August when river levels were at their lowest. Two large population peaks occurred in November-December and in February-March as a result of "flood water" mosquito populations (e.g., *Ps. albigenu*). These data provide a better understanding of the taxonomy, population density, and seasonal distribution of potential mosquito vectors within the Amazon Basin region and allow for the development of appropriate vector and disease prevention strategies.

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SOIL ANALYSIS OF ANOPHELINE AQUATIC HABITATS IN NORTH-WESTERN THAILAND

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Thailand is the country where anopheline mosquitoes are vectors transmitting human malaria. The epidemiology of malaria is largely dependent on its vector habitat. Each species of *Anopheles* larvae has a specific habitat requirement for its development. Anopheline mosquitoes are common throughout Thailand and utilize a wide variety of habitats. The dominant malaria vectors in Thailand are *An. dirus, An. maculatus,* and *An. minimus.* Correlation between soil chemical components and existing of particular species of anopheline in specific anopheline aquatic habitat was studied from September 2002 to July 2003 in Ban Khun Huay, Ban Pa Dae, and Ban Tham Seau of Maesod district, Tak province, Thailand. Mapping of each habitat was performed by using a GPS unit. A total count of 2,130 laboratory reared adult *Anopheles* were collected from 138 habitats categorized into 11 different types identified to 18 species from larval sampling in three villages. The dominant malaria vectors in Thailand; *An. dirus, An. maculahrs*, and *An. minimus* were found 5.26%, 10.70%, and 55.31% respectively along with other minor species. Results and statistical analysis will be discussed.

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TEMEPHOS RESISTANCE BY BOTTLE AND BIOCHEMICAL ASSAYS IN *AEDES AEGYPTI* IN THAILAND

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Bottle bioassay measuring time-mortality rate is a simplified procedure for detecting insecticide resistance. It can be used with biochemical microplate assay to identify mechanism involved. This integrated approach was used to detect temephos resistance in *Aedes aegypti* from Nonthaburi and Roi Et. *Ae. aegypti* BKK1 laboratory strain was used as the susceptible reference strain. Appropriate concentration of insecticide for bottle bioassay determined empirically with *Ae. aegypti* BKK1 strain was found to be in the range of 800-1,050 µg/bottle. Time-mortality rate at 800 µg/bottle was 170±8.66 minutes, significantly different from time-mortality rates at 850, 900, 950 and 1,050 µg/bottle (p=0.008) with 135±15.00, 140±8.66, 135±15.00, and 125±8.66 minutes, respectively. Cutoff concentration selected for resistance detection was 850 µg/bottle.