

MEDICINAL AROIDS CONSERVATION: A CASE STUDY OF FLORAL GARDEN, SCHOOL OF BIOLOGICAL SCIENCES, UNIVERSITI SAINS MALAYSIA

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INTRODUCTION

The aroids are monocotyledonous herbaceous plants, which are widely found in tropical countries. This Araceae family has played an important role not only in botanical world but also in economical aspects such as by providing medicinal resources. The medicinal properties, which proved to have a curative effect on certain diseases, indicate that these species have a potential value in medicinal industries. An intensive study has been conducted to locate and subsequently conserve the genetic resources of these species have taken place since early 1990s. All states in Peninsular Malaysia have been visited and collections are done based on the habitat diversities. There is a strong correlation between the species recorded and the occupying habitats. For example *Raphidophora minor* colonies are generally high along the undisturbed riverine ecosystems, whereas, *Typhonium flagelliforme* and *Typhonium roxburghii* are only found at the foot of the limestone hills. *Homalomena coerulescens*, *Homalomena griffithii* var. *griffithii*, *Homalomena purpurescens*, *Homalomena sagittifolia* var. *sagittifolia* and *Scindapsus hederaceus* mostly found growing on the hills and occasionally recorded at primary forests. Coastal forests such as Pantai Acheh Forest Reserve are relatively rich in *Anadendrum montanum* var. *montanum*, *Aglaonema simplex*, *Pothos latifolius*, *Pothos scandens* and *Schismatoglottis calyptrata* var. *calyptrata*. Species such as *Amorphophallus paeoniifolius*, *Alocasia macrorrhiza*, *Colocasia esculenta* var. *esculenta*, *Colocasia gigantea* and *Typhonium trilobatum* are generally common at the disturbed sites. In addition, *Cyrtosperma lasioides* and *Lasia spinosa* thrive well along riverbanks and *Pistia stratiotes* widely spread at the ricefield sites. *Aglaonema pictum* and *Epipremnum sp* are ornamental plants which are generally collected from an undisturbed habitat. All the collected species have been conserved as *ex-situ* living specimens at School of Biological Sciences's Floral Garden and herbarium specimens which are important for future references are established.

MATERIALS AND METHODS

Several localities visited to locate the aroids species and most of the sites are based on Ridley (1925). The habitats studied including primary forests, riverine ecosystems, limestone hills and swamps. The identification of aroids were based on Ridley (1925), Henderson (1954), Nicolson (1969; 1981), Jacobsen (1987), Bown (1988), Sriboonma *et. al.* (1994), Hay (1996a; 1996b), Hetterscheid & Ittenbach (1996) and Mayo *et. al.* (1997).

Information on the medicinal uses of aroids are based on Burkill & Haniff (1930), Burkill (1966), Gimlette (1939), Gimlette & Burkill (1930), Neoh (1992), Kress (1995) and Norhayati *et.*

al. (1999). All the specimens are made into herbarium specimens and the living collections are planted in the USM's floral garden. The living species are considered important as genetic conservation of the plant species.

RESULTS AND DISCUSSION

About 23 species of medicinal aroids have been collected from various habitats. Most of the species survived very well to the environmental conditions of the habitats that have relatively high humidities (Figure 1). These species are 40% from disturbed sites and protected ornamental plants, 34% from primary forests including Pantai Acheh Forest Reserve (PAFR), 13% from undisturbed riverine sites and riverbanks, 8.7% from limestone hills and 4.3% from ricefields (Figure 2). All species of Araceae are found to have medicinal properties are listed in Table 1.

Table 1. Uses of Aroids for medicinal purposes.

SPECIES	USES
<i>Amorphophallus paeoniifolius</i>	Aphrodisiac
<i>Anadendrum montanum</i> var. <i>montanum</i>	Fever and after childbirth.
<i>Aglaonema simplex</i>	Fever and dropsy
<i>Aglaonema pictum</i>	Tonic for children or antihelminthic
<i>Alocasia macrorrhiza</i>	Cough and toothache
<i>Colocasia esculenta</i> var. <i>esculenta</i>	Snake-bites, as prophylactic after childbirth
<i>Colocasia gigantea</i>	Fruits as flavouring
<i>Cyrtosperma lasioides</i>	Late menstruation
<i>Epipremnum</i> sp.	Cancer (sinus)
<i>Homalomena coerulescens</i>	Skin disease
<i>Homalomena griffithii</i> var. <i>griffithii</i>	Expedite childbirth and lumbago
<i>Homalomena purpurascens</i>	Hoarseness
<i>Homalomena sagittifolia</i> var. <i>sagittifolia</i>	Fever, distended stomach
<i>Lasia spinosa</i>	Childbirth and stomachache
<i>Pistia stratiotes</i>	Diuretic
<i>Pothos scandens</i>	Blister, convulsions, small-pox and asthma
<i>Pothos latifolius</i>	Asthma
<i>Raphidophora minor</i>	Childbirth
<i>Schismatoglottis calyptra</i> var. <i>calyptrata</i>	Root and leaves eaten
<i>Scindapsus hederaceus</i>	Rheumatism
<i>Typhonium flagelliforme</i>	Cancer
<i>Typhonium roxburghii</i>	Skin disease
<i>Typhonium trilobatum</i>	Skin disease

Figure 1: Adaptation of Araceae species to different level of humidity

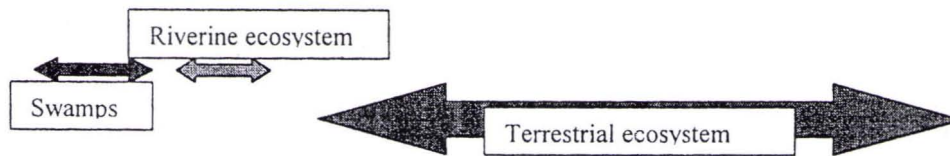
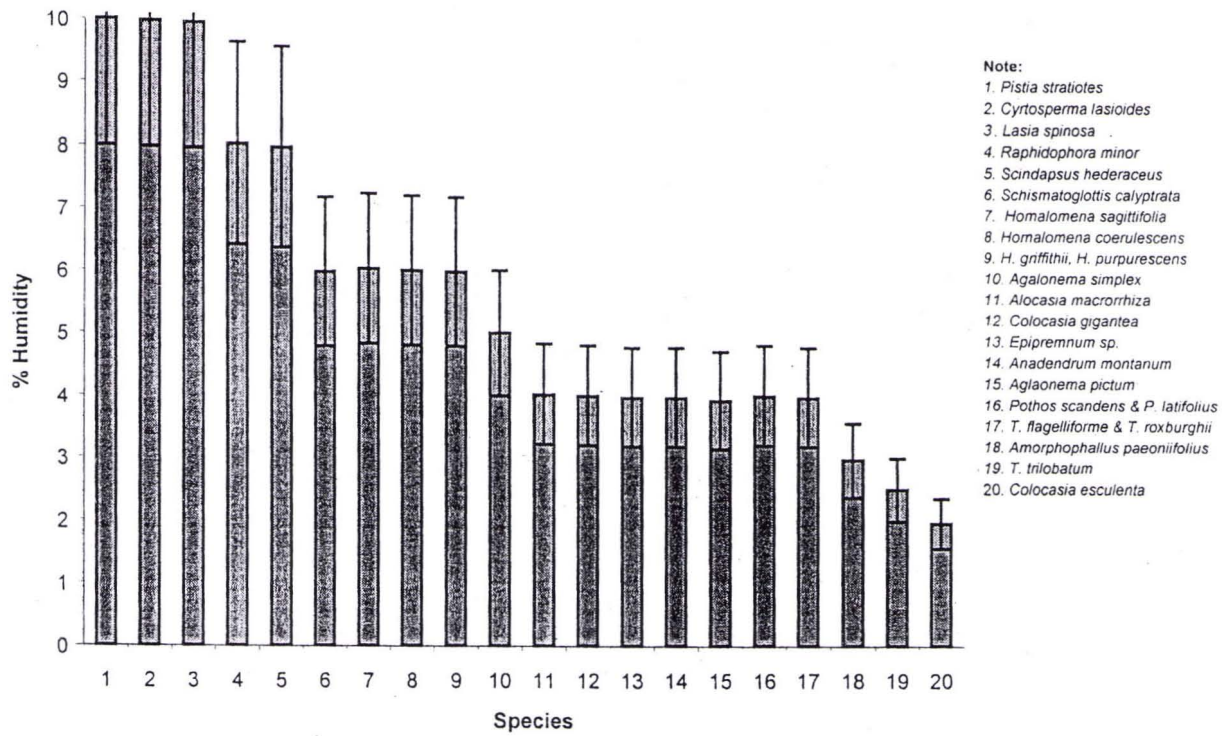


Figure 2: Habit of Medicinal Aracea

