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RUANGTHONG CHANCHAROGH: FECUNDITY AND SUSCEPTIBILITY TO ORAL INFECTION WITH DENGUE VIRUS SEROTYPE-2 OF *AEDES AEGYPTI FORM TYPE* AND FORM *QUEENSLANDENSIS* AFTER SUCCESSIVE REARING GENERATIONS. THESIS ADVISORS: JIRASAK ROJANAPREMSUK, Dr.P.H., SOMKIET VONGTANGSAWAD, Dr.P.H., WONGDYAN PANDII, Dr.P.H., SUPATRA THONGRUNGKIAT, M.Sc. (Trop.Med.), 81 p. ISBN 974-662-308-7

Two forms of *Aedes aegypti,* form *type* and form *queenslandensis* were studied for their fecundity, longevity under different nourishments and susceptibility to DEN-2 in the laboratory during July 1998-February 1999. The first parent colonies originated from wild caught larvae, collected both indoors and outdoors in July 1998, from Ayutthaya Province and maintained in the laboratory at 26-28°C and 80%RH. Five successive rearing generations were achieved and fecundity of each was determined. Susceptibility to oral infection with DEN-2 was confirmed by an indirect fluorescent antibody technique.

The results showed that both forms had sex ratios M:F at 1.05:1 to 1.27:1; the males slightly outnumbered the females. The average number of egg batches per female was 3.6 and 4.2 for form *type* and form *queenslandensis*, respectively. The average fecundity of form *type* ranged from 242.2 to 322.9 viable adult offspring whereas that of form *queenslandensis* ranged from 247.3 to 307.4. Comparison of the 5 generations' fecundity within each form and between the two forms revealed significant difference in fecundity within the form *type* only. Adult males and females of both forms lived longer when fed with 10% sugar solution and human blood meal than with 10% sugar solution alone. The average longevity of males and females in form *type* when provided access to 10 % sugar solution was 19.12 and 20.68 days, respectively, while in form *queenslandensis* longevity was 27.16 days in males and 28.62 days in females. However, when 10 % sugar solution and human blood meal were offered, the average longevity of females *type* and *queenslandensis* was 24.18 and 30.42 days, respectively. For both sexes, *queenslandensis* outlived form *type*. Susceptibility to oral infection with DEN-2 of the 5 generations within and between the two forms were not different. However, information from this pioneering study was not sufficient to justify the vector competence between the two forms.