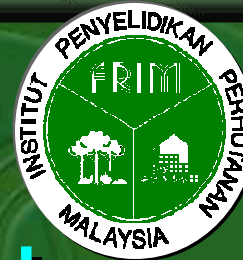


Role of the CHM in Supporting the Development, Implementation and Updating of NBSAPs;

Getting the message across

17 January 2008
Singapore

Dr. Gary W. Theseira



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Traits of Highly Successful CHMs

- ❖ Information deemed Necessary (Accessed)
- ❖ Information deemed Useful (Summarized into meta data)
 - ❖ Planning
 - ❖ Reporting
 - ❖ Assessment / Evaluation
- ❖ Information deemed Current (Regularly Updated)
- ❖ As much, if not more, for 'Inside Users' as for 'Outside Users'
 - ❖ What 'Inside Coverage' are we achieving?
 - ❖ What 'Inside Coverage' do we actually need?

The CHM as a Management and Policymaking Tool

- ❖ Puts Stakeholders on the same page
- ❖ Shows strengths together with information gaps
- ❖ Helps coordinate activities and initiatives
- ❖ Facilitates communication
 - ❖ Stakeholder concerns and input
- ❖ Facilitates buy in
 - ❖ Early buy-in
 - ❖ Comprehensive buy-in



The Malaysian NBSAP Model:

- ❖ Acknowledgement of the need;
- ❖ Support for the concept;
- ❖ Approval of funding;
- ❖ Research and Information dissemination incorporated into 5-year Development Plan
- ❖ Incorporation of the findings into the National Physical Plan
- ❖ THE ESTABLISHMENT OF AN EFFICIENT, EQUITABLE AND SUSTAINABLE NATIONAL SPATIAL FRAMEWORK TO GUIDE THE OVERALL DEVELOPMENT OF THE COUNTRY TOWARDS ACHIEVING DEVELOPED NATION STATUS BY 2020.

The Malaysian NBSAP Model:

- ❖ What about Policies and Development Plans that might not have a Physical Aspect or
- ❖ Policies and Development Plans that are not covered or only partially covered under the NPP
 - ❖ Automobile and to some extent, transport policy
 - ❖ Fuel policy
 - ❖ Trade policy
 - ❖ Climate change and GHG emissions policy

Identifying and Reconciling conflicting or competing policies

- ❖ Strengths; What are we doing right (that we should continue doing)?
- ❖ Dire Needs; What must we do or stop doing, or change or redirect NOW!
- ❖ Needs; What should we be doing to be able to do the things we are currently not doing well or are unable or unwilling to do?
- ❖ Engaging rather than marginalizing or antagonizing stakeholders and policy and decision makers involved in planning and development.
- ❖ Priority setting in Mainstreaming Biodiversity
 - ❖ What development activities are Biodiversity Unfriendly?
 - ❖ What development activities are Biodiversity Neutral?
 - ❖ What development activities are Biodiversity Positive?

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Coverage and Penetration Challenges

- ❖ How do we capture the attention of ALL groups of pertinent stakeholders
 - ❖ Ministries
 - ❖ Government Agencies
 - ❖ Research Institutes
 - ❖ Academia
 - ❖ Media
 - ❖ Business
- ❖ How do we get the entire message across effectively to optimize impact.



Focus on Communication and Information Sharing

- ❖ Awareness building (Generating pull in addition to merely pushing)
- ❖ Informing planners and stakeholders what questions they need to be asking us, the biodiversity community, to get the 'right answers'



FPM-Online in Pictures: Name/Fragment search

Microsoft Internet Explorer window showing the Flora of Peninsular Malaysia Online website. The address bar displays http://www.tfbc.frim.gov.my/asp/member_main.asp.

The website header includes the logo of the Institut Penyelidikan Perhutanan Malaysia (FRIM) and the text "Flora of Peninsular Malaysia Online" and "Tropical Forest Biodiversity Centre". A "Logout" button is visible.

The main content area features a "Search" section with the instruction: "Please use this search engine to get results."

The search form includes the following fields and options:

Categories	Query by value	
Plant Name	<input type="text"/>	Habit <input type="text" value="Any"/>
Author	<input type="text"/>	Habitat <input type="text" value="Any"/>
	<input checked="" type="radio"/> Any name or fragment	States <input type="text" value="Any"/>
	<input type="radio"/> All names, fragments or combination thereof	Endemic/Naturalized <input type="text" value="Any"/>
	<input type="checkbox"/> Show records with pictures only	

Buttons: Execute Query, Reset Form

Left sidebar menu:


- Welcome Mr. khairudin
- MAIN MENU
 - My Profile
 - Acknowledgements
 - Field Definition
 - Other Plant Databases
- DATABASE
 - Browse Plants
 - Search
 - Logout

Funded by Ministry of Plantation Industries and Commodities

FPM-Online in Pictures: Hits/Plant profile/Photo-illustration

Flora of Peninsular Malaysia Online - Microsoft Internet Explorer

Flora - Plant Details - Picture - Microsoft Internet Explorer



Flora of Peninsular Malaysia Online
http://www.tfbc.frim.gov.my

Etlingera maingayi - Inflorescence
[Close Window]

Flora - Plant Details - Microsoft Internet Explorer

Flora - Plant Details - Microsoft Internet Explorer

Address: http://www.tfbc.frim.gov.my/asp/detail.asp?key=8760

Plant Profile
Etlingera maingayi (Baker) R. M. Sm.

Family	Zingiberaceae
ssp. / var.	var. maingayi
Endemic / Naturalized	Phaeomenia maingayi (Baker) K. Schum., FMP4 272, H Phaeomenia maingayi (Baker) K. Schum. var. longibrac Etlingera maingayi (Baker) R. M. Sm. var. longibrac
Synonyms	


Plant Description

Habit	creeping, sometimes walking, herb to 3 m tall
Habitat	lowland forest

Distribution

Distribution	Ps, Kd, Kl, Pk, Ph, Sl, Jh
States	Ps, Kd, Kl, Pk, Ph, Sl, Jh

Pictures (click on the thumbnail to see an enlargement)



[Close Window]

*States: Jh - Johor, Kd - Kedah, Kl - Kelantan, MI - Melaka, Ns - Negeri Sembilan, Ph - Pahang, Pk - Perak, Pn - Penang, Ps - Perlis, Sl - Selangor, Sp - Singapore, Tg - Terengganu, Lg - Langkawi

8758	Etlingera fulgens	Zingiberaceae	
8759	Etlingera littoralis	Zingiberaceae	
8760	Etlingera maingayi	Zingiberaceae	var. main
8761	Etlingera maingayi	Zingiberaceae	var. ovata Lim

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FPM-Online in Pictures: Mar & Apr Newsletters



Flora of Peninsular Malaysia Online
Tropical Forest Biodiversity Centre

Volume 3/3 2006

Newsletter

Posted: March 17, 2006

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In the spotlight

Scaevola taccada

Scaevola taccada is a member of the Goodeniaceae family, comprising about 10 genera, most of which are Australian. *Scaevola* is the sole pan-tropic genus, ranging west to India, Pakistan and Madagascar and east to Micronesia, Melanesia and Hawaii. Specimens brought to the US mainland from Hawaii as ornamentals have escaped and this species is now classified there as an exotic invasive. This large shrub has smooth, shiny leaves of a pleasant light green colour and attractive 'half flowers' (flowers with a dorsally split corolla tube) that are white with brownish red stripes. Fruits develop from the green calyx and ripen to a creamy, white drupe. This shrub inhabits areas of high salinity and can be found primarily in sandy, sometimes in partially rocky or muddy, shorelines and coastal dune soils, sometimes right down to the high tide mark. It is used medicinally in Hawaii and the Pacific Islands and has ornamental potential.



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<ul style="list-style-type: none"> ▶ <i>Adiantum malesianum</i> ▶ <i>Arecia montana</i> ▶ <i>Arecia ridleyana</i> ▶ <i>Arecia triandra</i> ▶ <i>Arecia tunku</i> ▶ <i>Arenaria fastata</i> ▶ <i>Arenaria hookeriana</i> ▶ <i>Arenaria westhousii</i> ▶ <i>Blechnum vestitum</i> ▶ <i>Borassodendron machadonis</i> ▶ <i>Calamus laevigatus</i> ▶ <i>Calamus lobbianus</i> ▶ <i>Calamus ornatus</i> ▶ <i>Calamus paspalanthus</i> ▶ <i>Cinnamomum porrectum</i> ▶ <i>Catocalyx forbesii</i> ▶ <i>Durio malaccensis</i> ▶ <i>Dyera costulata</i> ▶ <i>Hopea beccariana</i> ▶ <i>Hopea sulcata</i> 	<ul style="list-style-type: none"> ▶ <i>Calamus blumei</i> ▶ <i>Calamus burkilianus</i> ▶ <i>Calamus concinus</i> ▶ <i>Calamus comeni</i> ▶ <i>Calamus diaphanostylis</i> ▶ <i>Calamus sinuatus</i> ▶ <i>Calamus stipendulus</i> ▶ <i>Calamus rabellatus</i> ▶ <i>Calamus insignis</i> var. <i>insignis</i> ▶ <i>Calamus javanicus</i> ▶ <i>Microsorium scolopendrium</i> ▶ <i>Polyalthia clavifera</i> ▶ <i>Pterocymbium tinctorium</i> ▶ <i>Sarcoca cauliflora</i> ▶ <i>Sarcobotheca griffithii</i> ▶ <i>Scaevola taccada</i> ▶ <i>Shorea leprosula</i> ▶ <i>Shorea pauciflora</i> ▶ <i>Vanilla piliifera</i> ▶ <i>Vitexia ensiformis</i> var. <i>ensiformis</i>
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● FPM Online now features a link to Conservation Malaysia, a bulletin supporting plant and animal conservation in Malaysia.

FPM at a glance



Membership: 161



Plant profiles: 8893



Photo-illustrated taxa: 229

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- Remember that you can save your hit list as a Microsoft Excel File.
- Upon registration, you will receive the Electronic FPM newsletter at your designated e-mail address.

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Tropical Forest Biodiversity Centre

Volume 4/4 2006

Newsletter

Posted: May 04, 2006

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In the spotlight

Pneumatopteris callosa

This strange fern, previously known as *Cyclosorus dicranogramma* (V.A.F.) Ching, is one of the little oddities of the Cameron Highlands, the only location in Peninsular Malaysia from which it has been recorded. Unlike most ferns, whose coiled fronds (crosses) uncoil upward, this fern's young fronds frequently have a bend in the stipe, resulting in an inverted structure somewhat resembling a saxophone. The crosser, with the tightly curled young pinnae, then uncurls in this inverted fashion, somewhat resembling the trunk of an elephant, before finally straightening out into its final, erect form. Throughout its development, the young frond is sheathed in a slimy layer of semi-transparent mucilage. Exuding mucilage was previously thought to be a mechanism to protect developing fronds from excessive moisture loss but is now better understood as a mechanism to facilitate water loss from developing tissues, in place of the transpiration demand that would normally occur in mature fronds, for the continued uptake of water and minerals, from the soil. In the process, however, this layer of mucilage is also acts as a barrier to gas exchange between the fern and the environment. To overcome this problem, *P. callosa* develops long aerophores at the base of each developing pinna. These aerophores extend through the mucilage layer to the air outside, enabling the fern to exchange gases with the environment. The aerophores are white when young, giving the crosser the appearance of a coiled millipede, but darken and shrivel as the frond straightens and matures. The only other fern in Peninsular Malaysia with equally prominent aerophores is *Plagiogygia tuberculata* Copel, also found in the Cameron Highlands, but at higher elevations. Other interesting aspects of this fern include a membranous structure located between adjoining lobes of the pinnae, called a sinus membrane, and relatively large, bright yellow spores.



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Plant profile
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<ul style="list-style-type: none"> ▶ <i>Agathis borneensis</i> ▶ <i>Barringtonia acutangula</i> ssp. <i>spicata</i> ▶ <i>Bauhinia bidentata</i> var. <i>bidentata</i> ▶ <i>Bauhinia glauca</i> ▶ <i>Bauhinia pottii</i> var. <i>molliissima</i> ▶ <i>Calamus peregrinus</i> ▶ <i>Calamus sedentis</i> ▶ <i>Calamus spectabilissimus</i> ▶ <i>Caspiandra parvula</i> ▶ <i>Cassia javanica</i> ▶ <i>Dipterocarpus rigidus</i> ▶ <i>Dipterocarpus sarawakensis</i> ▶ <i>Eugenia banyastachys</i> ▶ <i>Eurycea longifolia</i> ▶ <i>Fagraea gigantea</i> ▶ <i>Gluta aptera</i> ▶ <i>Heisteria simplicifolia</i> ▶ <i>Intsia palmibanka</i> ▶ <i>Lagerstroemia langkawiensis</i> 	<ul style="list-style-type: none"> ▶ <i>Ceratolobus minjaricus</i> ▶ <i>Chrosiothes longifolia</i> ▶ <i>Cyrtandra pendula</i> ▶ <i>Dendrophthoe incanata</i> ▶ <i>Derris microphylla</i> ▶ <i>Dialium platysepalum</i> ▶ <i>Dillenia grandifolia</i> ▶ <i>Diplochloa kunsteri</i> ▶ <i>Dipterocarpus kerrii</i> ▶ <i>Dipterocarpus oblongifolius</i> ▶ <i>Lagerstroemia speciosa</i> ▶ <i>Licuala comeni</i> ▶ <i>Melaleuca cajuputi</i> ▶ <i>Mussaenda bicuspidata</i> ▶ <i>Parkia floribunda</i> ▶ <i>Pneumatopteris callosa</i> ▶ <i>Sarcoca cauliflora</i> ▶ <i>Shorea acuminata</i> ▶ <i>Shorea maxwelliana</i> ▶ <i>Sindora chinocalyx</i>
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A Bulletin Supporting Plant and Animal Conservation in Malaysia

Conservation Malaysia

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Welcome to Conservation Malaysia. A periodical bulletin, supported by the Timber Levy Fund, aimed at disseminating information related to the conservation of b December 28 2007

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Current Issue of Conservation Malaysia; 6/2007



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- No. 2/2006
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Note: Published twice yearly. We welcome contributions from interested parties. Please contact us at floraonline@frim.gov.my (attn: Dr. Saw Leng Guan or Dr. Lilian Chua Swee Lian).

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The Tropical Forest Biodiversity Centre at FRIM welcomes qualified assessors to aid in the task of assessing the threat and conservation status of December 28 2007

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Home > Malaysia Plant Red List - Guide to Contributors > Foreword by the Director General

View/Download the Malaysia Plant Red List - Guide to Contributors

File Format

- Document Cover (front and back)
- Table of Contents, Foreword and Acknowledgements
- Introduction and Guide to Filling in the Taxon Data Information Sheet
- Taxon Data Information Sheet 1 ver workshop (revised 3)

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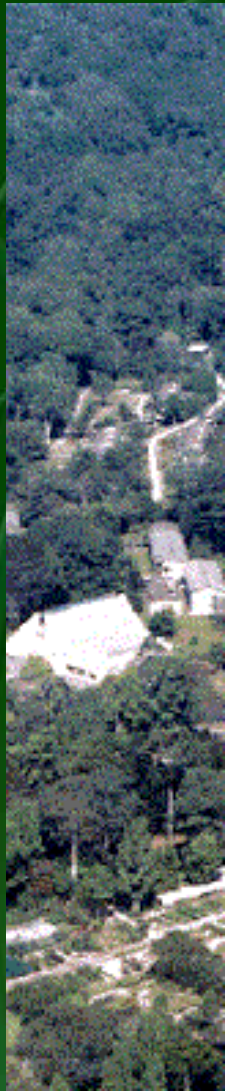
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Malaysia Plant Red List Project
c/o Tropical Forest Biodiversity Centre
Forest Research Institute Malaysia (FRIM)
52109 Kepong
attn: Dr. Saw Leng Guan or Dr. Lillian Chua Swee Lian

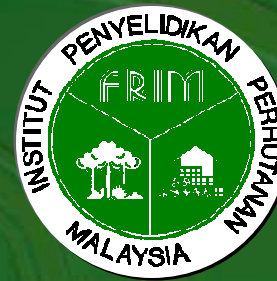
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What is missing from the CHM?



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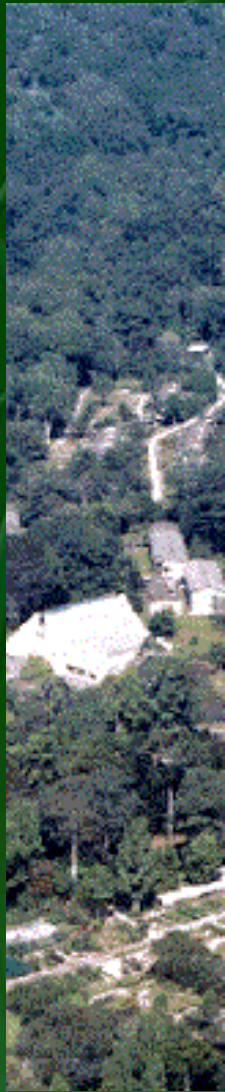
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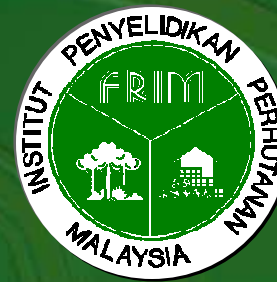
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Terima kasih!
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15



Malaysia and the CBD

- ❖ Status
 - ❖ Convention Party since: 1994-06-24
 - ❖ By: Ratification
 - ❖ Protocol Party since: 2003-12-02
 - ❖ By: Ratification
- ❖ National Reports submitted: 3
- ❖ National Policy on Biological Diversity - April 16 1998
- ❖ National Biodiversity Strategy Action Plan
- ❖ Implementation of the Convention
 - ❖ Measures Taken to Achieve the 2010 Target
 - ❖ Initiatives in Protected Areas
 - ❖ Initiatives in Access and Benefit Sharing
 - ❖ Initiatives for Article 8(j)



Bio-D database activities to date ...

- ❖ Hiring of additional staff
 - ❖ Information Officers
 - ❖ Research Assistants
 - ❖ GIS/RS Specialists
- ❖ Purchase of software
- ❖ Purchase of hardware
- ❖ Upgrading of existing web and data servers
- ❖ Meetings with stakeholders
 - ❖ Universities
 - ❖ Government Agencies
 - ❖ Federal
 - ❖ State
 - ❖ District/Local
 - ❖ Relevant NGOs
- ❖ Meetings with Web Development and Database Consultants
 - ❖ Database development
 - ❖ Content Management System (CMS)
 - ❖ Member Management System (MMS)
 - ❖ Spatial data management



Current Status of the Bio-D Database

- ❖ Maintained as part of the CBD National Clearing House Mechanism
- ❖ Links to more than 100 web locations
 - ❖ MEAs
 - ❖ Membership particulars and pertinent documents
 - ❖ Policy Documents
 - ❖ Environmental policy documents
 - ❖ Relevant legislation
 - ❖ Implementing Agencies and National Focal Points
 - ❖ Research Institutes
 - ❖ Universities
 - ❖ Non-Governmental Organisations
 - ❖ Biodiversity and Environment-related Publications
 - ❖ Books
 - ❖ Periodicals and newsletters



Current Status of the Bio-D Database

- ❖ Biodiversity Checklists
 - ❖ Vascular flora (Peninsular Malaysia)
 - ❖ Mammal
 - ❖ Reptile
 - ❖ Amphibian
 - ❖ Marine Algae
 - ❖ Freshwater Crabs
 - ❖ Freshwater Fish
 - ❖ Marine Fish
- ❖ Expert database
- ❖ Specimen database
- ❖ Habitat/Ecosystem Information
- ❖ Threat Assessment and Conservation Status



Malaysia's NBSAP at a glance

- ❖ Formulated over the course of several retreats, workshops and meetings.
- ❖ Consists of 14 strategies and 87 actions.
- ❖ **OBJECTIVE:** To ensure that biodiversity in Malaysia will be conserved and utilized in a sustainable manner.
- ❖ **VISION:** To transform Malaysia into a centre of excellence for conservation, research and sustainable use of tropical biodiversity by the year 2020.
- ❖ Development of additional sectoral policies and laws governing biodiversity:
 - ❖ policy for protection of plant genetic resources;
 - ❖ inventorying poorly-known groups of biological organisms such as lower plants and insect diversity;
 - ❖ increasing the number of Virgin Jungle Reserves;
 - ❖ implementing the National Policy for Integrated Coastal Zones Management;
 - ❖ commitment to maintain at least 50% of its forest cover and trees in perpetuity at the Rio Summit in 1992.



National Biodiversity Policy Strategy I : Improve the scientific knowledge base

❖ Programmes and Activities:

- ❖ Listing of Literature on vascular and non vascular plants; fungi, vertebrate (estimate: 12,500 species)
- ❖ Department of Agriculture (DOA) – Database on insects collection 1905-2005 is in progress.
- ❖ DOA program survey on itch grass (*rotboella cochinchinensis*),
- ❖ survey on golden apple snail (*Pamocea insularis*) and survey on white flies and leaf miner (planned for 2006/2007)
- ❖ Forest Research Institute of Malaysia (FRIM) organized workshop June 2005 on status of biodiversity in Malaysia
- ❖ Wildlife Department's programmes on species recovery through in situ conservation
- ❖ KRSTE.my - information portal - single point access facility by Ministry of Science, Technology and Innovation
- ❖ Integrated Spatial Biodiversity database programme– using Remote Sensing technology



National Biodiversity Policy Strategy II : Enhance sustainable utilization of the components of biological diversity

❖ Programmes and Activities:

- ❖ Establish Herbal Tropical Centre in FRIM (GMP std); Research related to Natural Resource Accounting;
- ❖ Establishment of a Proteomic centre
- ❖ IGS collaboration and MOUs with other agencies and the private sector
- ❖ Provide technical consultants undertaken for private sector
- ❖ Maximize utilization of lesser-known timber and wood resources; waste minimization; recycle wood waste and agriculture by-products
- ❖ Drug discovery programmes, medicinal plant research, macro and micro propagation, molecular breeding and genetic engineering of selected species, proteomic research
- ❖ Assessment of fauna and flora for Environment Impact Assessment by Department of Environment to assess development projects



National Biodiversity Policy Strategy III : Develop a centre of excellence in industrial research in tropical biological diversity

❖ Programmes and Activities:

- ❖ All departments and government agencies have regular capacity building programmes, education and training programmes for staff members
- ❖ FRIM established Timber Technology Centre provides incubation programmes, equipment and machinery demonstration, product design and prototyping, product quality testing and consulting services
- ❖ MARDI is developing useful and commercially potential products from agrobiodiversity
- ❖ Genetic enhancement and genetic base broadening in PGRFA by MARDI
- ❖ Phytochemical and nutraceutical analysis of plants for useful products by MARDI
- ❖ Human Resource Development Fund for Science and Technology by Ministry Of Science, Technology and Innovation



National Biodiversity Policy Strategy IV: Strengthen the institutional framework for biological diversity management

❖ Programmes and Activities:

- ❖ The establishment of Ministry of Natural Resources and Environment (NRE) in April 2004
- ❖ National Council on Biodiversity and Biotechnology was established in 2002
- ❖ Malaysia also added National Physical Plan (NPP) which includes conservation natural resources and the environment as a major element in the national physical development.
 - ❖ Integrate ESAs in the planning and management of land use and natural resources to ensure sustainable development.
 - ❖ Establish a CFS to form the backbone of the Environmentally Sensitive Area network.
 - ❖ Sensitive coastal ecosystems protected and used in a sustainable manner.
 - ❖ Land development in highlands strictly controlled to safeguard human safety and environment quality.
 - ❖ All surface and ground water resources are strategic assets to be safeguarded and use optimally.

National Biodiversity Policy Strategy V: Strengthen and integrate conservation programmes

❖ Programmes and Activities:

- ❖ Inclusion of Permanent Forest Areas as Protected Areas (under Min of Primary Industries – forested State Land to be gazetted as Forest Reserves; degazetted areas to be reviewed; expansion of VJR focusing on mountainous areas; Seed Production Areas; public participation for in situ conservation)
- ❖ Department of Wildlife determines minimum viable population sizes for species and critical minimum size of conservation areas;
- ❖ Department of Wildlife involves public participation in conservation
- ❖ FRIM has Ex-situ collections of dipterocarps, lesser known tree species, fruit trees, monocotyledons (palms, orchids, ginger), conifers, species associated with ethnobotany held in arboreta
- ❖ MARDI conduct programmes on Species and Genetic variability; arboreta, seed gene banks and planning on farm Conservation for indigenous fruits, herbs and medical plants
- ❖ Department of Fisheries established Protected Areas for Fisheries such Kelisa breeding and Turtle

National Biodiversity Policy Strategy VI: Integrate biological diversity considerations into sectoral planning strategies

❖ Programmes and Activities:

- ❖ National Physical Plans incorporate Environmentally Sensitive Areas
- ❖ Strategic Environmental Assessment in national physical development
- ❖ Malaysian Criteria Indicators for sustainable forest management
- ❖ Department of Fisheries introduces Code of Conduct for Responsible Fisheries
- ❖ Biodiversity conservation and sustainable utilisation component in National Agriculture Policy (NAP³)

National Biodiversity Policy Strategy VII: Enhance skill, capabilities and competence

❖ Programmes and Activities:

- ❖ Increase the number of young graduates to be trained in the fields of botany, entomology, zoology and biotechnology at local universities.
- ❖ Ministry of Science, Technology and Innovation is creating Database on experts/researchers
- ❖ Collaboration with International Organizations to enhance skill, knowledge and capacity in all sectors



National Biodiversity Policy Strategy VIII: Review legislation to reflect biological diversity needs

Legislation framework

❖ Programmes and Activities:

- ❖ Reviewed legislations – Town Country Planning Act 1976 s.36A – inclusions of Sensitive Environmental Area among others
- ❖ Wildlife Protection Act 1972 is under review to include more holistic biodiversity management
- ❖ New Plant Variety Protection Bill which includes phytosanitary research and provisions for identification and monitoring of alien species
- ❖ Proposed Environmental Impact Assessment review in Environment Quality Act
- ❖ Proposed Biosafety Bill by Ministry of Natural resources and Environment
- ❖ Proposed ABS Bill by Ministry of Natural Resources and Environment
- ❖ New Plant Variety Protection Act which includes phytosanitary and provisions for alien species

National Biodiversity Policy Strategy X: Minimize the impact of human activities on biological diversity

❖ Programmes and Activities:

- ❖ Department of Wildlife – Tiger encroachment capture programme, translocation and compensation scheme
- ❖ Establishment Genetic Modification Committee (GMAC) in 1998 - administrative and monitoring mechanism on transboundary movement of GMO and LMO. Malaysia also introduced Guideline on Releasing Genetic Modified Organism to the Environment 1998, by Ministry of Science, Technology and Environment.
- ❖ EIA provisions on assessment of fauna and flora for some specific development projects
- ❖ Department of Agriculture (DOA) have Plant Quarantine Act to minimize the impact on biodiversity; promotes Best Agriculture Practice and enforce pesticides registration to minimize the impact on biodiversity
- ❖ Department of Forestry – monitoring impacts on development of peatland ecosystems
- ❖ Town and Country Department – enforcing Section 21a Town Country Planning Act 1976 LCP process has provision for Island development and creating Green areas/recreational areas.
- ❖ Integrated Coastal Zone Policy to reduce impact on coastal biodiversity

National Biodiversity Policy Strategy XI: Develop policies, regulations, laws and capacity building on biosafety

❖ Programmes and Activities:

- ❖ Biosafety Bill to be tabled in the parliament
- ❖ Department of Chemistry provides Facilities to detect Genetically Modified Organisms

National Biodiversity Policy Strategy XII: Enhance Institutional and public awareness

❖ Programmes and Activities:

- ❖ Collaboration with ASEAN members in many aspects of biodiversity research and management such as ASEAN Agreement on Nature and Natural Resources, ASEAN Agreement on the Establishment of ASEAN Centre for Biodiversity, Sulu-Sulawesi marine ecoregion.
- ❖ Collaboration and cooperation at the regional level such as Bay of Bengal large Ecosystem Projects.
- ❖ Collaboration and cooperation with several developed countries in many aspects of biodiversity research and management such as Borneo Biodiversity (BBEC) project with Japanese government, and many biodiversity projects with Danish government (DANIDA).
- ❖ Collaboration and with international organizations such as GEF, ITTO, ITPGRFA, CIFOR, JICA, DANIDA
- ❖ Collaboration through MARDI Plant Genetic Resources network for example COGENT, RECSEA, AARNET, ASEANET. Malaysia is also a signatory to JTPGRFA

MS ISO 9001:2000



National Biodiversity Policy Strategy XIII: Promote international cooperation and collaboration

❖ Programmes and Activities:

- ❖ Collaboration with ASEAN members in many aspects of biodiversity research and management such as ASEAN Agreement on Nature and Natural Resources, ASEAN Agreement on the Establishment of ASEAN Centre for Biodiversity, Sulu-Sulawesi marine ecoregion.
- ❖ Collaboration and cooperation at the regional level such as Bay of Bengal large Ecosystem Projects.
- ❖ Collaboration and cooperation with several developed countries in many aspects of biodiversity research and management such as Borneo Biodiversity (BBEC) project with Japanese government, and many biodiversity projects with Danish government (DANIDA).
- ❖ Collaboration and with international organizations such as GEF, ITTO, ITPGRFA, CIFOR, JICA, DANIDA
- ❖ Collaboration through MARDI Plant Genetic Resources network for example COGENT, RECSEA, AARNET, ASEANET. Malaysia is also a signatory to JTPGRFA

National Biodiversity Policy Strategy X: Exchange of information

❖ Programmes and Activities:

- ❖ KRSTE.my information portals developed by Ministry of Science, Technology and Innovation
- ❖ Integrated Biodiversity Database using Remote Sensing technology by Malaysia Centre For Remote Sensing (MACRES) with training conducted by Forestry Department. Workshops were carry out to assess status biodiversity.
- ❖ Workshop June 2005 on status of biodiversity conduct by FRIM with participation from government agencies, universities and NGOs.
- ❖ Checklist of the Flora of Peninsular Malaysia is available online
- ❖ Dipterocarpaceae distribution in Southeast Asia is available online through the Southeast Asia Botanical Collection Information Network
- ❖ Penang Tree Information System (PETIS)
- ❖ Tree Flora of Malaysia and Tree Flora of Sabah and Sarawak publication



National Biodiversity Policy Strategy XIII: Exchange of information (Continued)

❖ Programmes and Activities:

- ❖ Fact sheet on threatened plants (spatial information .25m species in collection) by FRIM
- ❖ Listing of tree flora in Sabah and Sarawak to date 5 volumes (3 to go) (estimated 12,500 species)
- ❖ Forestry Department conduct National Forestry Inventory – in Permanent Forest Area – dipterocarp, non-dipterocarp, bamboo, palms and rattans
- ❖ Wildlife Department conduct Wildlife survey – rapid and monthly assessment – coverage sanctuaries and forest reserves
- ❖ Drainage and Irrigation Department conduct Hydrobased data; Dam fingerprinting and river registry.
- ❖ MARDI establish National Information sharing mechanism such as a) National Information sharing Mechanism (NISM) for PGRFA (in progress), b) Agro biodiversity Information System (in-progress), and c) Rice Gene Bank Information System (in place)

National Biodiversity Policy Strategy XIV: Establish funding mechanisms

❖ Programmes and Activities:

- ❖ Annual operating budget to all ministries and departments
- ❖ Malaysia 5-year Development Plans
- ❖ Establishment of Trust Funds for example Wildlife Trust Fund
- ❖ Research funding/grants (IRPA) for scientific project research by the Malaysian government



Gaps in the current Bio-D Database

- ❖ Currently more gaps than data
 - ❖ Fungi
 - ❖ Microfungi
 - ❖ Macrofungi
 - ❖ Bacteria
 - ❖ Viruses
 - ❖ Other Arthropod Orders
 - ❖ Bryophytes
 - ❖ Freshwater algae
 - ❖ Biodiversity of Sabah and Sarawak
- ❖ Expert databases
- ❖ Specimen databases
- ❖ Habitat/Ecosystem Information
- ❖ Threat Assessment and Conservation Status

Issues in implementing the National Bio-D Database

- ❖ Data fragmentation
 - ❖ Research Institutes
 - ❖ Universities
 - ❖ Government Agencies
 - ❖ NGOs
- ❖ Causes
 - ❖ Mandates
 - ❖ Funding
 - ❖ Expertise
 - ❖ Competition
 - ❖ Funds
 - ❖ IPR
 - ❖ Expertise
 - ❖ Lack of coordination by, and between Federal, State and Local Government



Issues in implementing the National Bio-D Database

- ❖ Data heterogeneity
 - ❖ Database maturity
 - ❖ Mature – archaic
 - ❖ Immature – adaptable
 - ❖ Database formats
 - ❖ Text
 - ❖ Numerical
 - ❖ Spatial
 - ❖ Software options
- ❖ Lack of Expertise
 - ❖ Local
 - ❖ Foreign
- ❖ Lack of Funding
 - ❖ Sufficient
 - ❖ Sustained
- ❖ Philosophical approach
- ❖ National Values and Priorities



Opportunities in implementing the National Bio-D Database

- ❖ Repatriation of data and specimens
 - ❖ Herbaria
 - ❖ Natural History Museums
- ❖ Collaborative Research
 - ❖ N-S & S-S
 - ❖ Data sharing
 - ❖ Joint Expeditions
 - ❖ Research Fellowships
 - ❖ Sabbaticals
- ❖ Cross-cutting issues
 - ❖ Other MEAs
 - ❖ Sustainable development issues
 - ❖ Indigenous knowledge and IPR



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As a registered member you will be given full access to the database, which includes not just plant names but also ancillary data such as habit, habitat, taxonomic synonymy, distribution within Peninsular Malaysia and Singapore and endemic status with respect to Peninsular Malaysia. Plant images are being added to the database on a regular basis.

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Note : Fields that are marked with an asterisk * are required.

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Password *	<input type="password"/>	<small>at least 4 chars</small>
Retype Password *	<input type="password"/>	
Prefix	Mr. <input type="button" value="v"/>	
Full Name *	<input type="text"/>	
IC Number (Malaysian Only)	<input type="text"/>	<small>must be 12 digits</small>
Industry	Banking/Finance/Real Estate <input type="button" value="v"/>	
Occupation	Executive/Managerial <input type="button" value="v"/>	
Homepage	<input type="text"/>	

Contact Information

Email *	<input type="text"/>	
	<input type="text"/>	

FPM-Online in Pictures: Name/Fragment search

Microsoft Internet Explorer window showing the Flora of Peninsular Malaysia Online website. The address bar displays http://www.tfbc.frim.gov.my/asp/member_main.asp.

The website header includes the logo of the Institut Penyelidikan Perhutanan Malaysia (FRIM) and the text: **Flora of Peninsular Malaysia Online**, Tropical Forest Biodiversity Centre. A **Logout** button is visible.

The main content area features a **Search** section with the instruction: "Please use this search engine to get results."

The search form includes the following fields and options:

Categories	Query by value	
Plant Name	<input type="text"/>	Habit <input type="text" value="Any"/>
Author	<input type="text"/>	Habitat <input type="text" value="Any"/>
	<input checked="" type="radio"/> Any name or fragment	States <input type="text" value="Any"/>
	<input type="radio"/> All names, fragments or combination thereof	Endemic/Naturalized <input type="text" value="Any"/>
	<input type="checkbox"/> Show records with pictures only	

Buttons: **Execute Query** and **Reset Form**

The left sidebar contains a navigation menu:


- Welcome Mr. khairudin
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FPM-Online in Pictures: Hits/Plant profile/Photo-illustration

Flora of Peninsular Malaysia Online - Microsoft Internet Explorer

Flora - Plant Details - Picture - Microsoft Internet Explorer



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Etlingera maingayi - Inflorescence
[Close Window]

Flora - Plant Details - Microsoft Internet Explorer

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Address http://www.tfbc.frim.gov.my/asp/detail.asp?key=8760

Plant Profile
Etlingera maingayi (Baker) R. M. Sm.

Family	Zingiberaceae
ssp. / var.	var. maingayi
Endemic / Naturalized	Phaeomenia maingayi (Baker) K. Schum., FMP4 272, H Phaeomenia maingayi (Baker) K. Schum. var. longibrac Etlingera maingayi (Baker) R. M. Sm. var. longibrac
Synonyms	


Plant Description

Habit	creeping, sometimes walking, herb to 3 m tall
Habitat	lowland forest

Distribution

Distribution	Ps, Kd, Kl, Pk, Ph, Sl, Jh
States	Ps, Kd, Kl, Pk, Ph, Sl, Jh

Pictures (click on the thumbnail to see an enlargement)



[Close Window]

*States: Jh - Johor, Kd - Kedah, Kl - Kelantan, MI - Melaka, Ns - Negeri Sembilan, Ph - Pahang, Pk - Perak, Pn - Penang, Ps - Perlis, Sl - Selangor, Sp - Singapore, Tg - Terengganu, Lg - Langkawi

8758	Etlingera fulgens	Zingiberaceae	
8759	Etlingera littoralis	Zingiberaceae	
8760	Etlingera maingayi	Zingiberaceae	var. main
8761	Etlingera maingayi	Zingiberaceae	var. ovata Lim

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<ul style="list-style-type: none"> ▶ <i>Asplenium normale</i> ▶ <i>Asplenium tenerum</i> ▶ <i>Bulbophyllum tritulum</i> ▶ <i>Calamus siamensis var. malaccanus</i> ▶ <i>Calanthe caeilias</i> ▶ <i>Calanthe pulchra</i> ▶ <i>Calophyllum macrocarpum</i> ▶ <i>Cibotium barometz</i> ▶ <i>Cyathea alternans</i> ▶ <i>Cyathea oortmainans</i> ▶ <i>Hemitelia simpliciifolia</i> ▶ <i>Kocoupassia excelsa</i> ▶ <i>Licuala ahlidurii</i> ▶ <i>Licuala bayana</i> ▶ <i>Licuala cameronsis</i> ▶ <i>Malasia perakensis</i> ▶ <i>Melastochyla angustifolia</i> ▶ <i>Neobalanocarpus helmsii</i> ▶ <i>Nephelaphyllum pulchrum</i> ▶ <i>Paphiopedilum niveum</i> 	<ul style="list-style-type: none"> ▶ <i>Dialyptroplexiella ornata</i> ▶ <i>Dipterocarpus kunsteri</i> ▶ <i>Dipterocarpus oblongifolius</i> ▶ <i>Dracontomelon dao</i> ▶ <i>Dryobalanops aromatica</i> ▶ <i>Eria floribunda</i> ▶ <i>Etilingera eliator</i> ▶ <i>Gluta aptera</i> ▶ <i>Gluta outisii</i> ▶ <i>Gluta elegans</i> ▶ <i>Rhytidostylis retusa</i> ▶ <i>Saurauia rubens</i> ▶ <i>Shorea bracteolata</i> ▶ <i>Shorea outisii</i> ▶ <i>Shorea gracilissima</i> ▶ <i>Shorea heesleyana</i> ▶ <i>Shorea leprosa</i> ▶ <i>Shorea longisperma</i> ▶ <i>Tainia stangayi</i> ▶ <i>Thecostelele alata</i>
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FPM at a glance

Membership: 107
Plant profiles: 8993
Photo-illustrated taxa: 189

Useful FPM features

- Full-sized, high-resolution formats of all photo-illustrations in Flora of Peninsular Malaysia Online may be licensed from the Tropical Forest Biodiversity Centre, Forest Research Institute Malaysia. Please contact us for details;
- Remember that you can save your hit list as a Microsoft Excel File;
- Upon registration, you will receive the Electronic FPM newsletter at your designated e-mail address.

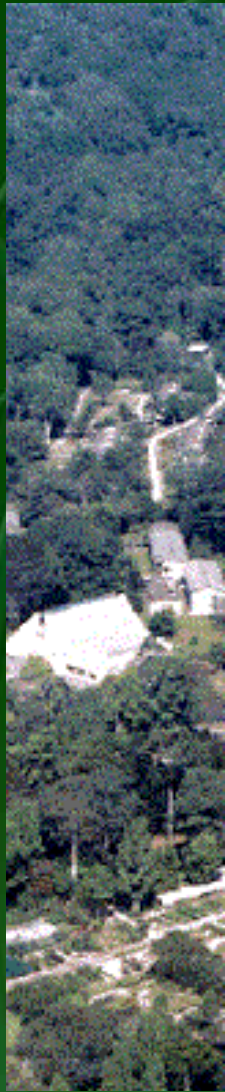
To submit questions, comments or suggestions, e-mail: floraonline@frim.gov.my

TFBC

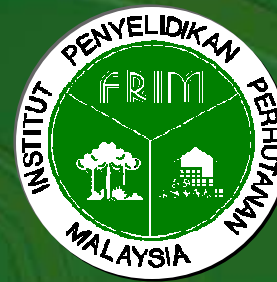
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Planned work for 2008 and beyond

- ❖ Addition of bird and some insect group checklists
- ❖ Bryophyte checklist
- ❖ Type specimens of selected flora and fauna
- ❖ Enhancement of existing databases
- ❖ Additional meetings with stakeholders and cooperating agencies
 - ❖ Assessment and upgrading of data sets
 - ❖ Funding of data collection to fill information gaps
 - ❖ Linking of mature databases
- ❖ Additional meetings with web and database consultants
- ❖ Enhancement of CMS and MMS and search engines
- ❖ Workshop for stakeholders



Terima kasih!
Thank you!



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- Singapore
- Diffuse model leads to a lack of clarity
- Singapore green plan – focuses on brown issues, but biodiversity is only a small component of this.
- Need to build up biodiversity component which is lacking.
- Need to choose and drive the priority areas.
- Use existing laws as bolster
- Sites identified as important for conservation
- Develop with the biodiversity in mind
- Pulls in different agencies as necessary
- Mechanism is national development ministry – Singapore master plan
- Industry/housing/etc submit to ministry which routes the proposal to the agency in question
- Measure of success?
- At least 8-10% areas conserved in some way
- Protected though administrative action

- Coverage?
- Appropriateness?
- Do we REALLY know what is happening to our biodiversity (monitoring, trends, assesment)

- Penetration into other sectors
- Penetration into

- Need to find common ground from which issues that arise can be dealt with

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