

AWESOME NATURAL HISTORY MUSEUM



Lee Kong Chian
Natural History Museum

Wong Kit Shan

Zhang Rui

Wong Ka Yi

Woo Tak Hon

Tong Kit Ying

INTRODUCTION

TONG Kit Ying (Tommie)



Introduction

- Lee Kong Chian Natural History Museum
 - *One of the newest yet oldest museum in Singapore*
 - *Opened in April 2015*
 - *A one-stop exhibition, education and research facility*



<http://lcnhm.nus.edu.sg/nus/index.php/lcnhm/aboutlcnhm>



<http://lcnhm.nus.edu.sg/nus/index.php/lcnhm/aboutlcnhm>



<http://lcnhm.nus.edu.sg/nus/index.php/lcnhm/aboutlcnhm>

Introduction

- One of the largest biological collections in Southeast Asia
 - *Houses one of the region's largest natural history collections*
 - *Singapore's focal point for zoological biodiversity research*
 - *Over one million specimens are maintained*
 - *>90% of the museum's specimens are used for research*



Introduction

- A museum in a university
- *Train the next generation*
- *Collaborate and conduct research with other parts of the university and government agencies*
- *Numerous surveys, expeditions and joint studies*



Lee Kong Chian Natural History Museum

Lee Kong Chian Natural History Museum Presents

Palaeontology workshops for school students and educators

The Lee Kong Chian Natural History Museum is pleased to invite Professor Patricia Rich and Dr Tom Rich to conduct a series of talks and workshops for educators and school students. There are limited places of 40 participants per session.

The details of the workshops are as follows:

- 1. Educators Workshop – Mammals, where they are from? Their journey through more than 150 million years**
23 June, Thursday, 10am – 4pm (tea included)
(More details here: <http://bit.ly/22tvf5A>)
- 2. Students Workshop – The Feisty Polar Dinosaurs and their companions**
21 June, Tuesday, 10am – 4pm (tea included)
(More details here: <http://bit.ly/1WoBmbj>)

Cost of each workshop - \$100 per pax (incl. GST)



Professor Patricia Vickers-Rich,
AO
Emerita Professor, Chair in
Palaeobiology
Monash University, Australia



Dr. Thomas Rich,
Curator of Vertebrate
Palaeontology, Museum
Victoria, Melbourne, Australia

Getting to LKCNHM:
Lee Kong Chian Natural History Museum | National University of Singapore | 2 Conservatory Drive, S(117377) | <http://lkcnhm.nus.edu.sg/nus/index.php/address>



Cryolophosaurus

Registration

Download the registration forms here:
<http://bit.ly/1WU0Cq2>

Kindly register by 8 June 2016 by emailing the completed registration form to nhmlearning@nus.edu.sg.



Cryolophosaurus skull

History



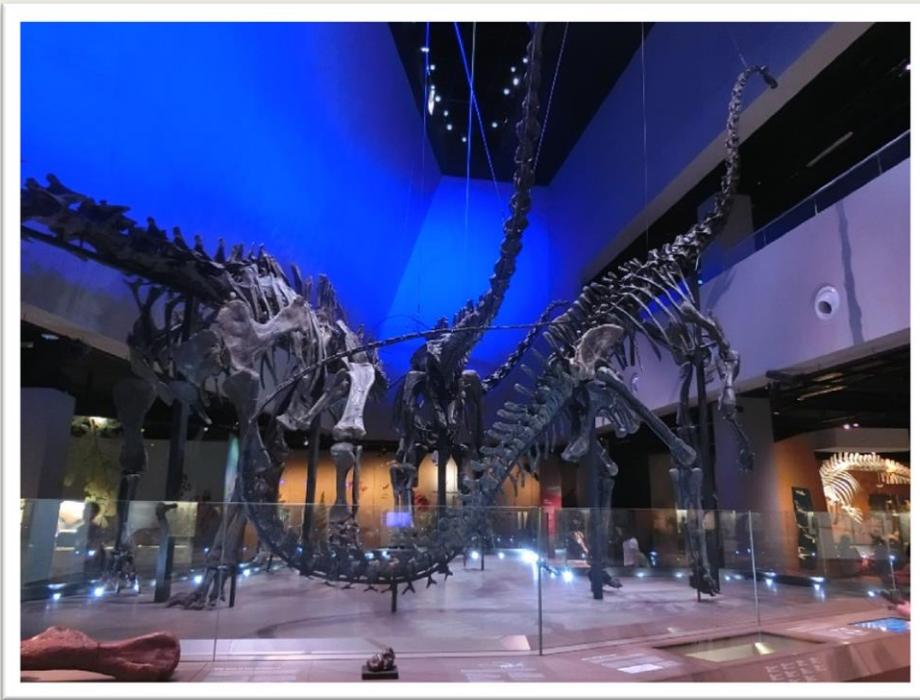
- 1823 : Sir Thomas Stamford Raffles first mooted the idea of a “Singapore Institution”
- 1878 : The Raffles Library and Museum was established
- 1972 : The zoological collections transferred to the Singapore Science Centre, then to the University of Singapore.
- 1988 : Zoological Reference Collection opened in the National University of Singapore
- 2015 : Lee Kong Chian Natural History

DESIGN OF THE MUSEUM

How they catch your eyeballs WONG Ka Yi (Mimi)



Environment

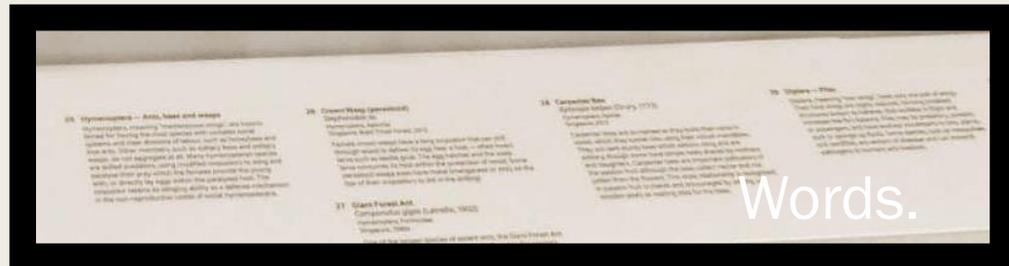


Blue and yellow light



Any little light spot becomes very important.

Typical Presentation Way



Words.

And more Words.

Be Interesting!



Size is proportional to the attractiveness

03 Sea Apple
Syzygium grande (Wight) Walp.
 Myrtales, Myrtaceae
 Singapore, 2012

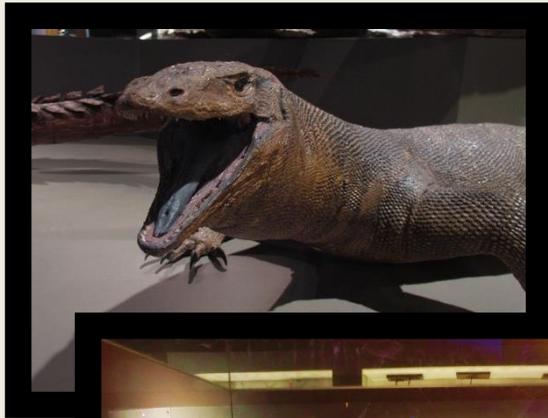
The Sea Apple is a coastal tree of this region that grows to 30 metres tall, and has a dense, oblong and irregular crown. It mass flowers after the dry season for a few days, growing clusters of fragrant flowers that look like white pom-poms with many white stamens. It has rough greyish bark with shallow fissures. It was planted extensively as a roadside tree and as firebreaks. Its timber is also used to construct ships and houses.

04 Tembusu
Fagraea fragrans Roxb.
 Gentianales, Gentianaceae
 Singapore, 2012

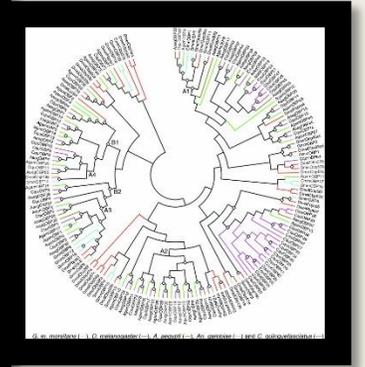
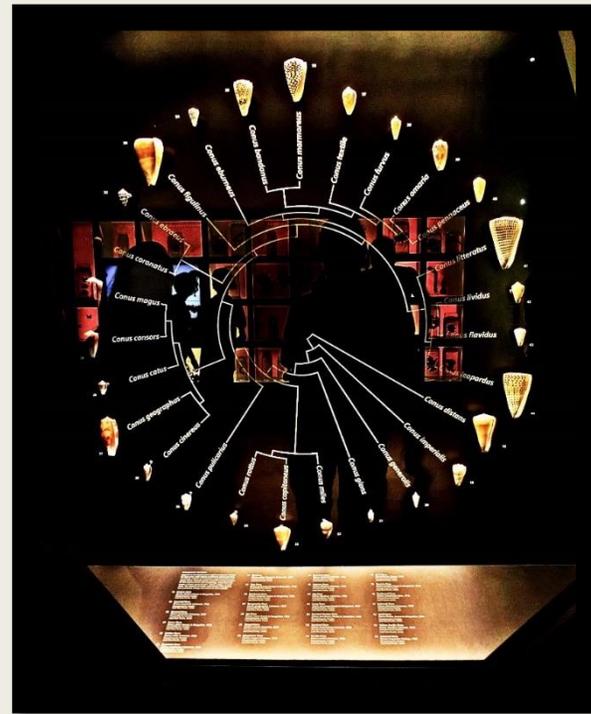
A native tree that can grow to 40 metres, the Tembusu has characteristic dark brown bark with deep fissures and perpendicular branching. It flowers around May and October, with clusters of creamy-white flowers that open in the evening and give off a distinct fragrance. Its red berries are consumed by birds and fruit bats. A picture of the Tembusu from the Singapore Botanic Gardens can be found on the Singapore \$5 note of the Portrait Series.

Using your other sense

More!



Funny posture

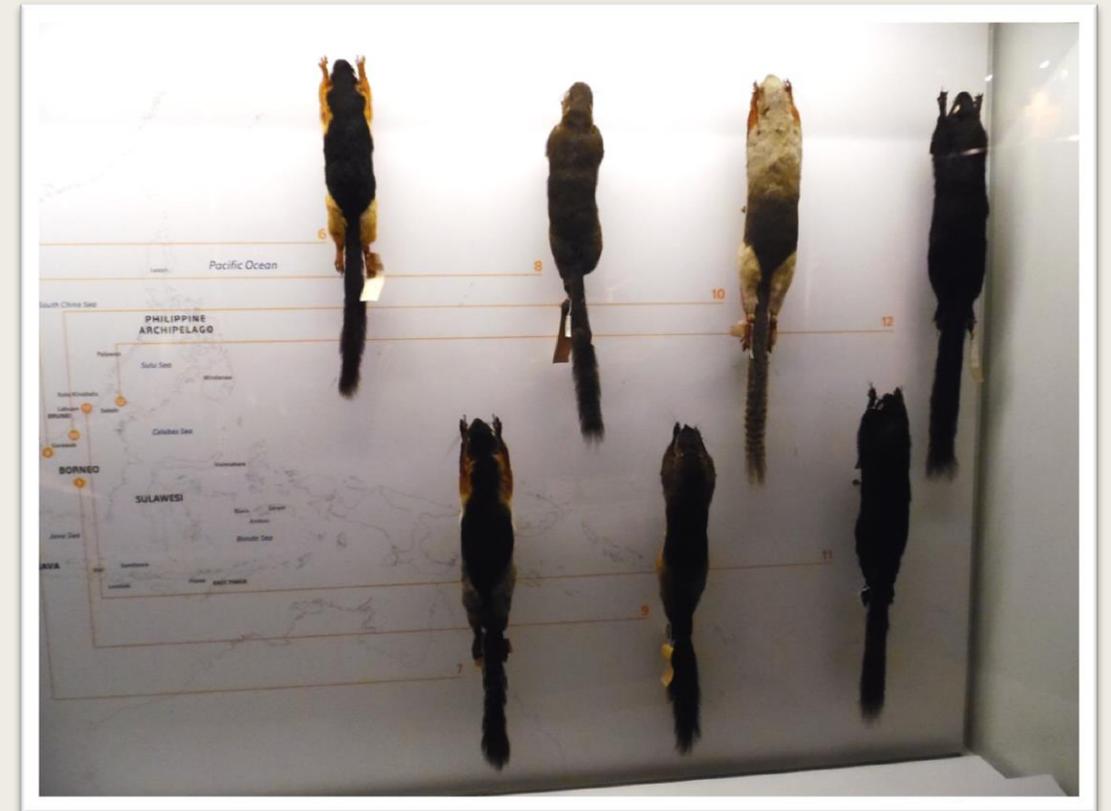
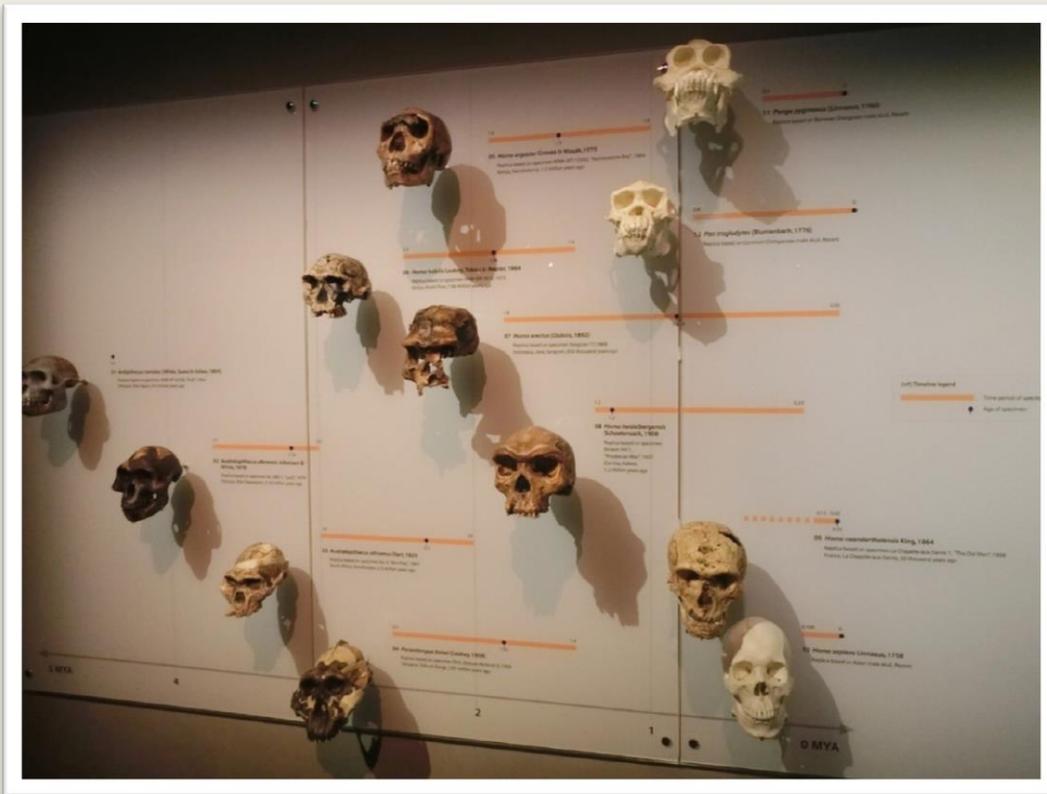


Conus and the Phylogenetic tree



Highlight

comparison and relation



Dinosaurs in multi-angles



1/F(Location1)



1/F(Location2)



2/F

History in the Cabinet

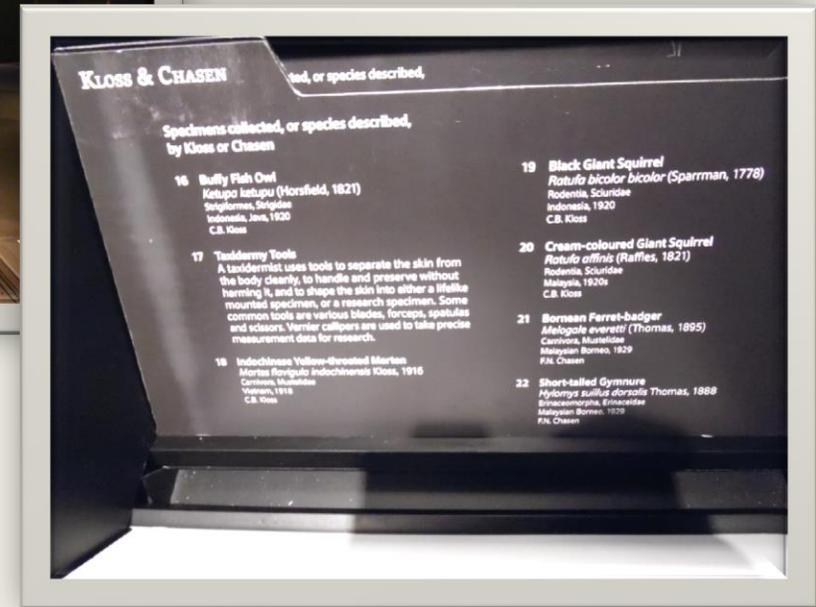
Birds



Documents and pictures



Inside the cabinets:



KLOSS & CHASEN ... and, or species described,

Specimens collected, or species described, by Kloss or Chasen

16 **Buffy Fish Owl**
Kelapo islapu (Horsfield, 1821)
 Strigiformes, Strigidae
 Indonesia, Java, 1920
 C.B. Kloss

17 **Taxidermy Tools**
 A taxidermist uses tools to separate the skin from the body cleanly, to handle and preserve without harming it, and to shape the skin into either a lifelike mounted specimen, or a research specimen. Some common tools are various blades, forceps, spatulas and scissors. Verner calipers are used to take precise measurement data for research.

18 **Indochinese Yellow-browed Martin**
Martus flavigula indochinensis Kloss, 1916
 Corvidae, Corvidae
 Vietnam, 1916
 C.B. Kloss

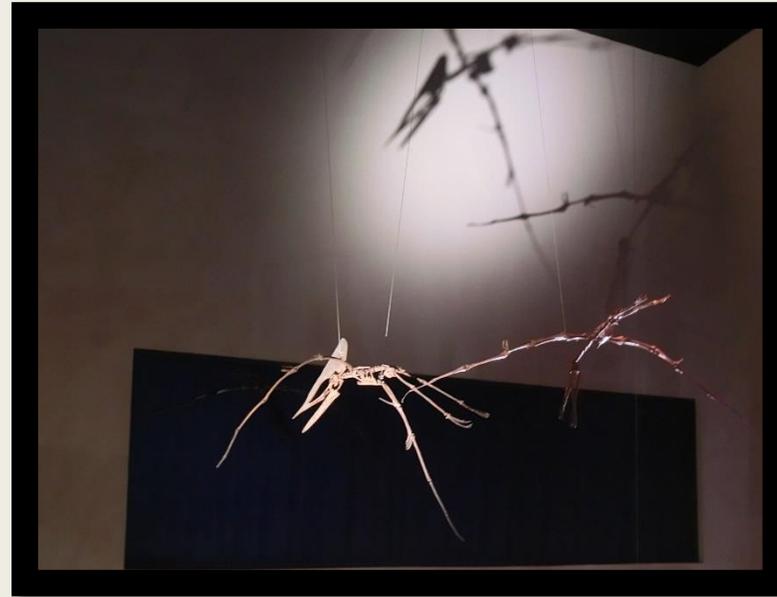
19 **Black Giant Squirrel**
Ratufa bicolor bicolor (Sparrman, 1776)
 Rodentia, Scuridae
 Indonesia, 1920
 C.B. Kloss

20 **Cream-coloured Giant Squirrel**
Ratufa affinis (Raffles, 1821)
 Rodentia, Scuridae
 Malaysia, 1920s
 C.B. Kloss

21 **Bornean Ferret-badger**
Melogale everetti (Thomas, 1895)
 Carnivora, Mustelidae
 Malaysian Borneo, 1929
 F.H. Chasen

22 **Short-tailed Gymnure**
Hylomys suillus dorsalis Thomas, 1888
 Eulacertiformes, Eulacertidae
 Malaysian Borneo, 1929
 F.H. Chasen

Making good use of all the space



You can find more if you are attentive more.

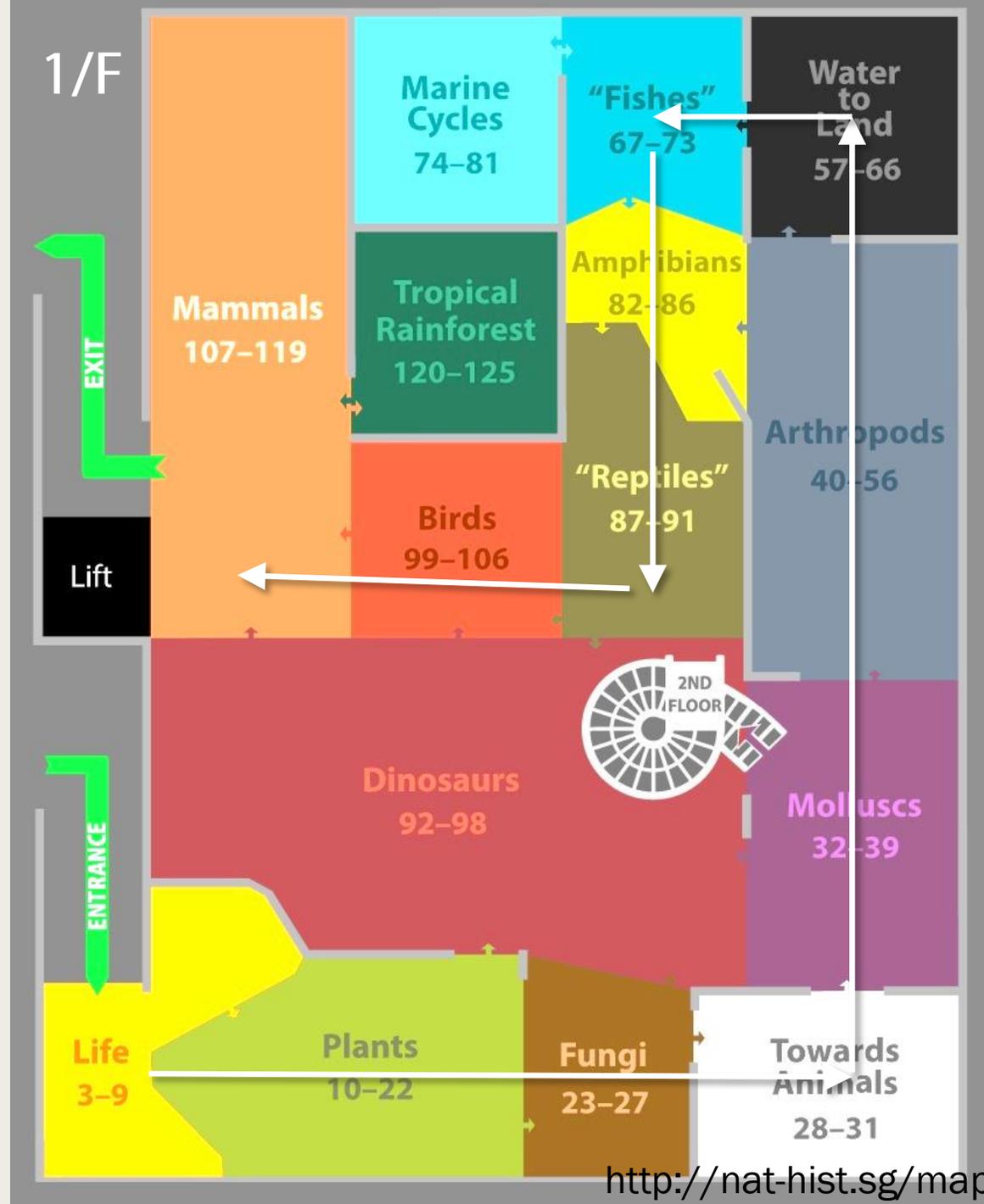
MUSEUM COLLECTIONS

Plant, Fungi, and Invertebrates @ 1/F WONG Kit Shan (Queenie)



Map of NUS Natural History Museum

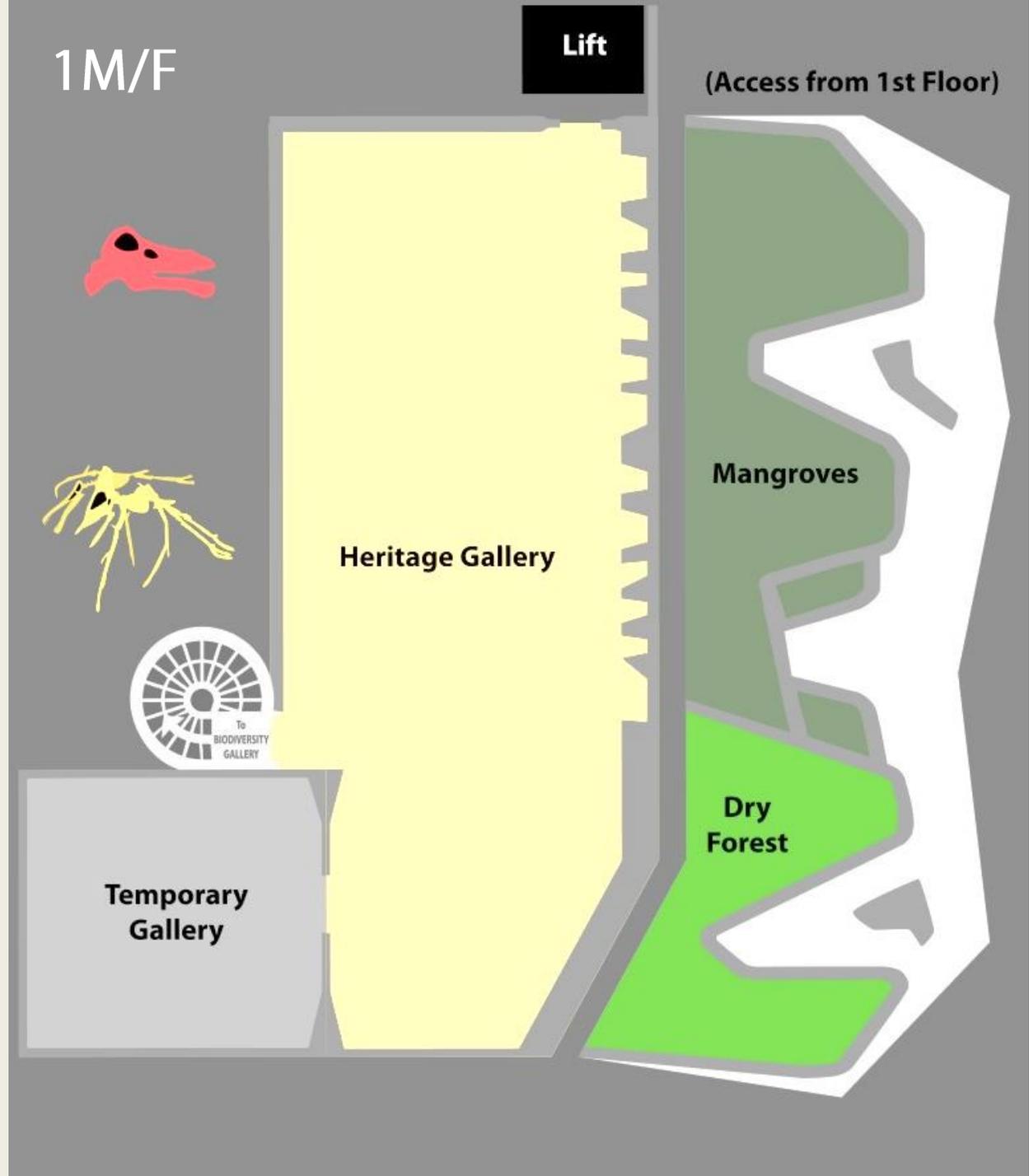
- **1/F - Main Gallery**
 - Divided into **15 zones**
 - **10:** groups of organisms (Plants, Fungi, molluscs, Birds)
 - **5:** special themes
 - From less advance to more advance



Map of NUS Natural History Museum

1M/F

- Heritage Gallery
- Gardens(outdoor)



Various kinds of displaying method:

- Specimens
- Models
- Fossils
- Photos and videos
- Live Specimens
- Skeletons
- Habitat mimicking

Plants

Rafflesia flower (*Rafflesia arnoldii*)

- Rafflesiaceae
 - corpse flower
 - 1:1 model
 - Largest flower in the world
 - Parasitic plant
 - Rainforests
 - Pollinators: scavengers, e.g. flies
- *large, releasing smell of rotting flesh, can produce heat, whole flower mimic the colour of flesh



Plants

Titan Arum (*Amorphophallus titanum*)

- corpse flower
- Araceae
- 1:1 model
- Largest unbranched inflorescence in the world
- Pollinators and attracting method similar to that of Rafflesia flower



Plants

Changi – The name of an airport and the name of a tree



Changi (*Hopea sangal*)

- native name: Chengal pasir
- Family Dipterocarpaceae
- was listed as locally extinct
- critically endangered(IUCN red list)
- rediscovered in 2002
- felled illegally in the same year
- one slice display in NUS natural history museum
- some turn into sculptures
- seeds is collected before felled

Plants

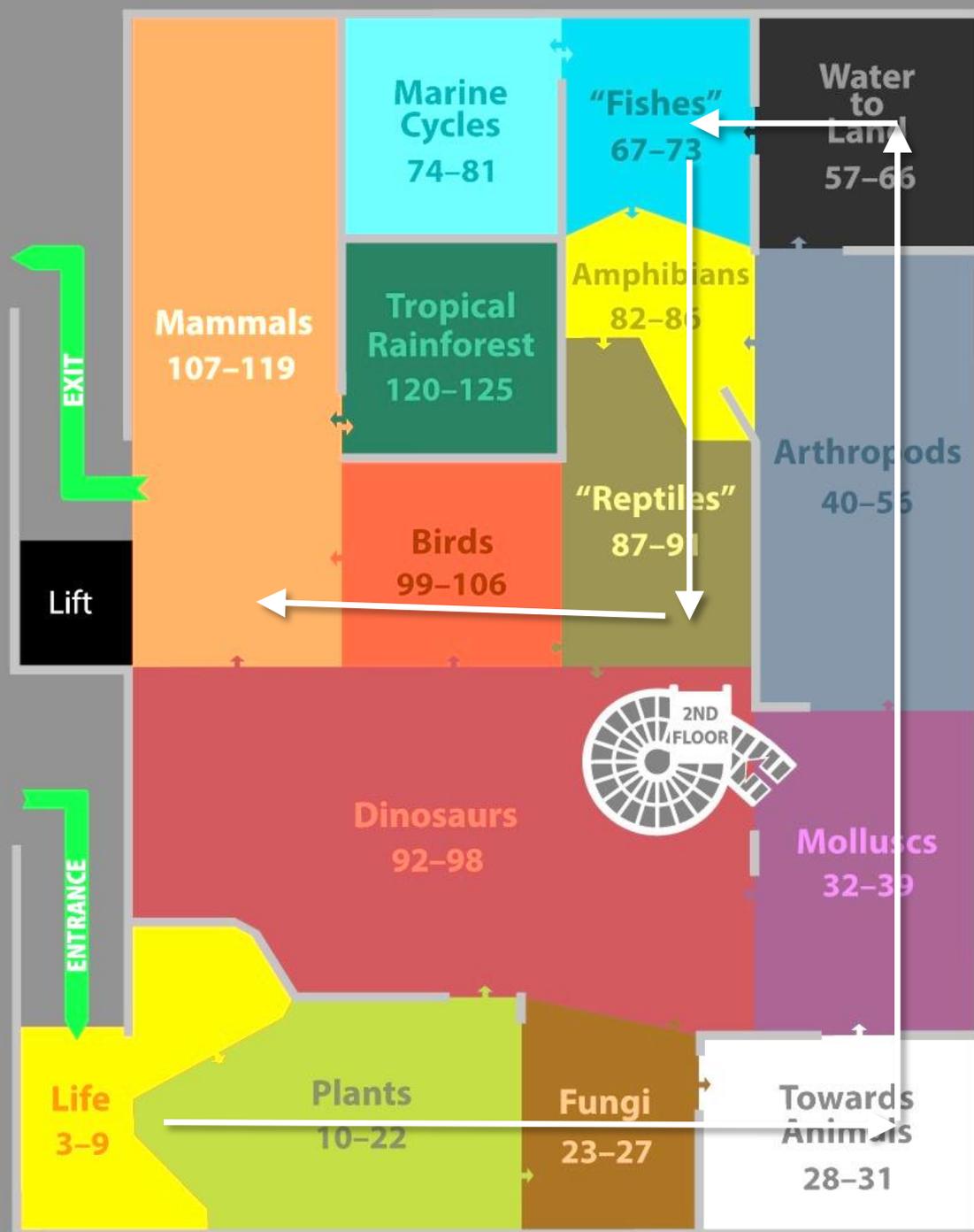
Tembusu (*Fagraea fragrans*)

-Gentianaceae

-native and common tree in Singapore

-produce white and fragrant flower





Fungi zone

- not much specimens
- videos : timelapse showing the growing of the sporocarp of fungi

Towards Animals :
Simple invertebrates
(sponges, Cnidaria)

Invertebrates - Molluscs



Collection of cowries

Class Gastropoda

Family Cypraeidae

-from 12 genera

-covered itself with to prevent attachment of other organisms

→shiny, clean, colourful

→often caught for ornamentation

Invertebrates - Arthropods

The museum have over 108,000 insect collections, this cupboard displays some of them.....



Invertebrates - arthropods

Trilobites

Class Trilobata

-fossils, extinct

-models demonstrating
moulting process



12

13

Invertebrates - Arthropods



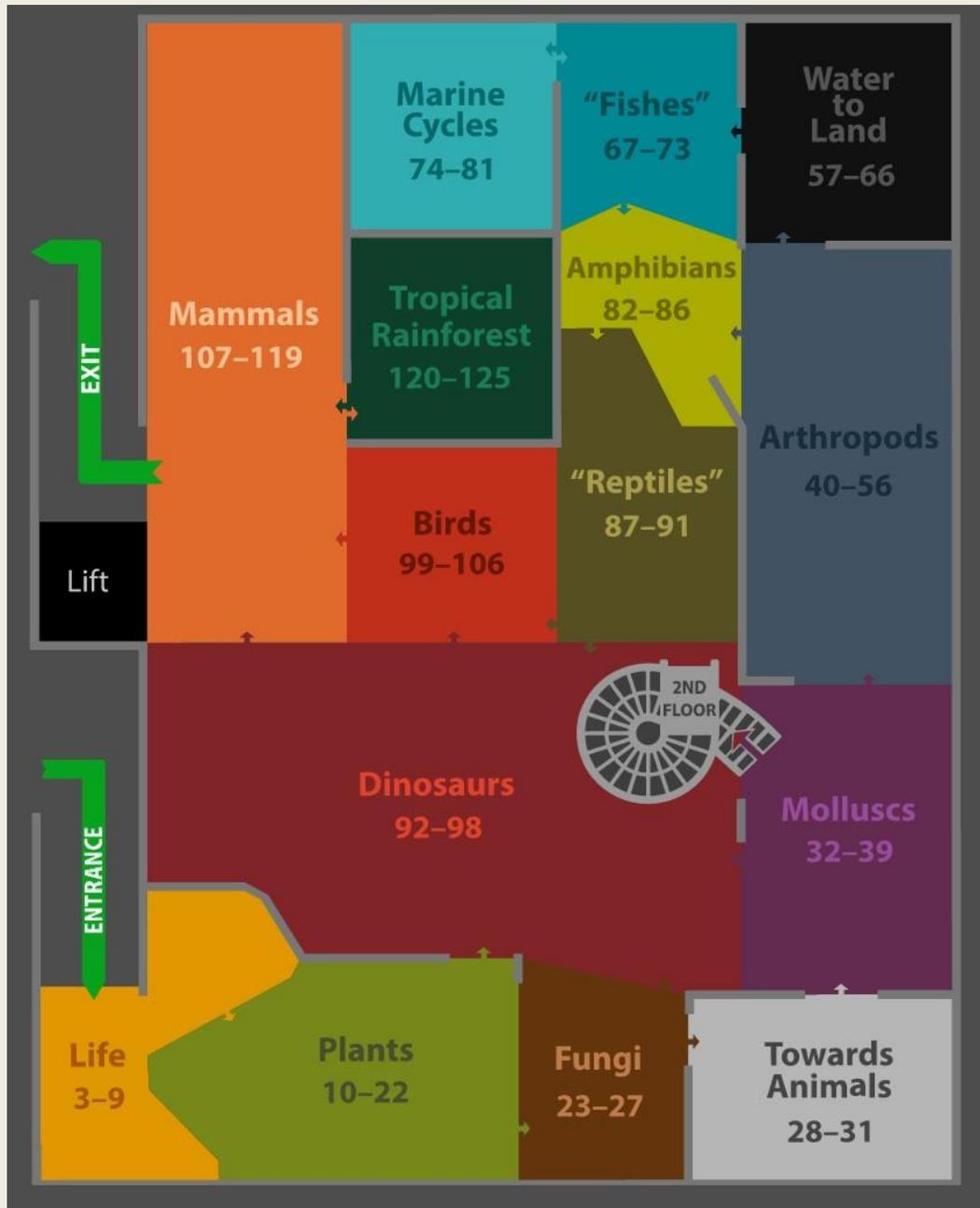
Asian Forest Scorpion

- live specimen
- venomous sting
- native to SE Asia

Photo from: <http://nat-hist.sg/map>

MUSEUM COLLECTIONS (CONT.)

Vertebrates @ 1/F, and 2/F Roy

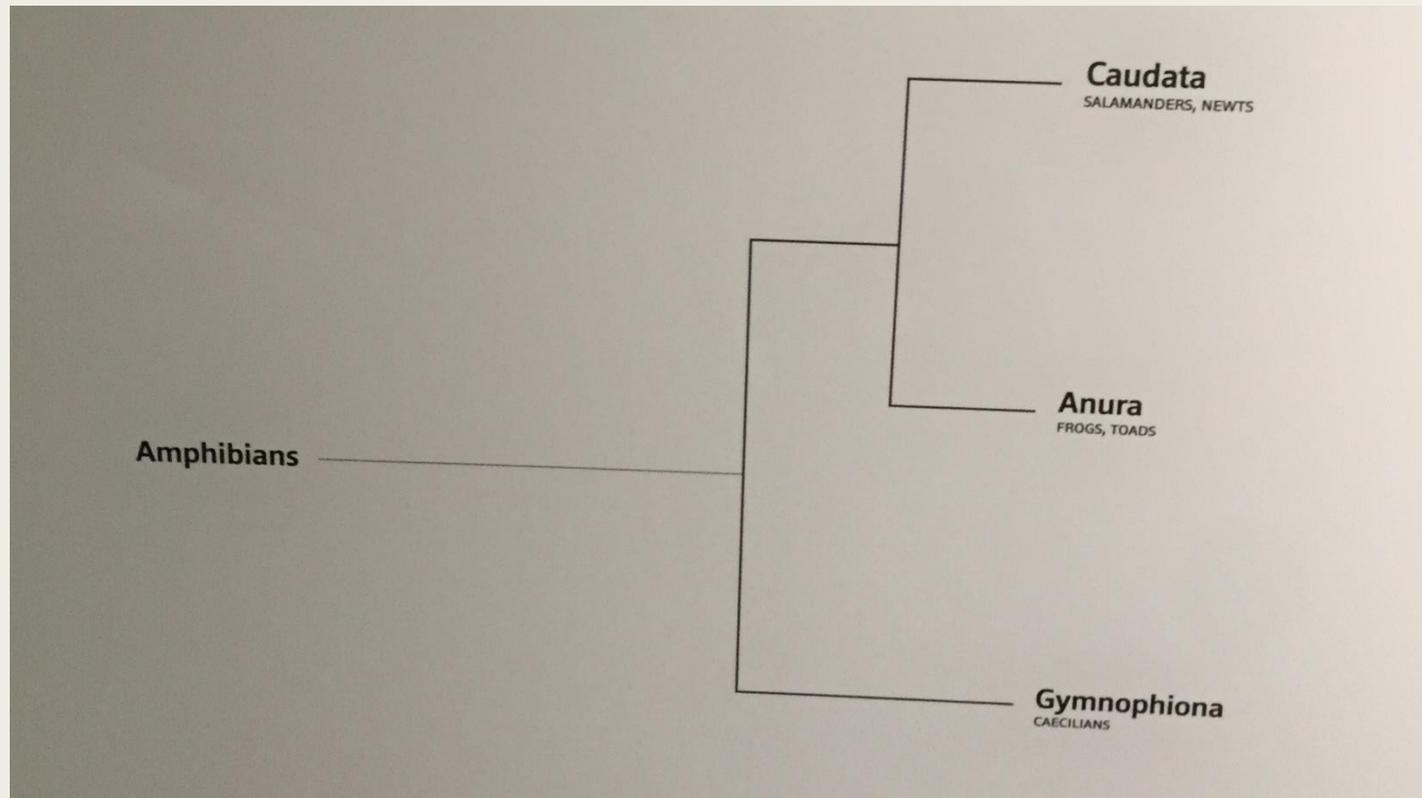


Fishes



Picture from <http://nat-hist.sg>

Amphibians

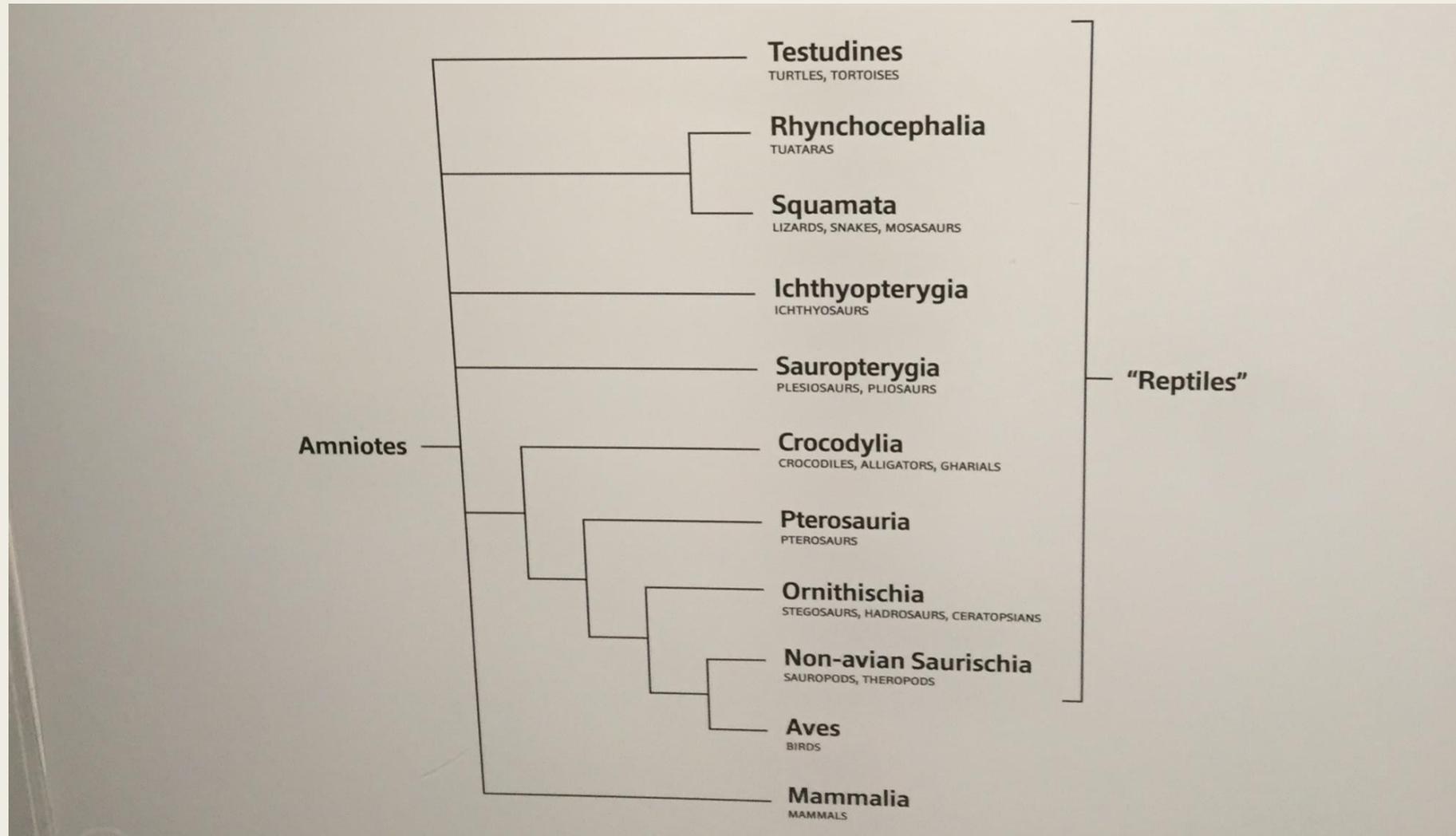


Photographed by Roy



Picture from <http://nat-hist.sg>

Reptiles





Photographed by Mimi



Horned Flying Lizard

Draco cornutus

Photographed by Edison

Dinosaurs

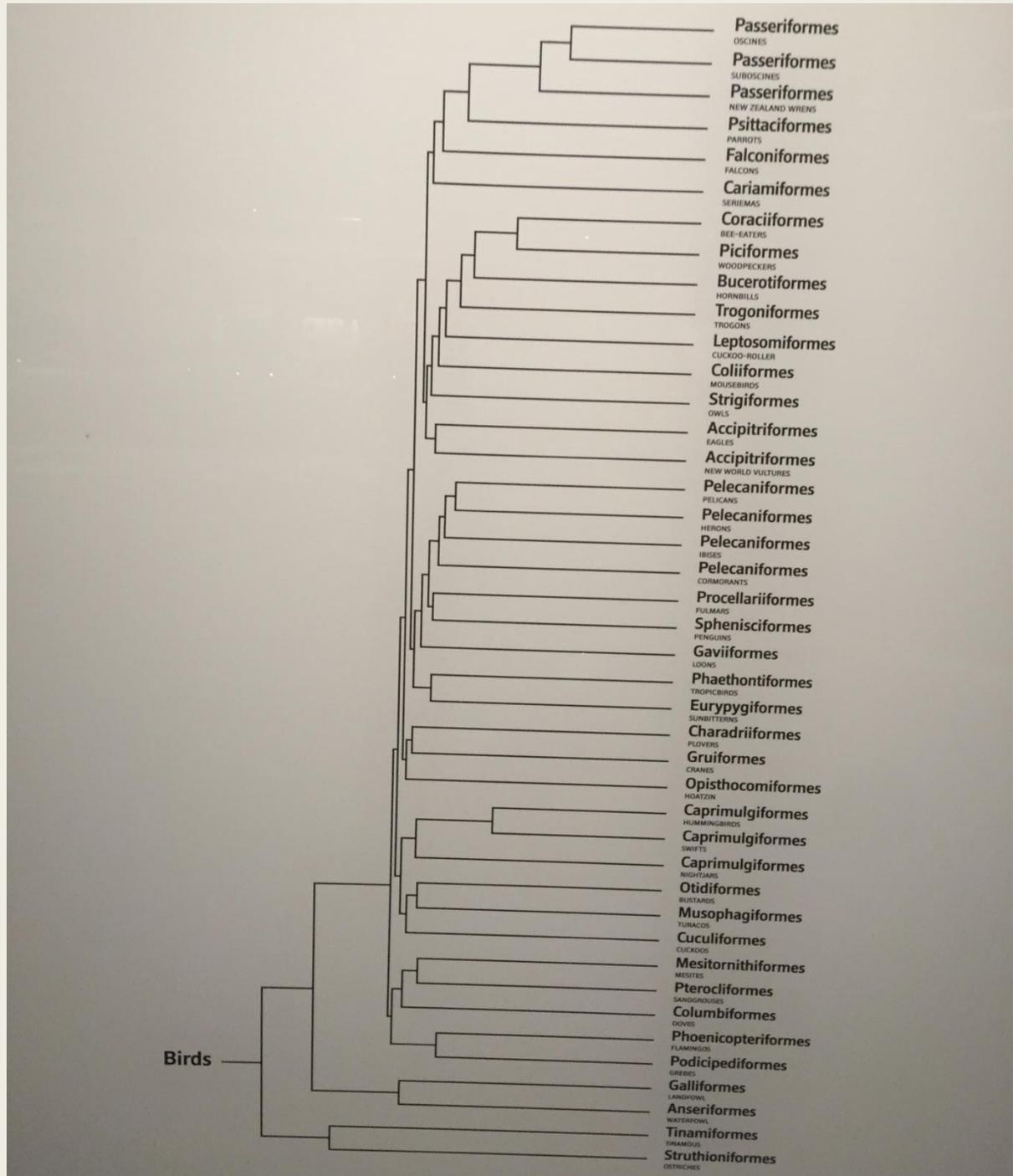
**“Apollonia”,
“Prince”,
and
“Twinky”**

Diplodocidae sp.



Photographed by Roy

Birds



Photographed by Roy

The Dodo

Raphus cucullatus



Subfossil Bones of Dodo

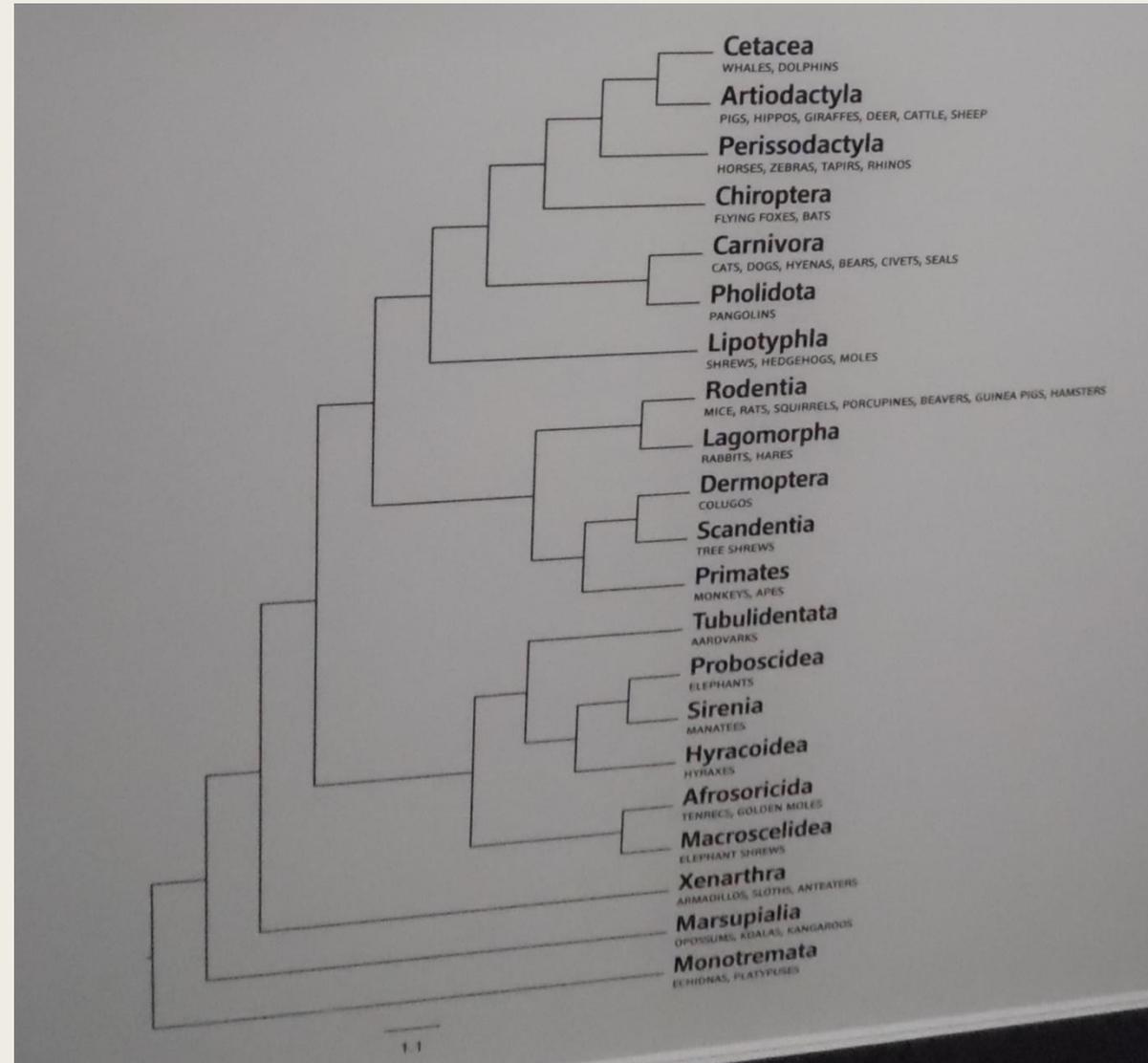
on loan from the Oxford University Museum of Natural History

Left picture from <http://nat-hist.sg/> and right photographed by Queenie



Picture from <http://nat-hist.sg>

Mammals



Photographed by Edison



Tiger
Panthera tigris

Photographed by Tommie



**Replica of Skeleton of
Platypus**
Ornithorhynchus anatinus

Photographed by Queenie

Human Evolution



Photography by Roy

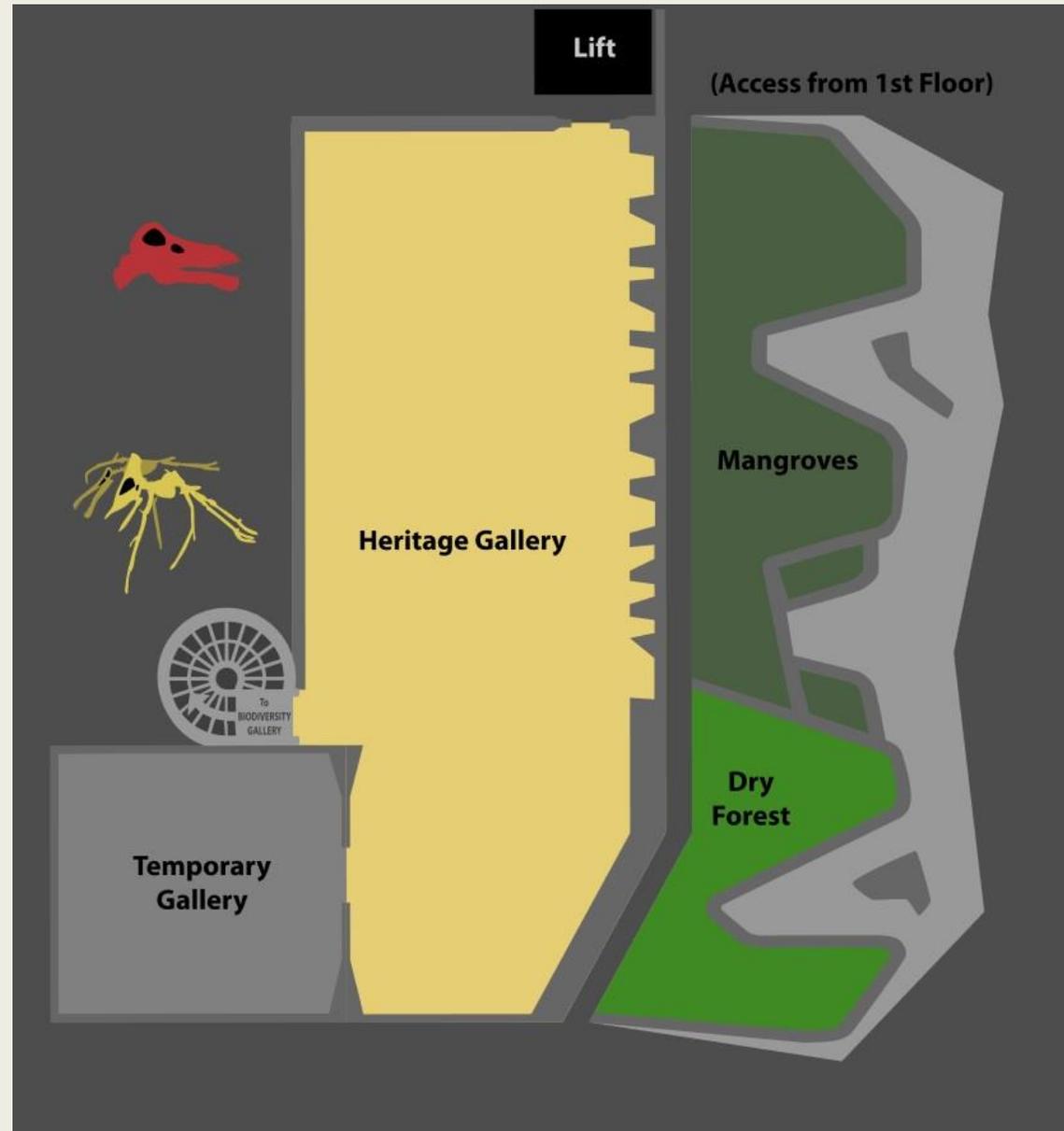
Sperm Whale
Physeter macrocephalus



Photography by Roy

Heritage Gallery

@ 2/F

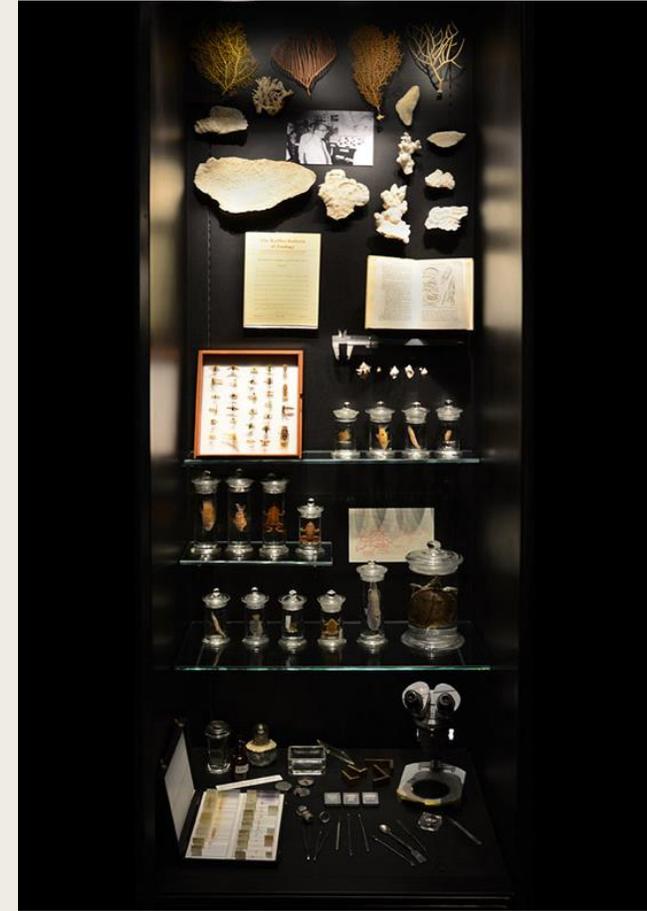


A Black Marlin, stranded in 1986



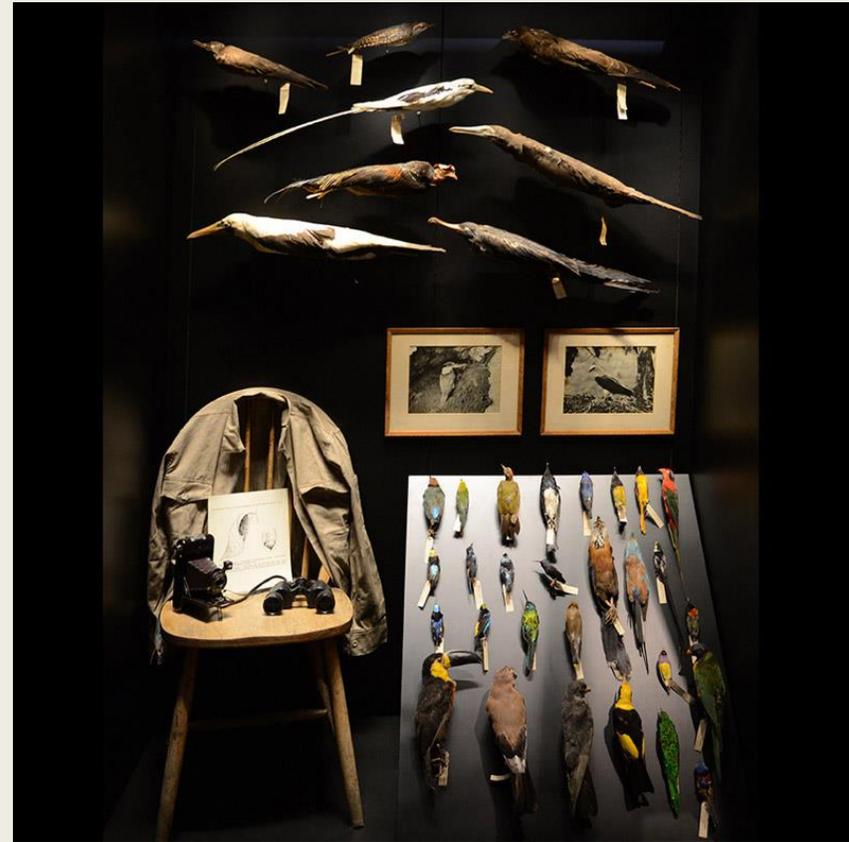
Picture from <http://nat-hist.sg>

Historical Research Records



Pictures from <http://nat-hist.sg>

Beautiful Collection



Pictures from <http://nat-hist.sg>

Named Singapore



Singapore Stream Crab
Johora singaporensis

Singapore Kopsia
Kopsia singaporensis



Pictures from <http://nat-hist.sg>

Besides Bio-exhibits



Picture from <http://nat-hist.sg>

THE GARDENS

TONG Kit Ying (Tommie)



The gardens

1. The great outdoors

- *provide sectional views or examples of plants*
- *A selection of plants that exist from a coastal to rainforest habitat*
- *The cliff-like green wall bears plant species*



<https://www.google.com.hk/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=0ahUKewi6IPriIL3NAhWKfZQKHU4oCCQjRwIbw&url=http%3A%2F%2Fwww.straitstimes.com%2Fsingapore%2Fpictures-a-peek-into-lee-kong-chian-natural-history-museum&psig=AFQjCNFRrSMSDsbJgWwGZcXQBS2WD52a8A&ust=1466734189991952>

The gardens

2. Mangroves, swamps and dryland forests

- *Shows the variety of Southeast Asian plants*

Dryland
rainforests

Inland
landscape

Mangrove
s



The gardens

3. Phylogenetic garden

- *The large diversity in the shape, leaves, colours and textures of plants*
- *Many native plants*



https://www.google.com.hk/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fa%2Fa3%2FPhylogenetic_Garden%2C_Lee_Kong_Chian_Natural_History_Museum%2C_Singapore_-_20150808-02.jpg&imgrefurl=https%3A%2F%2Fcommons.wikimedia.org%2Fwiki%2FFile%3APhylogenetic_Garden%2C_Lee_Kong_Chian_Natural_History_Museum%2C_Singapore_-_20150808-02.jpg&docid=wHbAJzhtg32M&tbid=rB9n8ym4-nYZIM%3A&w=3264&h=2448&ved=0ahUKEwjnk7KZib3NAhWMFZQKHZcJA_s4ZBAzCAoCDAl&iact=mr&uact=8&biw=1154&bih=937



https://www.google.com.hk/imgres?imgurl=https%3A%2F%2Fupload.wikimedia.org%2Fwikipedia%2Fcommons%2Fc%2FPhylogenetic_Garden%2C_Lee_Kong_Chian_Natural_History_Museum%2C_Singapore_-_20150808-01.jpg&imgrefurl=https%3A%2F%2Fcommons.wikimedia.org%2Fwiki%2FFile%3APhylogenetic_Garden%2C_Lee_Kong_Chian_Natural_History_Museum%2C_Singapore_-_20150808-01.jpg&docid=rQAMyJlt-eHARM&tbid=INLeuw_QgqNyGM%3A&w=3264&h=2448&bih=937&biw=1154&ved=0ahUKEwjnk7KZib3NAhWMFZQKHZcJA_s4ZBAzCAoBzAH&iact=mr&uact=8&museum&psig=AFQJCNFRSMSDsbJgWwGZcXQBS2WD52a8A&ust=1466734189991952

EDUCATION

WOO Tak Hon (Edison)



Observation on Visitors

Primary school students

- Preferred following the gallery tour
- Have shown their enthusiasm about the biodiversity

University students like us and other visitors

- Preferred walking around by themselves

Education

- LKCNHM offers a range of educational workshops for schools and the public.
- To educate the public about the natural history in Singapore
- To let the public have a better appreciation and understanding of biodiversity and conservation issues of Singapore

Education

- Gallery Tour
- Museum Workshops
- Guided Nature Walks
- Wild Biodiversity Field Study Camps

Education ----- Gallery Tour

- Takes visitors through the biodiversity and heritage galleries
- To introduce the specimens and exhibits showcased
- To share the stories of the selected specimens



Education ----- Museum Workshops

■ Animal Classification Workshop



Source : <http://lknhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/animal-classification> Source : <http://lknhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/animal-classification>

■ Singapore Biodiversity and Adaptation Workshop

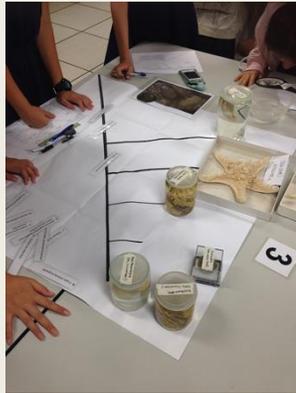


Source <http://lknhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/singapore-biodiversity-and-adaptation-hands>

Source <http://lknhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/singapore-biodiversity-and-adaptation-hands>

Education ----- Museum Workshops

■ Evolution Workshop



Source: <http://lkcnhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/evolution>



Source: <http://lkcnhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/evolution>

■ Marine Ecology Workshop



Source: <http://lkcnhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/marine-ecology>



Source: <http://lkcnhm.nus.edu.sg/nus/index.php/2014-04-24-15-36-38/marine-ecology>

Education ----- Guided Nature Walks

Participants can

- Experience nature through five senses
- Explore nature under the guidance of the guides

Places to walk (Examples)

- Sungei Buloh Wetland Reserve
- MacRitchie Rainforest



Education ----- Wild Biodiversity Field Study Camp

- A three to five days field study camp
- To explore the sandy and rocky shores, coastal and mangrove habitats on St. John's Island



Source : <http://lkcnhm.nus.edu.sg/nus/index.php/2014-04-25-02-19-30/st-john-s-island-wild>

Volunteer Programmes

- LKCNHM Gallery Guiding Programme
- LKCNHM Toddycats! Programme

Volunteer Programme-----LKCNHM Gallery Guiding Programme

- To train the volunteers to become museum guides

Volunteers will

- Interact with the visitors
- Give visitors more information about the exhibits and the biodiversity and heritage galleries

Volunteer Programme-----LKCNHM Toddycats! Programme

- “Toddycats!” refer to the volunteers of the LKCNHM
- Open to NUS students and any member of the public with enthusiasm and commitment
- Engage in public education



Source : <http://lkcnhm.nus.edu.sg/nus/index.php/volunteer/toddycats2015>

Volunteer Programme-----LKCNHM Toddycats! Programme

- Conduct guided tours at the museum



- Take part in Nature and Heritage Trails Guiding



Source : <http://lknhm.nus.edu.sg/nus/index.php/volunteer/toddycats2015>

Volunteer Programme-----LKCNHM Toddycats! Programme

- Coordinate with the International Coastal Cleanup Singapore



Source : <http://lkcnhm.nus.edu.sg/nus/index.php/volunteer/toddycats2015>



Source : <http://lkcnhm.nus.edu.sg/nus/index.php/volunteer/toddycats2015>

- Take part in public seminars

Reference

- <http://lkcnhm.nus.edu.sg/>
- LEE KONG CHIAN NATURAL HISTORY MUSEUM Visitor's Guide
- <http://lkcnhm.nus.edu.sg/nus/index.php/available-workshops-and-programmes>
- <http://lkcnhm.nus.edu.sg/nus/index.php/volunteer/toddycats2015>
- <https://toddycats.wordpress.com/>
- <http://nat-hist.sg/map> http://eresources.nlb.gov.sg/infopedia/articles/SIP_2015-03-06_094924.html
- <http://habitatnews.nus.edu.sg/heritage/changi/changitrees/hopeasangal.html>

Thank you

