

## Age-Stage, Two-Sex Life Table Characteristics of *Aedes albopictus* (Skuse) and *Aedes aegypti* (Linnaeus) (Diptera: Culicidae) in Penang Island, Malaysia

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**Abstract :** In this study, we report on the main life table developmental attributes of laboratory colonies of wild strains *Ae. albopictus* and *Ae. aegypti*. The raw life history data of the two species were analyzed and compared based on the age-stage and two-sex life table. The total pre-adult development times were 9.47 days (*Ae. albopictus*) and 8.76 days (*Ae. aegypti*). The adult pre-oviposition periods (APOP) was 1.61 day for *Ae. albopictus* and 2.02 for *Ae. aegypti*. The total pre-oviposition period (TPOP) of *Ae. albopictus* is significantly longer (11.66 days) than (10.75 days) for *Ae. aegypti*. The mean intrinsic rate of increase ( $r$ ) was 0.124 days (*Ae. albopictus*) and 1.151 days (*Ae. aegypti*) while the mean finite rate of increase ( $\lambda$ ) was 1.13 day (*Ae. albopictus*) and (1.16 d) (*Ae. aegypti*). The net reproductive rates ( $R_0$ ) were 8.10 and 10.75 for *Ae. albopictus* and *Ae. aegypti*, respectively. The mean generation time ( $T$ ) for *Ae. albopictus* and *Ae. aegypti*, were 16.81 days and 15.77 days respectively. The mean development time for each stage insignificantly correlated with temperature ( $r = -0.208$ ,  $p > 0.05$ ) and ( $r = -0.312$ ,  $p > 0.05$ ) for *Ae. albopictus* and *Ae. aegypti* respectively. The life expectancy was 19.01 and 19.94 days for *Ae. albopictus* and *Ae. aegypti* respectively. Mortality occurred mostly during the adult stage and ranged between 0.01 and 0.07%. The population parameters suggest that *Ae. albopictus* and *Ae. aegypti* populations are r-strategist characterized by a high  $r$ , a large  $R_0$ , and short  $T$ . This kind of information is crucial in understanding mosquito population dynamics in disease transmission and control.

**Keywords :** *Ae. aegypti*, *Ae. albopictus*, age-stage, life table, two-sex

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