RESEARCH NOTE

NATURAL TRANSOVARIAL DENGUE VIRUS INFECTION RATE IN BOTH SEXES OF DARK AND PALE FORMS OF *AEDES AEGYPTI* FROM AN URBAN AREA OF BANGKOK, THAILAND

Supatra Thongrungkiat¹, Ladawan Wasinpiyamongkol², Pannamas Maneekan³, Samrerng Prummongkol¹ and Yudthana Samung¹

¹Department of Medical Entomology, ³Department of Tropical Hygiene, Faculty of Tropical Medicine, Mahidol University, Bangkok; ²Department of Medical Science, Faculty of Science, Rangsit University, Pathum Thani, Thailand

Abstract. Transovarial dengue virus infection status of two forms of adult *Aedes aegypti* (dark or *Ae. aegypti* type form and pale or form *queenslandensis*), reared from field-collected larval and pupal stages, was determined by one-step RT-PCR and dengue viral serotype by nested-PCR. Natural transovarial transmission (TOT) of dengue virus was detected in the two *Ae. aegypti* forms, and in both adult males and females. Male *Ae. aegypti* had a higher rate of TOT dengue virus infection than female. The overall minimum infection rate among the male and female populations was 19.5 and 12.3 per 1,000 mosquitoes, respectively. All four dengue serotypes were detected in mosquito samples, with DEN-4 being the predominant serotype. Thus, both male and female *Ae. aegypti* have influences on the epidemiology of dengue virus transmission.

Keywords: Ae. aegypti, dark form, pale form, dengue virus, transovarial infection

Correspondence: Supatra Thongrungkiat, Department of Medical Entomology, Faculty of Tropical Medicine, Mahidol University, 420/6 Ratchawithi Road, Ratchathewi, Bangkok 10400, Thailand. Tel: 66 (0) 2354 9100 ext 1578; Fax: 66 (0) 2643

Tel: 66 (0) 2354 9100 ext 1578; Fax: 66 (0) 2643 5582

E-mail: tmstr@mahidol.ac.th