

The background of the slide features a repeating pattern of stylized, colorful fish and seaweed. The fish are depicted in various colors including yellow, orange, red, and green, swimming in different directions. The seaweed is shown as long, flowing strands in shades of green and yellow. The overall style is reminiscent of a traditional Japanese textile pattern.

# LEE KONG CHIAN NATURAL HISTORY MUSEUM

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# Outline

1. Basic Information
2. Floor Plan, Exhibition & Theme
3. Education & Positive Impacts
4. Comparison with museums in Hong Kong
5. Suggestions for improvement





# Basic information

-By Gogo Ko

# INTRODUCTION

- Founder
- Timeline
- Collection
  - Botanical
  - Zoological
- Research



# Founder

- Founder of Singapore
- Founder of Zoological Society of London
- Naturalist in Singapore, Malaysia and Indonesia
- Enthusiastic in collecting specimen



# Timeline

Year	
1849	- collection of Southeast Asia biodiversity in Raffles Museum (renamed as National Museum of Singapore in 1965)
1878	- Official Establishment of natural history museum
1972	Transfer collection to 1. Zoology department, NUS 2. Raffles Museum of Biodiversity Research 3. LKCNHM
1955	- NUS Herbarium



# Collection

- 1. herbarium
  - >30000 catalogued specimens
- 2. Zoological material
  - Raffles Collection
  - Focus on Singapore and Malayan animals
  - 560,000 catalogued specimens
  - >1m specimen in total

# Research

- documentation of plants in Southeast Asia and Singapore
- 1700-2000 scientific paper published in conservation biology etc.



# Floor Plan, Exhibition & Theme

-By Joanne Tse

# Exhibition

Level 1M

Heritage Gallery

Outdoor Gardens

Level 1

Biodiversity Gallery



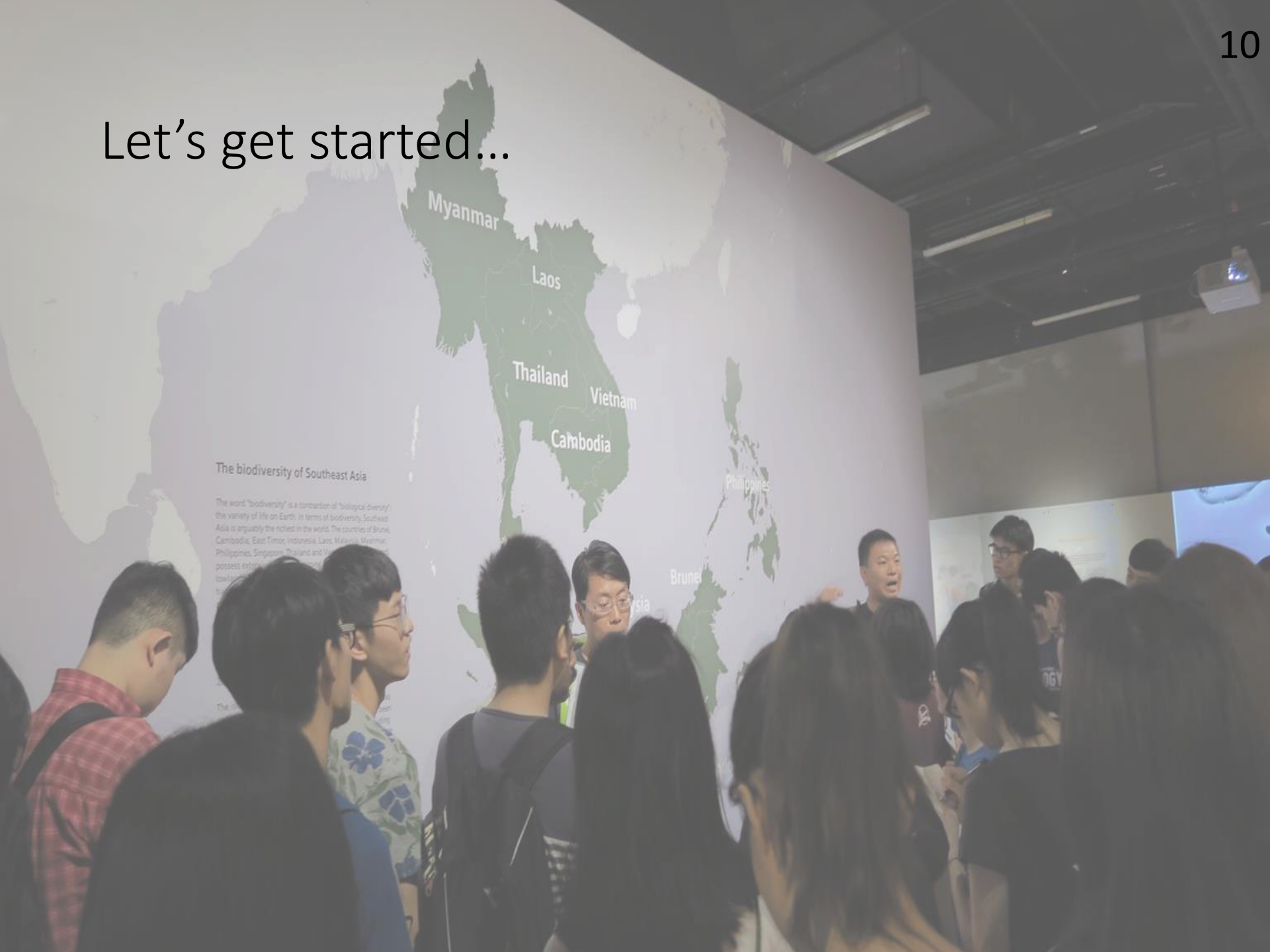


# Biodiversity Gallery

- 15 thematic zones



Let's get started...





# *Rafflesia arnoldii*

- Largest flower
- Rainforest
- Bloom for ~7days
- Strong & unpleasant smell
- Holoparasite
- Lack chlorophyll
- No photosynthesis
- Tourists' attraction



# 10 Common Trees in Singapore

- Rain Tree
- Angsana
- Yellow Flame
- Senegal Mahogany
- Broad-leaved Mahogany
- Tembusu
- Sea Apple
- Saga
- Trumpet Tree
- Sea Almond





# Rain Tree

- Large umbrella-shaped crown
- Leaves fold up before rain & in evening
- Clusters of small, fluffy white-pink flowers
- Popular for shading avenues
- Grow to 25 metres





# Tembusu

- dark brown bark with deep fissures
- Perpendicular branching
- Clusters of creamy-white flowers with fragrance
- \$5 note tree
- Grow to 40 metres





# Making of Herbarium Sheet

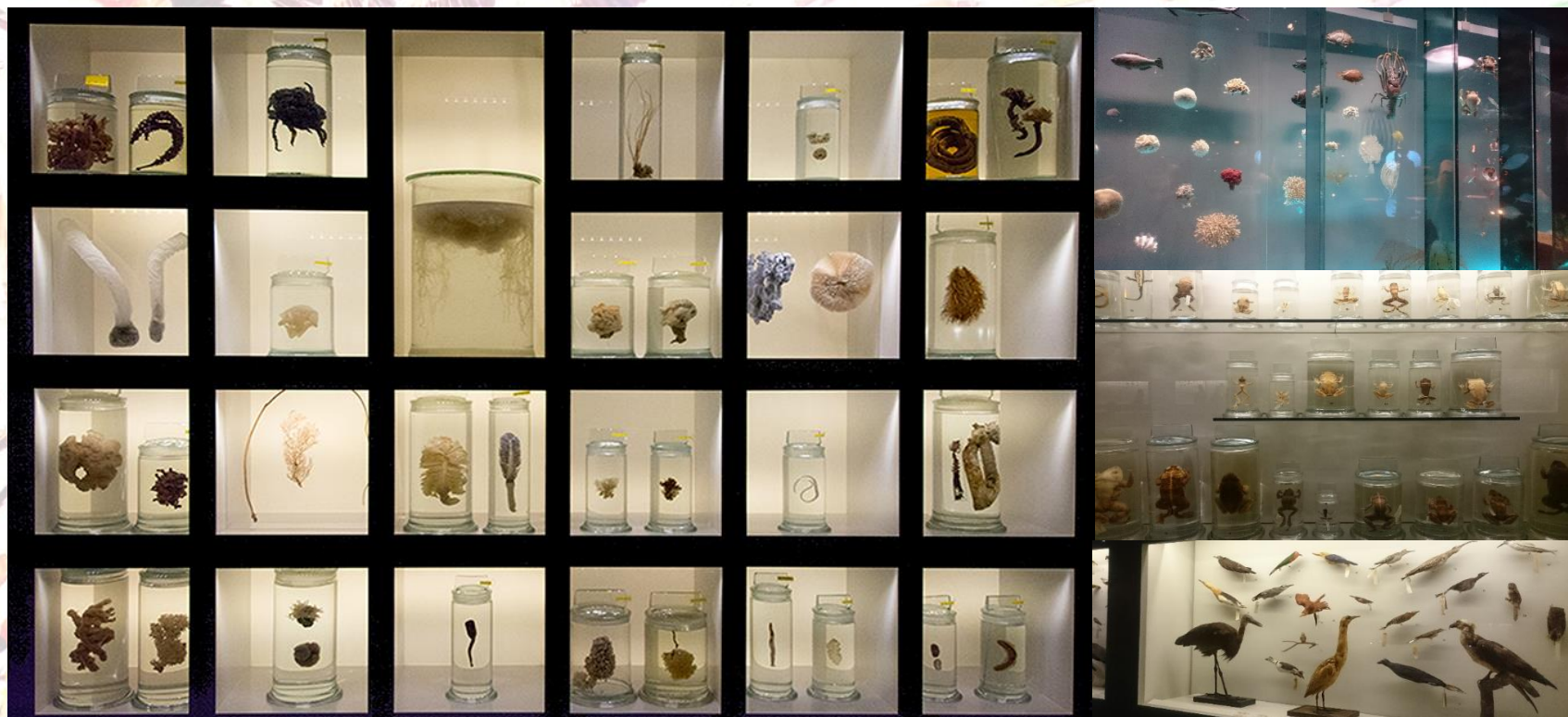
- 1.Collection label
- 2.Leaves
- 3.Flower, fruit & seeds

- Cost-effective
- Space-effective





# Animals





# Dinosaur Zone

- 3 gigantic diplodocid sauropods fossils
- >65 million years ago
- >80% complete fossils





# Singapore Jubilee Whale

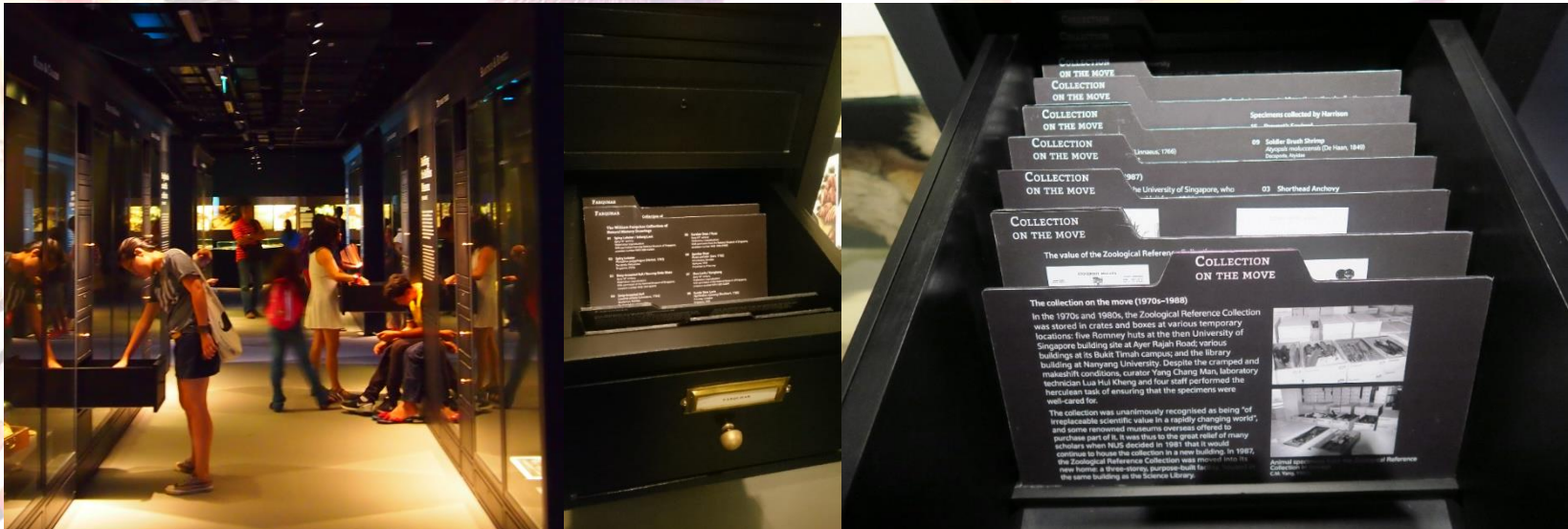
- Sperm whale
- 10.6-metre long skeleton
- Washed up off Jurong in the middle of SG's Jubilee Year





# Heritage Gallery- Cabinets of Curiosities

- Specimen from Raffles Museum





# Heritage Gallery- Singapore Today

- Geology
- Impact on natural landscape by British colonization
- Conservation work
- Building of the museum





# Gardens

- Mangroves to Forest  
→ SE Asian plants  
→ From mangrove to swamp  
& dryland forest
- Phylogenetic Garden  
→ Food plants, e.g. Pandan  
→ From mosses, ferns to  
gymnosperms & flowering  
plants





s share? How does life on Earth evolve? What does genetic isolation mean for evolution? How does the environment affect us as a species? How does the environment shape the evolution of life? Is biological fitness the same as physical fitness? Do all of our cells have exactly the same DNA?

# Education and Positive Impacts

By Henry Hung

Are all species related? Do all organisms have exactly the same genetic data? How does the environment shape the evolution of life? How are we related to other living things? What does genetic isolation mean for evolution? Is biological fitness the same as physical fitness? How does the environment affect us as a species? How does the environment shape the evolution of life? Is biological fitness the same as physical fitness? Do all of our cells have exactly the same DNA?



# Biodiversity and Evolution Education

- Exhibits based on taxonomical and phylogenetic approach
- Showcases the complexity of lifeforms and adaptations of organisms to the environment



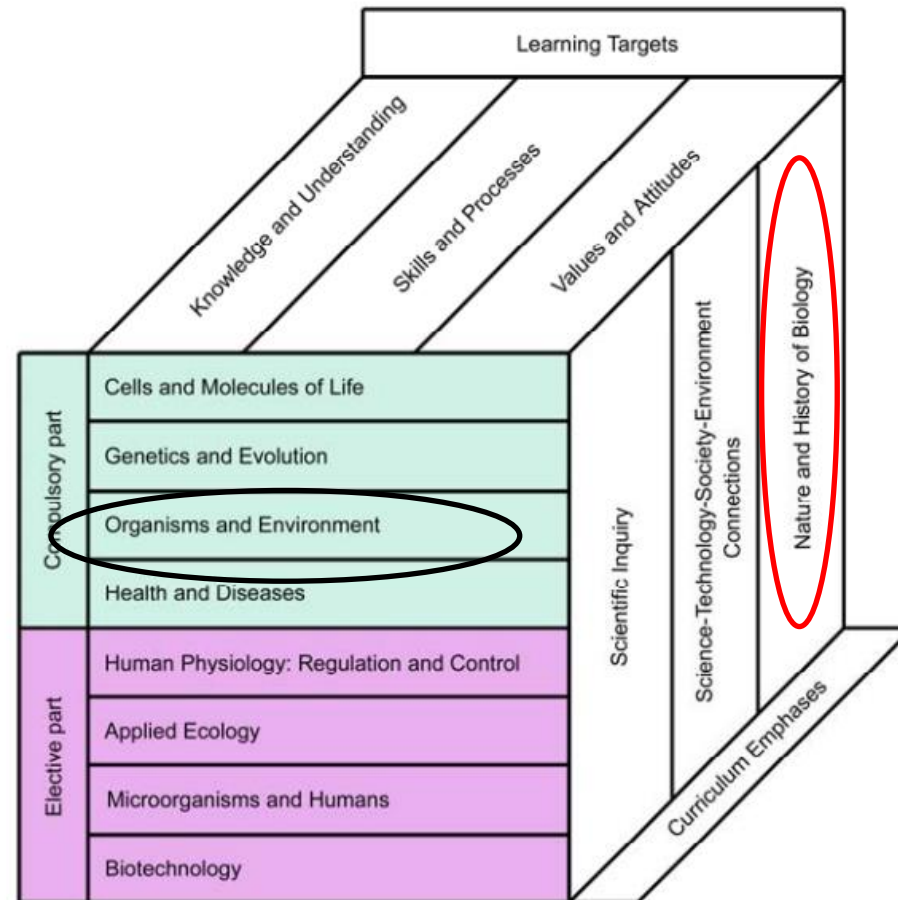
# Biodiversity and Evolution Education

- Helps visitor develop curiosity and interest in origin of life, and the respect to life and the environment
- Helps visitor understand the dynamic nature of natural selection and speciation, and how they arise to the present biodiversity





# Biodiversity and Evolution Education



Science Education Key Learning Area, Biology Curriculum and Assessment Guide (S4 – 6), EDB, Hong Kong, 2015

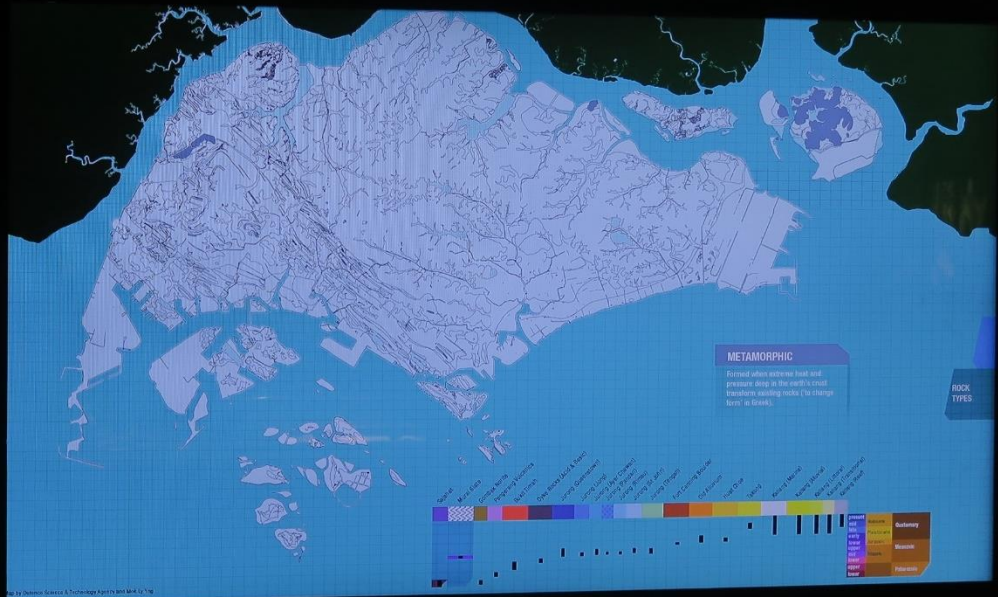
# Biodiversity Challenges

- Compares the 'now' and 'past' – what have taken place in Singapore
- Emphasizes the factor of humans in land use: changing the landscape and habitats
- Addresses today's biodiversity problems caused by historical events





- Cross-disciplinary biogeographical analysis to raise awareness on the inextricable relationship between abiotic factors and biotic factors

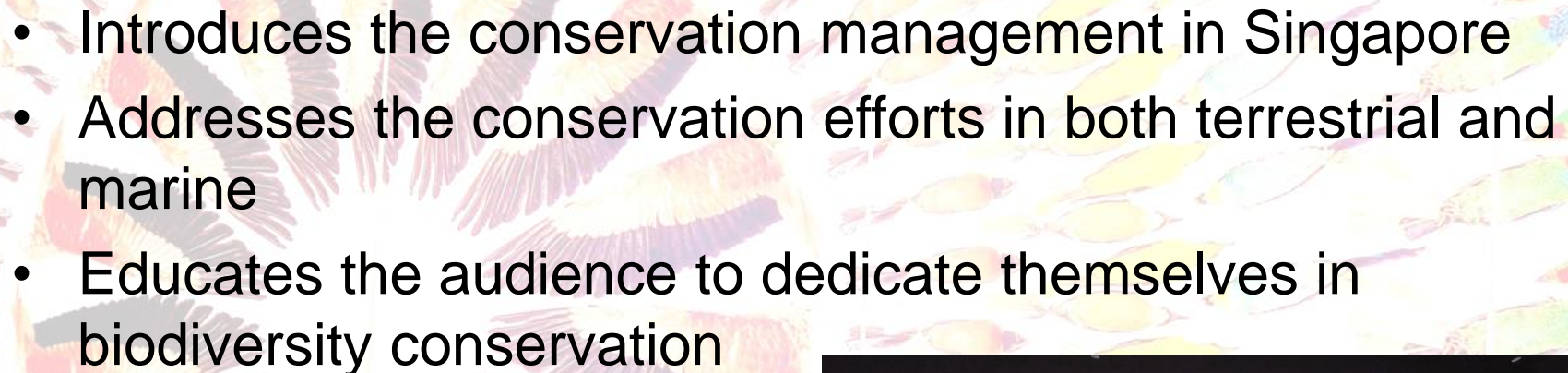


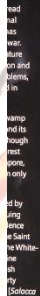
# Biodiversity Challenges

- Alarms the audience about extinction and near-extinction events in Singapore since 19<sup>th</sup> century





- 
- Introduces the conservation management in Singapore
  - Addresses the conservation efforts in both terrestrial and marine
  - Educates the audience to dedicate themselves in biodiversity conservation





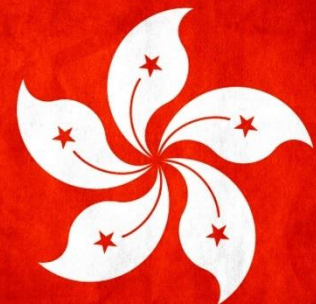


# Comparisons between Lee Kong Chian Natural History Museum and Hong Kong Museum of History

-By Edwin Kwok



VS





# Outline

1. Vision and Mission (Input)
2. Exhibition
3. Outcome (Output)



# Vision and mission

## NUS

- Stresses on biodiversity in Singapore and southeast Asia, chiefly on the richness of flora and fauna
- Raises the public's awareness by holding outreach to natural reserves
- Visualize biodiversity by a collection of specimen



# Vision and mission

## HK Museum of History

- Introduces visitors the history of Hong Kong, comprising natural history and human history
- Emphasizes on the history of modification of landscape in Hong Kong by human
- Simulates the pre-historical landscape of Hong Kong

# Exhibition

- NUS museum illustrates biodiversity by **specimens** and **multimedia approach**, while HK Museum of History utilizes a more conventional way, **high-fidelity diorama**
- NUS museum stresses on **multisensory learning**, whereas screens in HK Museum of History are still **old-fashioned**
- Every exhibition in NUS museum is **well-labelled**, whilst Hong Kong Museum of History tends to give a **general picture** to visitors





# Meticulous plant specimens



# Specimens demonstrating fungal diversity!





# A copious collection of invertebrate specimens







High fidelity  
diorama mimicking  
the landscape of  
ancient Hong Kong







Specimens

Models



# Multisensory presentation

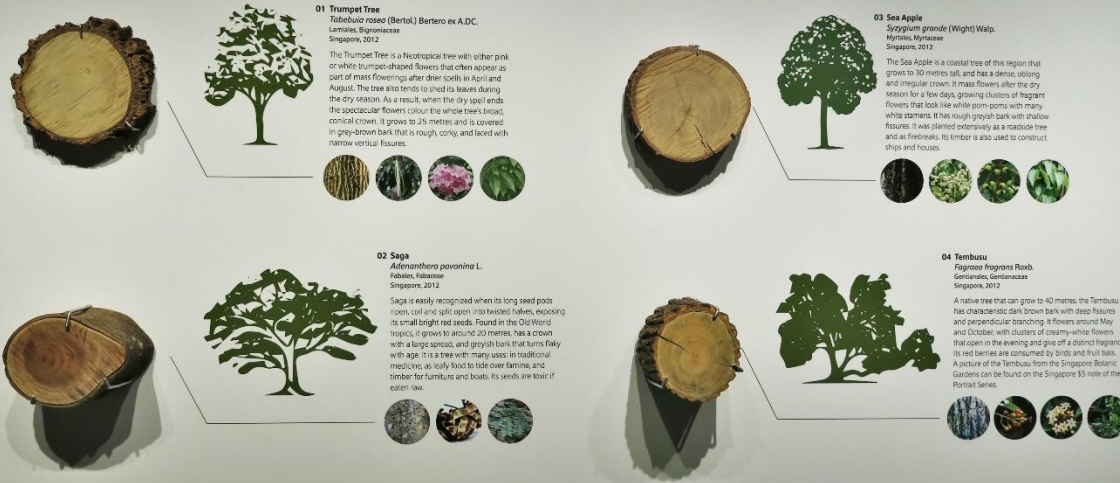


Videos

Microscopic slides



## Ten common trees in Singapore



Appreciate the diversity of texture of tree trunk, exemplified by some common roadside trees in Singapore, by first-hand experience





## High fidelity dioramas in Hong Kong Museum of History



Asian Black Bear



South China Tiger



# Outcome

- **After NUS Natural History Museum:**
  - A thorough understanding on **landscape and vegetation in Singapore**
  - Increased knowledge towards **life, phylogeny and geology**
  - **Appreciation** of life, conservation and biodiversity
- **After HK Museum of History:**
  - A comprehensive picture on **history of Hong Kong**, but more on human history
  - Modification of landscape by settlers
  - **Timeline** of development in Hong Kong



# Conclusion

	HK Museum of History	NUS Natural History Museum
Main theme	History (Natural history as a part in the timeline of Hong Kong history)	Life, biodiversity and conservation (History as a part to introduce biodiversity)
<b>History</b>		
-Coverage	Detailed and multifaceted	Change of landscape and vegetation only
-Annotation	Connection between human's life and landscape	Mechanism of formation
<b>Life and biodiversity</b>		
-Specimen collection	Confined to several groups of animals only, like butterfly and Mollusk	A comprehensive review of biodiversity ranging from plants to mammals
-Annotation	<b>Simple introduction</b>	<b>Underlying causes of a phenomenon or observation</b>

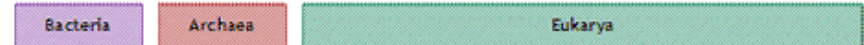


# MAP



## Kingdoms and Domains

### The three-domain system



### The six-kingdom system

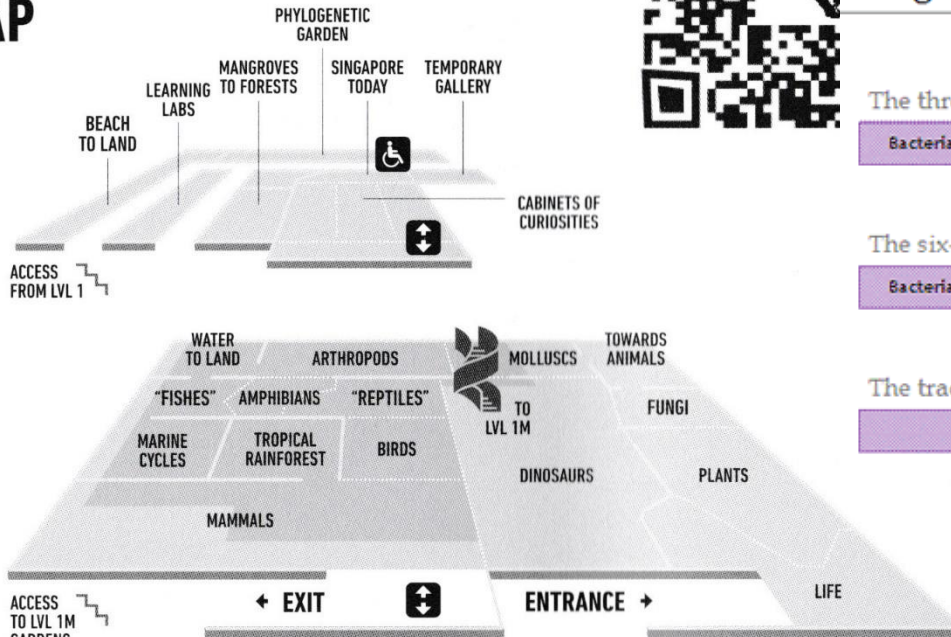


### The traditional five-kingdom system



HERITAGE  
GALLERY  
LVL 1M

BIODIVERSITY  
GALLERY  
LVL 1



## ENTRANCE BIODIVERSITY OF EARTH

As you enter the gallery, the number of known species is displayed beside each group of living organisms. For example, there are a few thousand species of mammals and over one million species of insects! This does not include the new species which have yet to be described.

Based on  
phylogenetic tree



**G1**

The Natural Environment

**G2**

Prehistoric Hong Kong

**G3**

The Dynasties:  
From the Han to Qing

**G4**

Folk Culture in Hong Kong

**G5**

The Opium Wars  
and the Cession of  
Hong Kong

**G6**

Birth and Early  
Growth of the City

**G7**

The Japanese  
Occupation

**G8**

Modern Metropolis  
and the Return of  
China



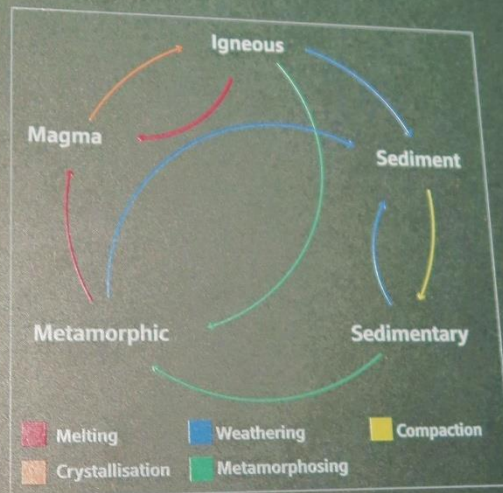
# Timeline of Hong Kong history





Metamorphic  
rock

At a glance



A flow chart  
explaining rock  
cycle





The orange coloration of Lea's Mycena comes from the pigment—**Leainafulvene**



**Lea's Mycena**  
*Mycena leaiana* (Berk.) Sacc. 1891  
Basidiomycota

This species has a distinctive orange colouration caused by the pigment leainafulvene that may have antibiotic properties.







La vita bella!  
(Beautiful life)







# **SUGGESTIONS FOR IMPROVEMENT**

**-By Joanna Law**





# IMPROVEMENT



- Videos on the screen are played automatically
  - Difficult to catch the information
- **Better use touchscreen**
  - Visitors can choose the information that they want to read





# IMPROVEMENT



- Better route guidance
  - Visitors can follow a learning journey
  - From general to specific
  - Linkage between different zones
  - add some footprints on the floor/number the zones





# IMPROVEMENT

- Loud voice of tour guiding may disturb other visitors
  - use wireless tour-guiding device (transmitter and receiver)
    - E.g. Dazu Rock Carvings Heritage Site in Chongqing







# IMPROVEMENT

- Use audio tour-guiding
  - Visitors can learn more about the exhibitions even when there is no tour guide
  - E.g. The Metropolitan Museum of Art, New York







# IMPROVEMENT

- Focus more on the message of conservation
  - Display many specimens and provide the names of the species
  - but seldom mention what threats the species are facing







Thank you!  
多謝!  
Terima kasih!  
நன்றி!