STUDIES ON KARYOTYPE OF SOME MEMBERS OF THE ANOPHELES LEUCOSPHYRUS AND ANOPHELES MACULATUS SPECIES GROUPS (DIPTERA : CULICIDAE) IN SOUTHEAST ASIA.

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ABSTRACT.

A total of fifteen strains of Anopheles belonging to the An. leucospyrus and An. maculatus species groups were studied. These two groups of Anopheles were known as primary human malaria vectors in Southeast Asia. It was studied the mitotic chromosomes that prepared from the neuroblast of the 4th stage larvae using the method of Baimai (1975), by staining with Giemsa and Hoechst 33258. These methods complement each other to differentiate the closely related species.

Giemsa and Hoechst techniques gave similar banding pattern. Some variations between Giemsa and H-33258 are due to different mitotic phases of the chromosome figures and/or different duration of cell fixation.

The karyotype of the sibling species of the An. dirus and An. maculatus complexes could be differentiated easily. This study also supported Green et al (1985) findings that there were three kinds of X-chromosome (X, X, and X) and four types of Y-chromosome (Y, Y, Y, and Y) in the An. maculatus species group.

Quite distinct of the sex chromosome type and banding configuration between the An. leucospyrus Jambi strain and the other two strains impose a question whether this taxon is a group of complex species.
The two strains of *An. balabacensis* that originated from the same island (Borneo) had similar karyotype configurations. It is suggested that they are two allopatric populations of the same species.

Almost all of the sex chromosomes of *An. leucosiphyrus* groups had a telocentric type. Therefore, it was assumed that this type of sex chromosome is the ancestral form. The acrocentric sex chromosome as found in the *An. leucosiphyrus* Jambi strain is likely to be due to acquisition of extra heterochromatin.