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STUDY OF SOME BIOLOGICAL ASPECTS OF
DIPLONYCHUS RUSTICUM FABR. AS A PROMISING BIOLOGICAL
CONTROL AGENT AGAINST MOSQUITO LARVAE, CULEX
QUINQUEFASCIATUS SAY

by

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ABSTRACT

The materials used for laboratory experiments on the biological aspects of Diplonychus rusticum were collected from the ponds around Bangkok. Species of Diplonychus were examined and separately sexed. The pronotum, hind wings and phallobase arms were used for species determination. Anatomical studies of the species found were undertaken. Full description of D. rusticum was made.

The water bugs, fed a diet of Culex quinquefasciatus obtained from Department of Microbiology at Mahidol University, were reared under laboratory conditions of $30.5 \pm 2^{\circ}\text{C}$ and $80 \pm 5\%$ R.H. The females oviposited on the dorsum of males. The incubation period, longevity and development of each stage at various temperatures were studied. The longest developmental period was at 28°C , while at 32°C the least mortality occurred. The efficient predation depended on the size of predators and preys. The predator was noticed to prefer C. quinquefasciatus to other aquatic fauna, which made it a might-be-specifically potential predator against mosquito larvae. Weekly oviposition and mortality were used to calculate the net reproductive rate (R_0) and capacity for increase (r_c).