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ABUNDANCE AND COMPOSITION OF FIREFLY POPULATION
(COLEOPTERA: LAMPYRIDAE) IN SETIU WETLAND, TERENGGANU WITH
THEIR POTENTIAL FOOD PREFERENCES

By

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UNIVERSITI MALAYSIA TERENGGANU

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FAKULTI SAINS DAN TEKNOLOGI
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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II
RESEARCH REPORT VERIFICATION**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: ABUNDANCE AND COMPOSITION OF FIREFLY POPULATION (COLEOPTERA: LAMPYRIDAE) IN SETIU WETLAND, TERENGGANU WITH THEIR POTENTIAL FOOD PREFERENCES oleh Aima Binti Jamal, no. Matrik: UK10023 telah diperiksa dan semua pembedaan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti), Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

Bkt.	-	Bukit
Hrs.	-	Hours
Kg.	-	Kampung
mm	-	millimeter
Sg.	-	Sungai

ABSTRACT

Fireflies occurrence in the mangrove is considered as value added for ecotourism. A recent study in Setiu Wetland, Terengganu revealed that *Pteroptyx malaccae* (Coleoptera: Lampyridae) was the only species occurred; with found to be at peak abundance at 2100 to 2300 hrs observed from September to December 2006. In this study, fireflies were caught using insect net and laboratory work such as identification also was done. Interestingly, *Sonneratia caseolaris* (Berembang) described as the host plant harboring firefly community in the study area. The maintenance of an optimum number of Berembang trees for mating cycles to be initiated is therefore prerequisite for the sustainability of firefly population. There is delicate balance between the sustainability of firefly population and the quality of the river. Some factors such as tidal regulation, moon light condition, seasonal impact, and disturbances were contributed to influence the species abundance. Further research on the potential food preferences need to be considered as there is lack of data and previous study about rearing firefly larvae especially for species that is restricted to Southeast Asia Region.

**KELIMPAHAN DAN KOMPOSISI POPULASI KELIP-KELIP
(COLEOPTERA: LAMPYRIDAE) DI KAWASAN TANAH LEMBAB SETIU,
TERENGGANU DAN POTENSI MAKANAN YANG DISUKAI**

ABSTRAK

Kelip-kelip di kawasan paya bakau dianggap sebagai nilai tambahan terhadap ekoplancongan. Satu kajian terkini di Tanah Lembab Setiu telah mendedahkan bahawa *Pteroptyx malaccae* (Coleoptera: Lampyridae) merupakan satu-satunya spesies kelip-kelip yang mendiami kawasan kajian ini dan menunjukkan aktiviti berkelip paling tinggi pada jam 2100 hingga 2300 pada sepanjang waktu kajian iaitu dari September hingga Disember 2006. Dalam kajian ini, kelip-kelip ditangkap menggunakan jaring serangga dan kerja makmal seperti pengecaman juga dilakukan. *Sonneratia caseolaris* (Berembang) merupakan tumbuhan perumah yang menjadi tumpuan utama oleh populasi kelip-kelip di kawasan kajian ini. Bilangan pokok berembang yang optimum adalah sangat penting untuk mengekalkan kestabilan populasi kelip-kelip kerana tumbuhan perumah ini merupakan tempat permulaan bagi proses pengawanan. Terdapat perkaitan antara antara kualiti air sungai dengan kelimpahan populasi kelip-kelip. Antara faktor-faktor yang dapat memberi kesan kepada kelimpahan komuniti kelip-kelip adalah pasang surut air, keadaan cahaya bulan, perubahan musim, dan kawasan pembangunan. Kajian terhadap potensi makanan yang disukai harus di pertingkatkan lagi memandangkan kurang maklumat tentang spesies yang terdapat di Asia Tenggara.