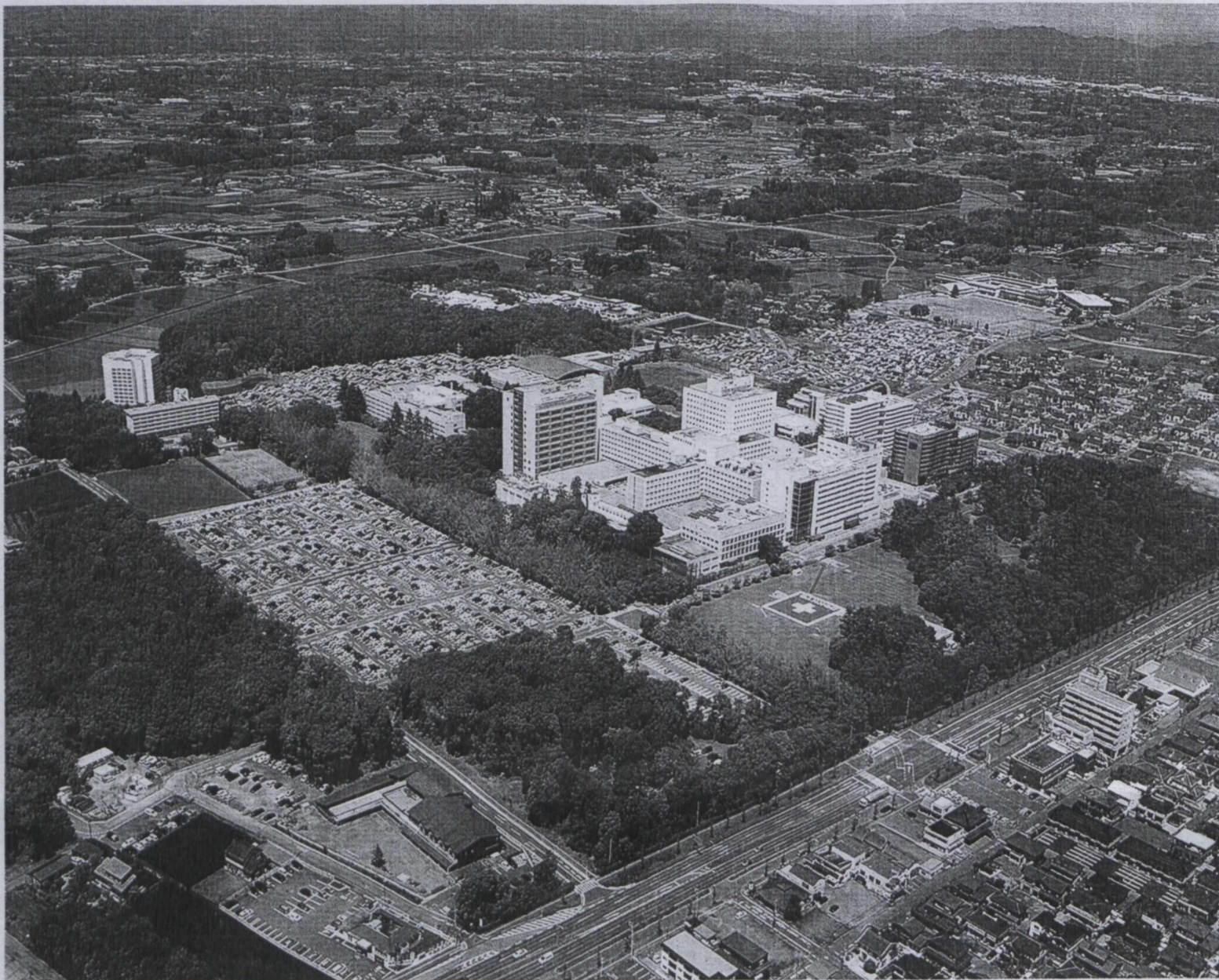


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B27 Phylogenetic relationships of the *Simulium asakoae* and *Simulium ceylonicum* species groups (Diptera: Simuliidae) in Malaysia

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A multilocus approach was used to examine the DNA sequences of 10 nominal species of blackflies in the subgenus *Gomphostilbia* in Malaysia. Molecular data were acquired from partial DNA sequences of the mitochondria-encoded cytochrome c oxidase subunit I (COI), 12S rRNA, and 16S rRNA genes, and the nuclear-encoded 18S rRNA and 28S rRNA genes. No single gene, nor the concatenated gene set, resolved all species or all relationships. However, all morphologically established species were supported by at least one gene. The multilocus sequence analysis revealed two distinct evolutionary lineages, conforming to the morphotaxonomically recognized *S. asakoae* and *S. ceylonicum* species groups.

B28 Insecticide susceptibility status of black fly, *Simulium nobile* (Diptera: Simuliidae) against DDT, dieldrin, propoxur, malathion and permethrin in Malaysia

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Black flies (Diptera: Simuliidae) are one of the biting dipteran of medical and veterinary importance around the world. A 6-month study was conducted to investigate the susceptibility status of *Simulium nobile* against DDT, dieldrin, propoxur, malathion and permethrin. Adult bioassay was performed according to the WHO Standard Protocol. Throughout the study period, multiple resistant was observed in *S. nobile*. Low knockdown was observed on *S. nobile* exposed to DDT (mean knockdown = 7.87%), followed by dieldrin (8.96%), malathion (26.91%) and permethrin (46.18%). Only propoxur exhibited 100% knockdown on *S. nobile* within 1 hour exposure period. Generally, *S. nobile* adults were completely susceptible to propoxur (mortality = 100%), and exhibited some tolerant against DDT (mean mortality = 81.78%) and permethrin (82.51%). *Simulium nobile* adults were detected to be resistant to dieldrin (65.78%) and malathion (67.68%). These findings established a baseline data on insecticide resistance of black flies in Southeast Asia region for the first time.