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## The Relationship between Plants and the Malay Culture

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### Abstract

This ethno botanical study of Malay culture in urban residential area analyzes the aspect of the interrelationship between plants and Malay culture since both provides spiritual connection between people and nature. People rely on plants in many ways. As such, this research has been undertaken to unearth the relationship between plants and the Malay culture and to identify common plants in an urban environment. Interviews were conducted in Kampong Bharu to get information and identify people skills with regards to plants. Consequently, identifying plant species helps to preserve the Malay culture and meanwhile protecting the natural heritage and its knowledge.

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*Keywords:* Ethnobotany; malay; plant species; aesthetic value

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### 1. Introduction

Malaysia's flora and fauna are among some of the most diverse in the world. With one of the world's richest and most varied biophysical resources (Premilla, 2002), Malaysia's rainforest turns out to be perfect conditions for luxuriant plant growth. They are, in fact, the most species-rich communities known anywhere in the world (Whitmore, 1975). Furthermore, Malaysia is also set apart with vast of resources of plants either medicinal plants or any usage of plants to form the essence of ethno botany. Since Malaysia is a multi-racial country, ethno botany is widely used in a broad manner. Every ethnic or race in

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Malaysian communities practice and establish its ethno botany system in its own different ways and believes. The Chinese and Indians, for example, have rich and well-documented tradition usage of plants especially in many kinds of Chinese food in which the diverse usage of plants is reflected in their daily food. The same goes to the Indian as well as the Malay culture. In the Malay world, plants and humans are so intimately linked. These communities commonly use plants for dietary (food consumption), utilities such as materials for construction, medicinal, ritual, dyes and cosmetics. Consequently, study on the relationship between plants and the Malay culture helps to preserve the integrity of the cultures and at the same time protecting the natural heritage and its knowledge.

Today, ethno botany field is on the rise. Most countries are aware to the importance of establishing botanic gardens in their territory. With increasing urbanization, botanic gardens are responsible in intensifying natural heritage from the traditional rural setting into the cities. As what can be understood, the existence of the botanic garden is from the rural where the origin of peoples are in the forest. However, the passionate growth to the city for having the botanic garden in the garden city as well as in the house because of the importance and awareness for conserving the plants and urban green space increased (Catherine et al, 2009).

Ethno Botanic Garden is a plants display in which being used as folklore for a variety of purposes by the people in their daily life (Bhatti, 2006). This botanic garden has been planted in almost every courtyard or even backyard of houses in the city. Most people tend to plant medicinal and edible species in their gardens. That is why botanic gardens have played a remarkable role in conservation and education since it represents valuable inherited resources as part of aesthetic value and functionality that the garden possess such as for healing, beauty, spiritual, medicinal, as well as for daily used, for example, cooking and food consumption purposes. Apart from that, the new generations, especially in urban areas are no more depending on the traditional ways of using plants with regards to any circumstances. They are incapable of distinguishing roles of plants and possess very little knowledge and understanding on ethno botany. As a consequence, only the elder people possess the knowledge and capable in applying this traditional knowledge. It is hardly passed on to the younger generation, which directly erodes ethno botanical knowledge. In fact, there is a lack of research being done in the urban areas. For this, the study aims to identify the significance and the importance of plants to local culture in relation to the urban community. With this interdisciplinary approach, the correlation between plants and people can be understood and be utilized.

People depend directly or indirectly on plants. Plants being planted do have their function even as healing purposes. To the Malays, plants are normally planted for edible purposes. In Malaysia, there are about 70 species of edible herbs called ulam such as 'daun tenggek burung' (*Euodia ridleyi*), betel leaf (*Piper sarmentosum*), 'pokok ketumpangan air' or shining bush (*Pepromia pellucid*), 'pegaga' (*Centella asiatica*) and others (Sallet et. al, 2009) and some traditional vegetables such as spinach (*Amaranthus oleaceus*), lady's finger (*Hibiscus esculentus*), 'geti/ turi' (*Sesbania grandiflora*) and others (Saadiyah, 1998) as well as herbs such as pandan leaves, lemon grass, curry leaf and others (Wong 2005; 2009) which are normally being cooked lightly before being consumed.

## **2. Definition of Ethno Botany**

There are numerous definitions of ethno botany from a wide range of botanist as well as researchers worldwide. The earliest definition of ethno botany was given by a German Scientist in a lecture by University of Pennsylvania's botanist Harshberger in 1896 who defined it as a study of the use of plants by any indigenous community. Since then, it has undergone different interpretations by numerous authors (Cotton, 1996). For example, Robbins et al. (1916), suggested that the science of ethno botany should include the investigation and evaluation of the knowledge of all phases of plant life among

primitive societies and the effects of vegetal environment upon the life, customs, beliefs and history of the tribal peoples. Schultes (1941), who is also known as the father of modern ethno botany defined ethno botany as the study of relationship that exists between man and his ambience. It is strongly related to people and plants. While Berlin (1992), recognizes two distinct fields of ethno botany: (1) Cognitive ethno botany, how human view and classify plants and (2) Economic botany, how human utilize plants. Later, Morganstein (1996), elaborates the definitions of ethno botany as an interdisciplinary study of how the people of a particular culture and region make use of indigenous plants focusing, primarily, on how plants are used, managed and perceived across human societies, for example, as foods, medicines, divination, cosmetics, dyeing, textiles, construction, clothing, rituals and in social life. It is also considered as a feasibility study towards a sustainable development while at the same time providing solutions to the ecosystems around the world, and may allow people to slow down the process of biological extinction speed up by human behavior and activities (Hamilton, 2003). Some other points of view stated that, a wealth of ethno botanical knowledge is hidden away in some far-off jungle and just waiting to be uncovered (Voeks 2004). At present, ethno botany can be defined as an integrative and positive tool in blending health, economic, biological and cultural diversity conservation needs of people and their area, all at the same time (Quansah, 2005). This integrated health care development system and ethnobotany are capable to analyze, explain and predict the interaction among various categories of factors related to the local people's knowledge, belief and use of plant-based medicines (Slikkerveer, 2006). Nevertheless, the challenging subfield of ethno botany is rapidly gaining attention worldwide with time, and on-going studies are already providing a surprising amount of ethno biological and ethno pharmaceutical data from immigrant communities in urban settings (e.g., Balick et al. 2000; Corlett et al. 2003; Pieroni et al. 2005; Sandhu and Heinrich 2005; Johnson et al. 2006; Waldstein 2006). Though, as ethno botany matured, the field becomes ever more important especially in the health care development (Kunwar, 2008) and conservation series throughout the world.

### **3. Ethno botany: The Need for Conservation**

Section Traditionally, the indigenous people lived in and subsisted on the forest, but with increasing loss of forest areas, integration into mainstream society and urbanization, this people are rapidly losing their knowledge and culture (Lee, 2008). The loss of indigenous knowledge is quite fretful as much as the biodiversity loss. Indeed, preservation of the world's indigenous cultures and practices may contribute to the preservation and conservation of the remaining undisturbed forest and other biotic community (Charles, 1995). For that reason, conservation is very much reliance to the culture of the indigenous people. It is undeniable that culture influences the way people perceive and use the resources of their environment (Cohn, 1988). However in these modern days, as ethno botany becomes more important and its role increases, ethno botany is pivotal towards a sustainable development while at the same time providing solutions to the ecosystems around the world, and may allow people to slow down the process of biological extinction speed up by human behavior and activities (Hamilton, 2003) such as deforestation, cultivation, over-grazing, burning, erosion, etc.

### **4. Ethno Botany of Malaysian and its Significance**

Malaysian traditions embody an exceptional vast knowledge and practices derived from Malay, Chinese, Indian and indigenous people's traditions with regards to plants. That means, multi-racial and multi ethnic people in Malaysia inherited multiple traditional medicine and ways of healing.

In Malaysia, it started with the indigenous people called Orang Asli since this group of people embodied a wonderful knowledge and respect for plant life together with the nature and environment that they inherited from their ancestors.

Table. 1. Common plants species that have value in the local Malay community

Species	Local Name
<b>Malay plants for healing and consumption</b>	
<i>Centella asiatica</i>	Indian Pennywort or Pegaga
<i>Piper betle</i>	Piper betel / Sireh
<i>Andrographis paniculata</i>	King of bitter / Hempedu bumi
<i>Eurycoma longifolia</i>	Long jack /Tongkat Ali
<i>Labisia pumila</i>	Kacip Fatimah
<i>Areca catechu</i>	Betel Nut
<i>Cinnamomum verum</i>	Ceylon Cinnamon / Kayu manis
<i>Curcuma xanthorrhiza</i>	Temu lawak
<i>Cymbopogon nardus</i>	Citronella / Serai wangi
<i>Morinda citrifolia</i>	Cheese fruit / Mengkudu
<i>Kaempferia galanga</i>	Finger root
<i>Polygonum minus</i>	Kesum
<i>Cosmos caudatus</i>	King of salad or Ulam Raja
<i>Oenanthe javanica</i>	Water dropwort or Selom
<i>Gynura precumbens</i>	Scrambling gynura or Akar sebiak
<b>Malay plants for rituals</b>	
<i>Citrus aurantifolia</i>	Key Limes / Limau nipis
<i>Justicia gendarusa</i>	Willow-leaved Justicia
<i>Kalanchoe pinnata</i>	Air Plant, Life Plant, Miracle Leaf
<i>Cordyline terminalis</i>	Cordyline / Jenjuang
<b>Malay plants for utilities</b>	
<i>Bambusa spp</i>	Bamboo (Eg: Buluh duri, Buluh minyak, Buluh gading, buluh lemang)
<i>Cocos nucifera</i>	Coconut
<i>Murraya paniculata</i>	Orange jasmine
<i>Bixa orellana</i>	Lipstick tree
<i>Aloe barbadensis</i>	Aloe vera
<i>Pandanus odoratissimus</i>	Screwpine/ Mengkuang
<i>pandanus amaryllifolius</i>	Pandan
<i>Daemonorops draco</i>	Rattan
<i>Musa sapientum</i>	Banana

<b>Malay plants for utilities</b>	
Acorus calamus L.	Calamus root, Sweet flag
Hibiscus rosa sinensis	Hibiscus
Pogostemon cablin Benth.	Patchouli / Pokok Nilam
Aloe vera L.	Aloe vera
Jasminum sambac	Jasmines
Santalum album	Sandalwood
Lawsonia inermis	Henna leaves

Over the centuries, many of Orang Asli's traditional practices have been adopted and adapted by Malay populations (Bodeker, 2009) since, most of ethno botanical plants used are almost similar to both cultures. Particularly, most plants are used for the sake of healing and medicinal purpose, consumption, rituals, utilities and beautification. In addition, common plants species that have values in the local Malay community are listed in Table 1.

## 5. Methodology

A case study is the best method for this research in order to identify and to observe plants in a Malay territory. This is because of the approving of ethno botany garden, and its relationship requires sampling over the Malay residential areas particularly in urban areas. In this research context, Kampong Bharu had been chosen predominantly because of its status as an urban village in the heart of Kuala Lumpur city centre. Samples of Malay homes were randomly picked according to a few criteria such as the zoning of the area and the appropriate size of the courtyard.

Prior to the fieldwork, a set of the questionnaire was structured and was made a guideline during the interview session. Interviews typically extract information with regards to ethno botany plants such as basic demography, plants name, and plants prescribed (type of plant used, part of plants used, medicinal uses, ritual and other garden setting and etc) were collected through questionnaires, interviews and discussions among the house owners.

At the micro stage, plant inventory & analysis in every house were layered in order to find the similarities in term of species, functions, character and component to conclude as the character for every house. Then, this data list was analyzed at the macro stage, which was to compare the similarity in every house in the village, to create the overall Malay landscape character. The similarity meant for this research might involve the species of plants used, the common plants species planted, the significant plants x or y to the villagers and some other similarity found from the survey. For that purpose, all plants identified and listed are tabulated and scheduled in a graph so that the species can be clearly identified together with its roles and functions.

## 6. Results and Discussions

### 6.1. *The Use and Importance of Plants*

The analysis of the findings shows that the urban area of Kampong Bharu, served as a sited where the ethno botany plants were assembled in terms of plant availability and space constraint. Nevertheless, the intent to get the plants related to the Malay culture in an urban context was attainable (See Table 2) below.

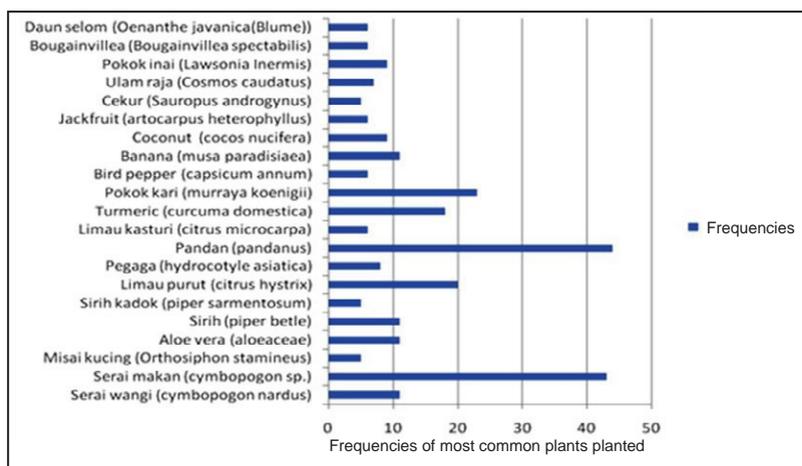
Table. 2. Distribution of plants species in Kampong Bharu

No	Malay Local Name	Common Name	Scientific Name	Cited
1.	Serai wangi	Fragrant lemon grass	<i>Cymbopogon nardus</i>	11
2.	Serai makan	Lemon grass	<i>Cymbopogon citratus</i>	43
3.	Misai kucing	Cat Whiskers	<i>Orthosiphon stamineus</i>	5
4.	Hempedu bumi	King of bitter	<i>Andrographis paniculata</i>	2
5.	Daun setawar	-	<i>Kalancheo pinnata L.</i>	3
6.	Aloe vera	Aloe vera	<i>Aloe vera</i>	11
7.	Sirih	Betel leaf	<i>Piper betle</i>	11
8.	Kaduk	Mother of thousands	<i>Piper sarmentosum</i>	5
9.	Limau purut	Kaffir lime	<i>Citrus hystrix</i>	20
10.	Limau kasturi	Pennywort leaves	<i>Centella asiatica</i>	8
11.	Pandan	Pandan leaves/ Screw pine	<i>Pandanus amaryllifolius</i>	44
12.	Pegaga	Pennywort leaves	<i>Centella asiatica</i>	6
13.	Kunyit	Turmeric	<i>Curcuma domestica</i>	18
14.	Mangga	Mango	<i>Mangifera indica</i>	4
15.	Pokok kari	Curry leaves	<i>Murraya koenigii</i>	23
16.	Cili padi	Bird pepper	<i>Capsicum frutescens</i>	6
17.	Halia	Ginger	<i>Gingiber officinale</i>	4
18.	Daun kesum	Vietnamese mint	<i>Polygonum minus</i>	3
19.	Daun sup	Soup leaf	<i>Apium graveolens</i>	1
20.	Pisang	Banana	<i>Musa paradisiaea</i>	11
21.	Kelapa	Coconut	<i>Cocos nucifera</i>	9
22.	Nangka	Jackfruit	<i>Artocarpus heterophyllus</i>	6
23.	Durian	Durian	<i>Durio zibethinus</i>	1
24.	Pokok rambutan	Rambutan	<i>Nephelium lappaceum</i>	1
25.	Pokok mambu	Neem	<i>Azadirachta indica</i>	1
26.	Pokok manggis	Mangosteen	<i>Garcinia mangostana</i>	1
27.	Cekur	Aromatic ginger	<i>Kaempferia galangal</i>	5
28.	Tujuh jarum	Sacharosa	<i>Pereskia sacharosa</i>	1
29.	Ulam raja	King salad	<i>Cosmos caudatus</i>	7
30.	Kacang botol	Winged bean	<i>Psophocarpus tetragonolobus</i>	1
31.	Betik	Papaya	<i>Carica papaya</i>	2
32.	Pokok inai	Henna	<i>Lawsonia Inermis</i>	9
33.	Pokok melur	Jasminium sambac	<i>Jasminum sambac</i>	2
34.	Terung susu	Eggplant	<i>Solanum melongena</i>	2
35.	Mengkudu	Indian mulberry	<i>Morinda citrifolia</i>	2
36.	Pokok Bunga Kertas	Bougainvillea	<i>Bougainvillea spectabilis</i>	6

37.	Daun selom	Water dropwort	<i>Oenanthe javanica blume</i>	6
38.	Akar sebiak	Leaves of the Gods	<i>Gynura procumbens</i>	2
39.	Lengkuas	Galangal	<i>Alpinia galanga</i>	4
40.	Jambu	Guava	<i>Psidium guajava</i>	3
41.	Mas cotek	Cherry banyan	<i>Ficus deltoidea</i>	1
42.	Pokok bunga raya	Hibiscus	<i>Hibiscus rosa sinensis</i>	4
43.	Pokok bunga ros	Roses	<i>Rosa sp.</i>	2
44.	Gandarusa	Gendarussa	<i>Justicia gendarussa</i>	1
45.	Cempaka	Orange champaca	<i>Michelia champaca</i>	1
46.	Pokok bunga mayang sari	-	<i>Citharexylum spinosum</i>	1
47.	Kemunting china	Periwinkle	<i>Catharantus Roseus</i>	1
48.	Bendi	-	<i>Hibiscus esculentus</i>	1
49.	Kacang panjang	Cowpea	<i>Vigna sinensis</i>	1
50.	Lempoyang	Shampoo Ginger	<i>Zingiber zerumbet</i>	1

Thus, this ethno botanical research and study recorded 50 plants by means of its use and relative importance to the Malay society in an urban area. Furthermore, the most common ethno botany plants planted in the study area were illustrated in figure 1. Out of the 50 plants species listed above, 34 plants were cited for medicinal purposes, 29 for food consumption, 8 for utility uses and 7 for both ritual and beautification purposes. Thus in hierarchical importance, the plants were mainly for five reasons as discussed below.

Fig. 1. The most common ethno botany plants planted in the study area



The literature survey revealed that plants for medicinal is part of plants knowledge and practices which are home-grown to the Malay culture that cover aspects of health and healing. Thus, from the findings and analysis, plants for medicinal are highly stated in the society since medicinal plants is always been well thought-out as a healthy source of life especially in the Malay world. However, Malay people nowadays especially in the urban area less trust in traditional kind of ailments curing due to

modernization and urbanization. In fact, they do know the importance and the use of the medicinal plants that they usually planted but not fully utilizing it for medicinal purpose.

Their particularly reasons are mainly because of less equip with the knowledge concerning to the medicinal plants. At the same time, traditional medicine competes with modern and western medicine which proves more effective and is trusted by the urban community compared to rural community. That is the reason, why they prefer to go to the hospital rather than taking the traditional medicine. Besides, the preparation of the traditional medicine is complex, and the effectiveness of healing the diseases nowadays using the traditional method is not proven. Moreover, the effects of the traditional medicine are less efficient compared to drugs or modern medication. However, the most frequent medicinal plants planted and still being utilized by the urban people nowadays are pandan leaves, serai wangi, cekur, pegaga and mengkudu. They are very essential for post natal use care in order to rejuvenate the outer side and inner side of the body health. After all, this is such a complicated process of recuperation and the use and importance of these plants depends on the insight and awareness of Malay society nowadays in preserving the plants and culture.

## *6.2. Food and Consumption*

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Food is the most important element in relating plants and human relationships. In relation to that, most plants planted in the study area were meant for food consumption. Even though the people there did not fully utilize all of the plants planted for food and consumption, they do make use of the plants every day for food preparation. This purpose is more relevant than any other reason for growing the plants since people are definitely depending for sources of food to survive. That is the reason why most of the urban residents in the area grew their own set of plants for food such as ulam, vegetables and edible herbs. As a consequence, they acquired good and better quality of plants and food with higher nutrient value due to no fertilizing input and less reliance to imported and unfresh plants in the market. Throughout the findings and literature cited, plants for food and consumption are very important for the body and soul.

### 6.3. *Rituals*

Inevitably, the Malay culture has an intricate relationship between traditional and cultural circumstances. Thus, herbal and plants planted in the house garden are not merely for medical and healing purposes, but more or less it is a part of the culture. This clearly indicates the strength that plants have strong liaison with some cultures in Malay society such as wedding, bridal grooming, cuisine, postpartum, birth, healthcare, Malay martial arts, Malay myths, circumcision of boys and others as cited in the literature review. Plants for ritual are the least part of the findings throughout the survey. Most of the respondents were not really utilizing some of the plants for the ceremony like what their old folks did traditionally except for very common ceremonies like wedding and birth. Some urban people nowadays refuse to believe in odd rituals, and spiritual practices fearing that these practices may affect their religious beliefs since all Malay people in this urban area practise Islam as their way of life.

### 6.4. *Utilities*

Plant like *cocos nucifera* mentioned by the respondents is an example of a plant that has multiple uses of ethno botany purposes which include medicinal, food consumption rituals and utilities purposes. However, the most quoted plant throughout the findings and literature review for this type of plants was mainly used for utilities purposes. Pandan leaves, which is the most preferred plants in the study area, was also used as food colouring, food wrapper and flavouring in the food preparation. For that reason, the plant is mostly planted in most house garden. However, not many utilities plants can be identified and used for utilities due to the house owner's narrow garden space which limited the findings and analysis of the survey.

### 6.5. *Beautification*

In terms of beautification, plants and herbal are used to a large extent in endearing the emergence of woman at any place. As in this study area, plants commonly used for beautification were roses, jasmine, henna leaves, lime and turmeric. From the interview, all these plants mentioned are good for the inner beauty of women. It can be concluded that plants for beauty are still not being explored in depth due to lack of plant knowledge with regards to beautification.

## 7. **Conclusion**

From the literature review and findings, this research has established a fact that plants continue to be a significant healing, therapeutic aid for alleviating ailments and other sources of functions such as consumption, beautification, utilities and rituals to humankind. This research will definitely offer new insight towards understanding on the conservation of Malay ethno botany gardens in urban residential area. Besides, it can also give support to other people and researchers to do more profound study in compliance to this field. Even though the identification of ethno botany plants in urban areas is low in level compared to rural, the awareness and consideration with regards to ethno botany is essential for the development of a modern culture. Sharing this investigation with interested professionals may contribute to a growing body of knowledge that has the potential to make changes and improvements for the betterment of plants and culture conservation. Thus, the research has the potential to serve as a catalyst for transformation within the heart of urban areas thus serving the aspirations of generations to come. It can be concluded that plants are remarkable species for their values, and as study and research continue, the knowledge and culture will always remain intact. In addition to that, ethno botany is the basis towards

preserving and conserving the cultural and plant diversity, as well as utilising, and using the knowledge efficiently to sustain the Malay culture and identity specifically in urban areas.

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