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Floristic Studies Of Pulau Jarak And Pulau Perak, Malaysia

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ABSTRACT Preliminary studies on the flora of Pulau Jarak and Pulau Perak have been carried out. Some of the common species at Pulau Jarak were *Barringtonia asiatica*, *Dracaena maingayi*, *Eugenia grandis*, *Ficus* sp. and *Scaevola frutescens*. Several herbs were very common such as *Aglaonema schottianum*, *Labisia pumila* and *Phylllanthus frondosus*. The common climbers observed were *Aristolochia ungulifera*, *Gnetum* sp., *Hoya parasitica* and *Smilax helferi*. Ferns such as *Angiopteris evecta*, *Asplenium nidus*, *Dicranopteris linearis*, *Pyrrosia* sp. and *Stenochlaena palustris* were also common. The common palms were *Caryota mitis* and *Oncosperma filamentosa*. *Ficus* sp*., Lygodium* sp. and *Stenochlaena palustris* were among the common species observed at Pulau Perak.

Barringtonia asiatica, *Eugenia grandis* and *Scaevola frutescens* were the typical species of the coastal forest vegetation while *Caryota mitis*, *Dracaena maingayi*, *Ficus* sp. and others formed the inland forest vegetation. In terms of floral diversity, Pulau Perak vegetation showed less diversity compared to Pulau Jarak.

ABSTRAK Kajian awal ke atas flora Pulau Jarak dan Pulau Perak telah dijalankan. Antara spesies yang sering ditemui di Pulau Jarak adalah *Barringtonia asiatica*, *Dracaena maingayi*, *Eugenia grandis*, *Ficus* sp. dan *Scaevola frutescens*. Beberapa spesies herba yang paling kerap ditemui termasuklah *Aglaonema schottianum*, *Labisia pumila* dan *Phylllanthus frondosus*. Spesies pemanjat yang sering ditemui adalah *Aristolochia ungulifera*, *Gnetum* sp., *Hoya parasitica* dan *Smilax helferi*. Paku pakis seperti *Angiopteris evecta*, *Asplenium nidus*, *Dicranopteris linearis*, *Pyrrosia* sp. dan *Stenochlaena palustris* juga kerap ditemui. Spesies palma yang mudah ditemui adalah *Caryota mitis* dan *Oncosperma filamentosa*. *Ficus* sp., *Lygodium* sp. dan *Stenochlaena palustris* merupakan antara spesies yang sering ditemui di Pulau Perak.

Barringtonia asiatica, *Eugenia grandis* dan *Scaevola frutescens* merupakan spesies yang tipikal bagi vegetasi hutan pantai sementara *Caryota mitis*, *Dracaena maingayi*, *Ficus* sp. dan lain-lain spesies membentuk vegetasi hutan dalaman. Dari segi kepelbagaian flora, vegetasi Pulau Perak mempunyai kepelbagaian yang lebih rendah berbanding dengan Pulau Jarak.

(flora, Pulau Jarak, Pulau Perak)

INTRODUCTION

Pulau Jarak is a small island in the middle of the Straits of Malacca (Figure 1). It is located about 40 miles from the coast of Perak and 30 miles from Pulau Sembilan [1]. About 8 hectares in size, Pulau Jarak is densely covered by trees. It has thick vegetation underlined by granite rocks, similar to those underlying the Pulau Pangkor and Sembilan groups of islands [2]. The island was believed to have been populated by airborne plants and animals stowaways on visiting prahus and pirate ships. Previous scientific expeditions in 1950 and 1953 by J.R. Audy, J.L. Harrison and J. Wyatt-Smith have given us a general picture of the island's flora and fauna. Pulau Perak, named for the silvery sheen its bare igneous rock took on in the sunlight, was a known nesting ground for a number of booby bird

Figure 1. Location of Pulau Jarak and Pulau Perak.

species. It is located 75 miles northwest of Penang, and is about 400 square yards in size. Earlier expeditions conducted in the 1950s described the island as 'entirely devoid of vegetation'. Today, the islands are well known as thriving fishing grounds for anglers and game fishermen. Divers too, travel for hours to savour the abundant marine life that congregate around these islands. Reports on the vegetation of Pulau Perak and Pulau Jarak are scanty, hence it was one of the aims of this expedition to study the richness of the flora on the islands.

MATERIALS AND METHODS

An expedition to Pulau Jarak and Pulau Perak was carried out from 4 - 11 June 2004 when a multi-disciplinary scientific research including floristic studies was conducted. Plant specimens were collected, where possible they were identified during the collection, otherwise they were brought back to the laboratory for further identification. Herbarium specimens were also prepared.

RESULTS AND DISCUSSION

Preliminary studies on the flora resulted in the collection of 26 species from Pulau Jarak and seven species from Pulau Perak. The list of the specimens collected are given in Tables 1 and 2. Among the common species observed at Pulau Jarak were *Barringtonia asiatica, Dracaena maingayi, Eugenia grandis, Ficus* sp., and *Scaevola frutescens*. Several herbs such as *Aglaonema schottianum, Labisia pumila* and *Phyllanthus frondosus* were very common. However, species from the family Dipterocarpaceae were completely absent. The common climbers were *Aristolochia ungulifera, Gnetum* sp., *Hoya parasitica* and *Smilax helferi.*

Table 1. Flora of Pulau Jarak

Family	Species
Araceae	*Aglaonema schottianum* Miq.
Aristolochiaceae	*Aristolochia ungulifera* Mast.
Asclepiadaceae	*Hoya parasitica* Wall.
Euphorbiaceae	*Phyllanthus frondosus* Wall.
Euphorbiaceae	*Macaranga triloba* (Bl.) M.A.
Gnetaceae	*Gnetum* sp.
Goodeniaceae	*Scaevola frutescens* (L.) Krause
Guttiferae	*Garcinia* sp.
Lecythidaceae	*Barringtonia asiatica* Kurz.
Liliaceae	*Dracaena maingayi* Hk.f.
Liliaceae	*Smilax helferi* A.D.C.
Marattiaceae	*Angiopteris evecta* Hoffm.
Moraceae	*Ficus* sp.
Myrsinaceae	*Labisia pumila* Lindl.
Myrtaceae	*Eugenia grandis* Wight
Orchidaceae	*Bulbophyllum* sp.
Orchidaceae	*Dendrobium* sp.
Palmae	*Caryota mitis* Lour.
Palmae	*Eugeissona tristis* Griff.
Palmae	*Oncosperma filamentosa* Bl.
Pandanaceae	*Pandanus fascicularis* Lam.
Polypodiaceae	*Asplenium nidus* L.
Polypodiaceae	*Pyrrosia* sp.
Polypodiaceae	*Stenochlaena palustris* (Burm.) Ching
Rubiaceae	*Mussaaenda* sp.
Simaroubaceae	*Eurycoma longifolia* Jack

Table 2. Flora of Pulau Perak

Family	Species
Capparidaceae	*Cleome spinosa* Jacq.
Cyperaceae	*Cyperus* sp.
Gleicheniaceae	*Dicranopteris linearis* (Burm.) Underw.
Lygodiaceae	*Lygodium* sp.
Moraceae	*Ficus* sp.
Polypodiaceae	*Stenochlaena palustris* (Burm.) Ching
Rubiaceae	*Borreria* sp.

The common ferns included *Angiopteris evecta, Asplenium nidus, Pyrrosia* sp. and *Stenochlaena palustris*. Palms such as *Caryota mitis* and *Oncosperma filamentosa* were also common. Species of fungi, mosses and liverworts were also observed at Pulau Jarak.

The whole island of Pulau Jarak is covered with forest with some undergrowth. The island is uninhabited but rarely visited, hence the vegetation represents the original primitive flora almost uninfluenced by extraneous conditions. The absence of Dipterocarpaceae and the paucity of woody species in a forest of apparent structure to that of the mainland strongly suggests that the flora are not relicts but are of the oceanic type [1, 3, 4].

Barringtonia asiatica, Pandanus fascicularis and *Scaevola frutescens* are sea-borne species where their fruits and seeds are dispersed by water currents. When ripe, the fruits are easily detached from the parent trees and are carried by water current to their new destination where the seed germinates. Orchids such as *Bulbophyllum* and *Dendrobium* species with dust-like seeds together with *Hoya parasitica* are wind-borne species.

The flora discovery at Pulau Perak is very interesting. In the 1950s it was reported that there was no vegetation on the island except for a *Muntingia* tree. However, during this expedition, three *Ficus* species up to 7 metres tall were observed. Other species present were *Borreria* sp., *Cleome spinosa, Dicranopteris linearis, Lygodium* sp., *Stenochlaena palustris* and *Cyperus* sp.

These species were not recorded in the earlier reports, because they were totally absent or their presence had not been recorded. Besides seed plants, species of fungi and mosses were also observed at Pulau Perak but liverworts were not encountered. The vegetation on Pulau Perak grows in clumps on a habitat that is formed from metamorphised shield sandstone. The interesting feature of the vegetation is that the patch-like distribution of the plants appears to be new arrivals brought in by birds or other dispersal agents such as wind. Thus, a clump of three trees of *Ficus* species was observed near the highest point of Pulau Perak.

It is important that the study and monitoring of the biodiversity at Pulau Jarak and Pulau Perak be continued to ensure that actions can be taken immediately if any detrimental development occurs before the biodiversity is fully explored and documented. These little known islands have the potential to support conservation and tourism activities.

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REFERENCES

1. Audy, J.R. and J.L Harrison (1950). A Survey Of Jarak Island, Straits of Malacca. *Bull. Raffles Mus.* **23**: 230-260.
2. Phang, S.M., Azhar Hussin, Chong, V.C., Rosli Hashim, S.A. Alias (Eds) (2007). *Gems In The Straits Of Malacca. The Natural History of Pulau Jarak & Pulau Perak*. University Of Malaya Maritime Research Centre. 54.
3. Tweedie, M.W.F. (1950). A Note On Pulau Jarak Considered As An Oceanic Island. *Bull. Raffles Mus.* **23**: 262.
4. Wyatt-Smith, J. (1953). The Vegetation of Jarak Island, Straits Of Malacca. *Journal of Ecology* **41(2)**: 207-225.