



# BULLETIN OF THE MUSEUM OF ZOOLOGY

Volume 1  
Issue 1  
January 2013

## WELCOME! An Introduction

Inside	
WELCOME! An Introduction	1
The Earl of Cranbrook	2-3
Book Review	2
FAQs	2
Fieldwork reports	3
Noteworthy publication	4
Events @ MoZUM	4

### Please allow us introduce the Museum of Zoology, University of Malaya

Most people don't know, even some UM undergrads studying biodiversity aren't aware, but UM is home to a precious biological repository with important specimens of mammals, insects, birds, and other animals, the like of which cannot be found elsewhere in Malaysia, and in some cases maybe even the world.

We're talking about the Museum of Zoology on the UM campus, which represents the only zoological museum in Peninsular Malaysia with an extensive collection of local animal specimens reasonably documented, with date and location of collection as well as taxonomic identity.

Our Museum is run by the Institute of Biological sciences (ISB) and has been an integral part of the Institute (and the former Department of Zoology) for 60 years. We moved to the current premises – Block F, between ISB Block B and the Institute of Mathematical Sciences (ISM) – in 1999.

Since its establishment the Museum of Zoology has amassed a large collection of Malaysian animals including 20,000 insects, representing more than 1,000 species, nearly 100 mammals, and 600 birds. Our collection includes donations from our sister museum, the Raffles Museum of Biodiversity Research in Singapore, the National Museum of Malaysia, private donors and specimens collected during research



expeditions by UM faculty. You can find out more about the stories of some particularly special specimens in this Bulletin (pg. 2 & 3).

The mission of the museum incorporates three elements:

- Provide for the safe-keeping and proper management of the important national heritage associated with the zoological specimens (and their histories) in our collection,
- Provide an accessible resource and facility for biodiversity research (taxonomy, systematics, ecology) by local and visiting scientists alike, and promote a collaborative research effort,
- Play an educational role in introducing students and the general public to the value of nature and biodiversity conservation.

The people currently working at the Museum, and responsible for fulfilling this

mission, include three academic staff from ISB, four research assistants, two grad students and three lab assistants.

Since 2012, the museum has begun a transformation program with renovations to the building, establishment of a Biodiversity Genomics lab, a new internet presence (<http://www.museumzoology.um.edu.my>), and the launch of this Bulletin. Our aim is to increase recognition of the Museum. We are welcoming more visitors to a regular scheduled Biodiversity Seminar Series and are hosting Special Exhibitions. More information on these past and upcoming events can be found in this Bulletin (See page 4) and on the website.

We hope you enjoy reading this Bulletin and look forward to welcoming you to the Museum of Zoology in the near future. Thanks for your support.

-The Museum of Zoology Staff

### Contributors:



Dr. Sasekumar



Dr. John



Gary Sing



Thary Gazi



Khairunnisa S.

## THE EARL OF CRANBROOK AND THE MUSEUM OF ZOOLOGY



The Earl of Cranbrook (**top:centre;**  
**bottom:right**) at Ulu Gombak Field Centre

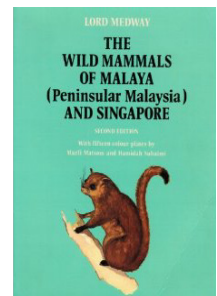
- Photos courtesy of Mr. Daicus Belabut.

The 5<sup>th</sup> EARL OF CRANBROOK, formally known as **Lord Medway**, is the **founder of Ulu Gombak Field Station of the University of Malaya** (Pusat Pengajian Luar, Ulu Gombak, Universiti Malaya). He is a famous **mammalogist** and has written two very useful and comprehensive field guide books.

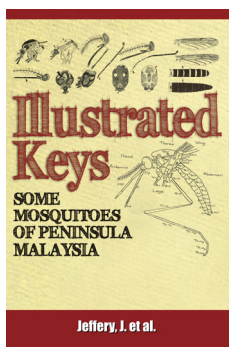
“**The Wild Mammals of Malaya (Peninsular Malaysia) and Singapore**” is the first book that was written by the Earl and the second edition of the book was published in 1977. The book has proved to be a unique and indispensable guide to the native wild mammals of Peninsular

Malaysia and Singapore. According to the author, the field collection book of the Zoology Department, University of Malaya is one of the principal unacknowledged sources for the book (page xviii). There are fifteen attractive colour plates by Mazli Matsom and colour illustrations of **114 mammal species** by Hamidah Suhaimi. Moreover, the name of each species is given in English, Malay and Latin. Thus, this book gives sufficiently detailed descriptions as well as illustrations to identify local mammal species.

(continues on page 3)



## BOOK REVIEW



**Title:** Illustrated Keys. Some Mosquitoes of Peninsula Malaysia.

**Authors:** Jeffery, J., Rohela, M., Muslimin, M., Abdul Aziz, S.M.N., Jamaiah, I., Kumar, S., Tan, T.C., Lim, Y.A.L. Nissapatorn, V., Abdul-Aziz, N.M.

Pp.67

ISBN 978-983-100-540-8

**Publication:** University of Malaya Press (2012)

Jeffery, J. et al.

Perhaps the most dangerous flying animals that have ever existed; mosquitoes are of great medical importance due to the tropical diseases that they spread. Understanding the taxonomy of all the 376 mosquito species in Peninsular Malaysia is a daunting task, and the authors have wisely chosen to limit the scope. As an introduction and field guide to mosquitoes of Peninsular Malaysia, the book by Jeffery et al. contains keys for the identification of most species of medical and economic importance. Arranged in a logical order, it starts with an explanation of adult morphology, followed by the illustrated keys, references and a checklist of Culicidae. The key is clearly written in simple English with every couplet illustrated. While the quality of some of the illustrations is a little low and pixelated, it is nevertheless clear enough to get the point across most of the time. However the black and white drawings do not represent characters such as the subtle differences between black and white scales on the wings very well, which is a relatively minor problem. The key is useful to beginners and field researchers, I didn't have any problems picking it up and correctly identifying an *Anopheles* to species level. Overall, the book is easy to use and recommended for anyone that wants to give mosquito identification a try. –Dr. Sase & Thary

## FREQUENTLY ASKED QUESTIONS

**Q: Where is the Museum of Zoology situated?**

A: The museum is a three-storey building (Block F), located at the back of Block B of Institute of Biological Sciences (ISB) and next to the Institute of Mathematical Sciences (ISM) building.

**Q: What are the opening hours for the Exhibition Hall?**

A: It opens on Mondays to Fridays from 9am to 5pm and closes on Saturdays, Sundays and public holidays.

**Q: Is there any entrance fee to the museum?**

A: No, the admission to the museum is free. We also welcome group visits from schools or any other institutions.

**Q: If we're planning to visit the museum, is there any guided tour around the exhibits?**

A: Yes, you can request a tour but please do the booking at least seven (7) working days in advance by email to [museumzoology@um.edu.my](mailto:museumzoology@um.edu.my).

**Q: What animals does the museum have?**

A: The Museum of Zoology has a large collection of Malaysian fauna consisting of insects (20,000 specimens and thousands of species), fishes (2,000 specimens), frogs (672 specimens and 176 species),

reptiles (445 specimens and 186 species), birds (603 specimens and 261 species) and mammals (896 specimens and 144 species). These specimens were collected over the last 60 years. All these specimens have been catalogued and arranged over the last 5 years for easy reference by scientists and students. The wet collection of fishes, amphibians and reptiles is on the ground floor, while insect collection is on the second floor and the third floor stores the bird and mammal collection.

**Q: Is it possible to borrow specimens from the museum?**

A: Yes, the loan requests should include full taxonomic information on the specimens requested (Order, Family, Subfamily, Tribe, Genus, and Species), as well as the borrower's name, institutional affiliation, mailing address, email address, and phone number. All loans for student research are made to, and the responsibility of, faculty advisors.

**Q: What activities or events are held by the museum and can we be involved?**

A: There are open seminars and talks regarding wildlife hosted by the museum once in a while which the public are encouraged to attend. Just visit the website for announcements of upcoming events.  
–Nisa

(continued from page 2)



Common name: Kancil, **Lesser mouse deer**  
 Species: *Tragulus* sp.  
 Collection date and locality: n.d.  
 Collector: Lord Medway

In 1987, Earl of Cranbrook published “**Riches of the Wild Land Mammals of South-East Asia**”. The book starts with a description of how the past geological history and present climate of South-East Asia favoured the evolution of an exceptionally rich fauna of some **660 mammal species**. The subsequent chapters illustrate the astonishing diversity of these mammals, group by group. The gymnures and treeshews serve as models for extinct forms first seen on earth around 60 million years ago, so can be considered “living fossils”.

The Museum of Zoology contains **valuable mammal specimens**, including bats and mouse-deer (side pictures) that have been donated by the Earl of Cranbrook since the 1960s.

-Gary Sing



Common name: **Southeast Asian shrew**  
 Species: *Crocodyria fuliginosa doriae*  
 Collection date and locality: 3/8/1963, Sarawak  
 Collector: Lord Medway

**REPORT ON FIELDWORK BY MUSEUM OF ZOOLOGY STAFF**

**REPORT 1**

**What?**  
 Sampling of fruit bats and insectivorous bats.

**Where?**  
 Ulu Gombak Forest Reserve besides Karak Highway.

**When?**  
 13<sup>th</sup>-15<sup>th</sup> November 2012 (3 nights)

**Who?**  
 Nisa (Museum’s RA), Syreen Nasir (Master student), Mr. Marisi (field assistant), Mr. Karim (field assistant), Mr. Farizwan (driver)

**How?**  
**Methods:**  
 Catching: using 10 mist nets and 4 harp traps set at potential pathway of flying bats.

**On-field identification:**  
 identified morphologically by measuring the weight, length of forearm, length of ear and length of hind foot. referred to books for the range of measurements of a particular species.

**Taking DNA sample:**  
 some hair (with hair root) of the bats was pulled from the back and put into two Eppendorf tubes (one empty and one with alcohol). a small piece of tissue was taken from the patagium using a pair of dissecting scissors and forceps (no biopsy punches available).

**Molecular work:**  
 all DNA samples were taken to the lab for analysis.

**Preliminary result:**  
 Field: 33 bats with 10 species were caught.



**REPORT 2**

**What?**  
 UKM DNA Barcoding BioBlitz: A BioBlitz is an intense period of biological surveying in an attempt to record all the living species within a designated area.

**Where?**  
 A site in the UKM campus adjacent to forest, besides Molecular Biology Laboratories.

**When?**  
 December 10<sup>th</sup> 2012 for 12 hours between 12 noon and 12 midnight

**Who from Museum?**  
 John, Gary, Nisa

**How?**  
 After arrival at UKM day-flying insects were captured using sweep nets and traps (mist nets, mesh traps, malaise traps, pitfall traps and light traps) were set up. After dark, the mist nets were attended and bat tissue samples were taken. Insects were collected at the light trap. After 12 midnight the malaise trap and pitfall trap catches were collected and the cage traps emptied. All the traps then were taken down. The next day samples were rapidly sorted into a 96- well plate (~2hrs). We discarded duplicates from probable same species because there were more than 96 samples. DNA was extracted from the 96 samples (~30min including set-up time). Molecular work continues.



## NOTEWORTHY PUBLICATION BY MUSEUM ZOOLOGY RESEARCHER

CAVE AND KARST SCIENCE, Vol.39, No.2, 2012  
*Transactions of the British Cave Research Association*

© British Cave Research Association 2012  
 ISSN 1356-191X



### Fauna reported from Batu caves, Selangor, Malaysia: annotated checklist and bibliography.

Max MOSELEY<sup>1</sup>, Teck Wyn LIM<sup>2</sup> and Tze Tshen LIM<sup>3</sup>

<sup>1</sup>P.O. Box 69, Poskod 10700, G.P.O. Penang, Malaysia.  
 e-mail: maxmoseley@hotmail.com

<sup>2</sup>Resource Stewardship Consultants Sdn Bhd, D-1 Menara Impian, Jalan Sultan,  
 Taman Tun Abdul Razak, 68000 Ampang Jaya, Selangor, Malaysia.  
 e-mail: twlim@rescu.com.my

<sup>3</sup>Zoology Museum, Institute of Biological Sciences, Faculty of Science,  
 University of Malaya, 50603 Kuala Lumpur, Malaysia.  
 e-mail: limtztshen@yahoo.com

**Abstract:** The Batu caves are the only caves in the Malay Peninsula that are well investigated zoologically, and they are the most thoroughly sampled anywhere in Southeast Asia. However, the records have not been collated to provide a comprehensive overview of the fauna present. This issue is addressed here by presenting an authoritative checklist of all reported zoological taxa, together with ecological annotations and a comprehensive bibliography.

**Keywords:** Malaysia, Batu caves, Dark Cave, species list, vertebrata, invertebrata

*Received: 05 April 2012; Accepted: 26 June 2012*



### MESSAGE FROM THE SENIOR AUTHOR AND MoZ, UM RESEARCH ASSOCIATE, MR. LIM TT:

"The main ideas of producing such a paper were conceived among three of us a few years ago when each of us was working on different aspects of the ecology and taxonomy of the cave fauna in the Dark Cave, among other caves on the Batu Caves Limestone Massif. Time and again we were bewildered by the wealth of biological information collected from this single limestone massif through generations of scientific investigations, results of which however were mostly scattered across scores of scientific journals and the zoological checklists we relied on were not up-dated in light of recent research on these caves or cross-referred with major taxonomic revisions. The checklist presented in the present paper is not merely another addition to the existing checklists—it is the result of a comprehensive collation with previously published fauna records from the limestone massif, strongly annotated with taxonomic and ecological observations from previous workers and also by the present authors. The accompanying comprehensive bibliography will be very useful for future

biologists working on caves, especially for those interested in the research and conservation of Batu Caves. Important biological problems remain unresolved even with such a comprehensively sampled cave site as the Dark Cave — a simple search through the 'search engine' produces 26 queries (?) in the lists pertaining mainly to taxonomic and ecological issues; at least 100 nomenclatural entries are with 'sp.' or 'spp.'. These, together with other ecological and conservation topics, e.g., population status and fluctuations of bats and swiftlets, negative impacts of invasive species, biochemical properties (possible insecticide residues?) of the guano, and so on are all too important questions for modern-day cave biologists. What's more, it's so close to the capital of the country, and technical and academic assistance possibly needed for a cave study can be readily obtained from nearby higher education learning centers, like the University of Malaya."

-Lim TT

### PAST EVENTS AT MUSEUM OF ZOOLOGY

#### 1. "PEST CONTROL IN MALAYSIA"

SPEAKER: Mr. Sam, Training Manager, NLC General Pest Control

DATE & TIME: Monday, 1.10.2012, 2:30pm

#### 2. "MAMMAL CONSERVATION IN MALAYSIA: TRIO UNDER THREAT: CAN WE SECURE THE FUTURE OF RHINOS, ELEPHANTS AND TIGERS IN MALAYSIA"

SPEAKER: Gopalasamy Reuben Clements, MSc, PhD candidate, James Cook University & Research Associate, Universiti Malaya & Co-founder, Rimba

DATE & TIME: Friday, 23.11.2012, 5pm

#### 3. "THE SYSTEMATICS OF ADRAMINI (DIPTERA: TEPHRITIDAE: TRYPETINAE) AND AN AUTOMATED IMAGE IDENTIFICATION SYSTEM FOR ECONOMICALLY IMPORTANT FRUIT FLIES"

SPEAKER: Dr. Xiao-Lin Chen, Associate Professor, Evolution of Functional Insect Groups, Institute of Zoology, Chinese Academy of Sciences

DATE & TIME: Tuesday, 27.11.2012, 9:30am

#### 4. "DIVERSITY OF WEBSPINNERS IN WESTERN THAILAND"

SPEAKER: Dr. Pisit Poolprasert, Pibunsongkram Rajabhat University, Thailand

DATE & TIME: Thursday, 6.12.2012 9am.



#### 5. SPECIAL EXHIBIT:

**2 new species of Black Flies recently discovered by UM researchers in Tioman Island.**

Prof. Hiroyuki Takaoka

4-6.12.2012, 10am-5pm.