

# Biodiversity Capacity Building in Malaysia using Information Technology

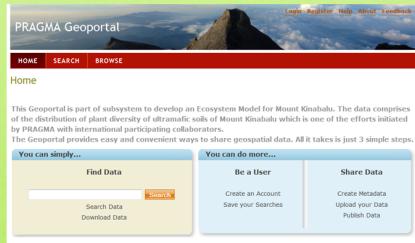
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## Abstract

Biodiversity has been known to suffer from information lost due to mismanagement of biodiversity data, the non-existence of digitized information from legacy hardcopy files and folders, the lack of data sharing initiative and most importantly the limited outreach of biodiversity information to the general public. These few issues are trivial in preserving the vast flora and fauna information especially in regions classified as “megadiversity”, and generally around the world. Known as one of the largest megadiversity, ironically, Malaysia did not have a significant information shared globally, stored systemically, and promoted extensively. As part of the Pragma Biodiversity team, we act as the knowledge discovery node in the Pragma Cloud in addition to providing local datasets. With the experience gained from our international partners, we also highlight our attempts in building biodiversity capacity for Malaysia with the help of information technology.

## Metadata Discovery via Geoportal

- ✓ Part of the Pragma Cloud to study plant adaptation in ultramafic environment
- ✓ Hosted metadata for Mount Kinabalu flora species, district boundaries, hydrology, etc.
- ✓ One stop geoportal to consolidate existing datasets
- ✓ [http://mapping.fbb.utm.my:8080/pragma\\_geoportal](http://mapping.fbb.utm.my:8080/pragma_geoportal)



## Information Sharing via GBIF

- ✓ 1<sup>st</sup> & only node in M'sia (endorsed by ACB)
- ✓ Malaysian amphibians
  - 103 records/23 families
  - 64 distribution records
- ✓ Malaysian reptiles
  - 157 records/10 families + distributions
  - 147 vernacular names
- ✓ Malaysian moss
  - 5 records/2 families
- ✓ Malaysian ferns
  - 8 records
- ✓ Malaysian mangrove
  - 66 records/28 families
  - 64 distribution records
- ✓ <http://birg4.fbb.utm.my:8080/ipt>

## Information Management via Phyknome

- ✓ Ethnobotanical & Phytochemical Knowledge DB
- ✓ Primarily 20,000 species of Malaysian plants with
  - Medicinal values based on parts
  - Photos/galleries
- ✓ Faceted search based on:
  - Scientific/common name
  - Medicinal usage (disease)
  - Chemical constituents
- ✓ Curated from online & hardcopy resources
- ✓ Crowd sourcing of data population + social sharing
- ✓ <http://mapping.fbb.utm.my/phyknome>



## Information Exposure via Mobile App

- ✓ Two pioneer apps based on Malaysian species:
  - Amphibian recognition android application
  - Bird recognition android application
- ✓ Educate general public on fauna species
- ✓ Knowledge-based species recognition based on distinct features
- ✓ New species discovery by crowd sourcing
- ✓ Available at Google Play

