



Seminar



BIODIVERSITI KEBANGSAAN 2007

Allson Klana Resort,
Seremban,
Negeri Sembilan Darul Khusus

20 & 21 November 2007

JABATAN
PERLINDUNGAN HIDUPAN LIAR DAN TAMAN NEGARA
SEMENANJUNG MALAYSIA (PERHILITAN)

SESSION 2	
1430 - 1530	KEYNOTE ADDRESS BY DWNP's DG AND POSTER EXHIBITION VISIT
Chairperson: Prof. Dr. Hj. Wan Mohamed Hj. Wan Kadir	
1530 - 1540	Fish Fauna of Tasik Bera Lake, Pahang, Malaysia Fatimah A. and M. Zakaria Ismail
1540 - 1550	Survei Avifauna di Taman Negara Zainal Abidin B Mat
1550 - 1600	Analysis of Molecular Systematics and Population Genetic Structure of <i>macroglossus sobrinus</i> in Peninsular Malaysia Hajar Fauzan Ahmad, Kamarul Rahim Kamarudin and Jeffrine Rovie Ryan Japning
1600 - 1610	Study on Insect Biodiversity in Wildlife Reserve Area Sungkai, Perak Fauziah Ismail, Wan Mohamad Wan Abdul Kadir, Mohd Rasdi Zaini, Fairuz Khalid, Hazmi Awang Damit and Khairol Ismail
1610 - 1630	Question & Answer / Discussion
1630 - 1700	TEA BREAK
2030 - 2130	DINNER

Pada bulan Julai dan Ogos 2007, satu survei avifauna telah dijalankan selama 13 hari di Taman Negara Terengganu. Survei bertujuan untuk merekodkan kepelbagaian spesies avifauna yang terdapat di kawasan hutan tersebut. Sebanyak 14 laluan survei dan 2 buah base camp telah dipilih bagi menjalankan kajian. Data direkod melalui kaedah menjaring dan pemerhatian secara langsung menggunakan binokular dan pengecaman bunyi serta penemuan bulu. Sejumlah 675 ekor burung yang terdiri daripada 82 spesies telah berjaya dicerap. Didapati famili paling dominan adalah Bucerotidae (298 individu), Columbidae (69 individu) dan Apodidae (63 individu). Analisis menggunakan indeks diversiti Simpson mendapati secara keseluruhannya, avifauna di Taman Negara Terengganu mempunyai diversiti dengan nilai 0.93.

ANALYSIS OF MOLECULAR SYSTEMATICS AND POPULATION GENETIC STRUCTURE OF *MACROGLOSSUS SOBRINUS* IN PENINSULAR MALAYSIA

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A study on phylogeography of *Macroglossus sobrinus* (Greater Long-nosed Fruit Bat) from several populations in Peninsular Malaysia was done using 19 partial sequences of cytochrome *b* mitochondrial DNA gene including a sequence of *Penthetor lucasi* (Lucas's Short-nosed Fruit Bat) as an outgroup. The uniqueness of *M. sobrinus* lies at its role as a key pollinator of wild banana plants, thus showing its strong association with the tropical plants' presence. The species specimens were collected from seven states through out Peninsular Malaysia namely Kedah (Weng Ulu Muda Forest Reserve), Perak (Bintang Forest Reserve), Selangor (Ulu Langat), Melaka (Asahan Catchment Area), Johor (Gunung Ledang), Kelantan (Gua Musang), and Pahang (Krau Wildlife Reserve). Neighbour joining (NJ) tree with 1000 replications was reconstructed to resolve the presence of regional fragmentation in *M. sobrinus*. Generally, NJ tree indicated no fragmentation between populations of *M. sobrinus*. The result was further supported by very low genetic distance based on Kimura 2-parameter distance (1980) calculation. Apart from that, *M. sobrinus* from Melaka gave the highest nucleotide diversity, P_i (Jukes & Cantor 1969) with 1.58%, followed by Kelantan (1.06%), Perak (0.70%), Kedah (0.26%), Selangor (0.18%), and finally Pahang with no nucleotide diversity. Overall, the nucleotide diversity of *M. sobrinus* in Peninsular Malaysia was 0.65% indicating low level of genetic diversity. In conclusion, the inference by cytochrome *b* gene used in this study did not support the presence of regional fragmentation in *M. sobrinus* within Peninsular Malaysia. Therefore, more extensive studies incorporating other mitochondrial DNA genes with higher rate

of evolution such as control region gene are recommended in the near future in order to get better view of phylogeography in local *M. sobrinus*.

STUDY ON INSECT BIODIVERSITY IN WILDLIFE RESERVE AREA, SUNGKAI, PERAK

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Universiti Teknologi MARA (UiTM) and Department of Wildlife and National Park (PERHILITAN), Perak have agreed to conduct a study and collect inventory of flora and fauna comprehensively in Wildlife Reserve Area Sungkai (WRAS), Perak in identifying the distributions and changes in physical and biological aspects. Report in this study covers observations related to biodiversity of insects which includes abundance and species diversity of insects present in the study area. The study was carried out from March to June 2007. The methodology of the study included trapping of insects by various means at various times and locations. The study indicated that there was an abundance and wide range of diversity of insects in three blocks, namely Block A, Block B, and Block C of the study area. Generally, Hymenoptera (bees, wasps, ants and saw-flies), was found to have the highest percentage of insects (45.4%) followed by Homoptera (cicadas) (12.2%), Orthoptera (grasshoppers) (11.2%), Lepidoptera (moths and butterflies) (10%), Diptera (flies) (10%), Coleoptera (beetles) (4%), Araneae (spiders) (2.7%), Hemiptera (bugs) (2.6%), Thysanura (springtail) (1.1%), and Odonata (dragonflies) (0.7%). Trappings based on time i.e. in the morning, evening and night, showed that the highest number of insects trapped came from the insect order of Hymenoptera with the record of 50.7%, 56.4% and 36% in the morning, evening and night, respectively. Block A recorded the highest number of insects trapped from the order of Hymenoptera (34.4%) and the lowest number of insects trapped was from Thysanura (0.7%). Sampling in Block B recorded that the number of Homoptera was found to be the highest (36.7%), and those of Lepidoptera and Thysanura were found to be the lowest (3.3%). While in Block C, Hymenoptera recorded to be the highest (48.5%) and Isoptera was recorded to be the lowest (0.1%). A longer period of study covering at least one year is recommended to get detail information on the abundance, population distributions and species diversity of the insects. Relevant information and inventory of insects would be useful for the authority to plan and develop the area as one of the centres for insect conservation units based on the requirements, schedules and specific objectives. Various proposals are put forward to enhance added value to WRAS.