key to the Anopheles Larvae of Thailand" was published. This key includes 42 plates of illustrations and is designed to provide entomologists, malariologists and public health workers with a reliable means of identifying *Anopheles* larvae. A total of 57 species and subspecies are considered based on records from Thailand. *Anopheles stricklandi* and *whartoni*, previously known only from Malaysia, represent new records for Thailand.

Anopheles balabacensis, *minimus* and *barbirostris*, important vectors of malaria and filariasis, were collected from many areas at Sangkhalaburi, Kancharaburi province during this period.

Culex: Studies of the subgenus *Culex* were continued. Species of the *Culex vishnui* subgroup were collected from animal bait collections. Progeny rearings from these mosquitoes were carried out in an effort to find more reliable adult characters for separating the various species of this important complex. Collections of *Culex alienus*, *annulus*, *perplexus*, *pseudovishnui* and *tritaeniorhynchus* were obtained during this period.

Aedes: Work is continuing on the subgenera *Stegomyia* and *Finlaya*. A new subgenus of *Bothaella*, first recorded in Thailand, is currently known from the following provinces: Chiangmai, Kancharaburi, Lampang and Nan. The first record of the collection of an adult of *Aedes eldridgei*, a newly described species, was obtained when females of this species were collected biting man in bamboo groves and deciduous forest at Amphur Tha Muang, Kancharaburi province. Also collected in the same area were *Aedes (Stegomyia) albopictus*, *annandalei*, *desmotes*, *gardnerii imitator* and *scutellaris malayensis*, *Aedes (Finlaya) albolateralis*, *Armigeres (Armigeres) malayi*, *Heizmannia chengi* and *mattinglyi*.

* SEAMP, Smithsonian Institution, Washington, D.C.