

## Traditional Knowledge of a Practitioner in Medicinal Plants of Masjid Ijok Village, Perak, Malaysia

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**ABSTRACT** This report is based on information gathered through semi-structured interviews of several villagers who have knowledge about traditional uses of medicinal plants in a rural Malay village in Perak, Malaysia. A total of 50 plant species belonging to 36 families with medicinal uses were recorded. Herbs constitute 38 percent of the plant species used. This was followed by shrubs (30%) and trees (28 %). Leaves are the most common plant part used in preparing herbal medicine. The most common method of preparation is decoction (54%), followed by poultice (24%) and infusion (22%). More plants are used in gastro-intestinal problems than others.

### INTRODUCTION

Medicinal plants have been identified and used throughout human history and play a key role in the development of new medicinal substances and drugs. The search for plants with medicinal use has led to some ethnobotanical studies that have documented traditional medicine of plant species, uses, part used, mode of administration and disease treated by local communities around the world. Fabricant and Farnsworth (2001) identified 122 compounds of defined structure, obtained from only 94 species of plants that are used globally as drugs and demonstrate that 80 percent of these have had an ethnomedical use identical or related to the current use of the active elements of the plant. In Malaysia, documentation on traditional knowledge on medicinal plants by local communities is still on-going (Ong et al. 2011b). Traditional knowledge on medicinal plants is a legacy passed from one generation to another and some of them are being lost with the increasing rate of habitat destruction. Despite many studies that have been carried out on medicinal plant resources in Malaysia (for example, Ahmad and Holdsworth 1995; Kulip 2003; Lin 2005; Samuel et al. 2010; Ong et al. 2011a, 2012a), a larger number of medicinal plants and traditional uses are still waiting for proper documentation. This is a proper

step to ensure that traditional knowledge of medicinal plants is documented and transmitted across generations while the sustainability of it is guaranteed.

Recording the importance of traditional knowledge on medicinal plants has received much attention recently. Local communities of Malaysia have a rich knowledge in medical plants which they use as an alternative treatment for various ailments. However, this traditional knowledge is in danger of vanishing due to habitat degradation, overexploitation and non-interest of younger generations to inherit this knowledge and their associated practices. There is already a lot of literature on plant species that are used in Malay traditional medicine. Among these are works by Kamarudin and Latif (2002), Ong et al. (2011b,c), Ong and Norzalina (1999), Ong and Nordiana (1999), and Zakaria and Mohd (1994). Another study on plants used in Malay traditional medicine by Jamal et al. (2011) indicated that the diversity of plants used in post-natal care was remarkable. Yusof (2013) has compiled and provided notes on 665 species of medicinal plants in Malaysia. The present study is meant to complement or add to the existing literature on plant species that is used in Malay traditional medicine. This study is undertaken because medicinal plant species used by the Malays in many remote villages have not been documented. Such a study is needed to provide leads for further scientific studies on their medicinal values. The objective of this study is to document traditional uses of medicinal plants by a Malay traditional medicine practitioner in a village known as Masjid Ijok in the state of Perak, Ma-

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laysia. Medicinal use(s) of the plant species are described together with their methods of preparation and administration. Other information on the plants such as their habits and families are included for future references.

### MATERIAL AND METHODS

This study was carried out in a village named Masjid Ijok village which is located in the state of Perak, Malaysia. Masjid Ijok is a rural and traditional Malay village located in the district of Selama (Fig. 1). The villagers are involved mainly in agriculture such as rubber tapping and banana planting. A traditional medicine practitioner of the village was identified through conversations with the villagers during several visits in the year 2013. Most of the information on medicinal plants recorded during this study is based on several sessions of meetings and semi-structured interviews with the traditional medicine practitioner. Plants local names, uses, part used, and mode of administration were recorded in a field notebook during the field trips. According to the traditional medicine practitioner, those that came and seek treatment from him are the villagers and several visitors to the village. The visitors came to seek treatment from him knew about his ability from words of mouth. An informant, who is the son of the traditional medicine practitioner, was also engaged to show the medicinal plants in the village. Photographs of each medicinal plant were taken to help in its identification and for record. Identification and scientific name determination were done using various references on the local flora such as Henderson (1974a, b) for wild flowers, Ng (1989) and Whitmore (1989) for trees, Keng (1969) and Ridley (1967) for general flora.

### RESULTS

In the present study a total of 50 plant species used in traditional medicine by the Malay villagers, belonging to 49 genera and 36 plant families was recorded (Table 1). The largest proportion of medicinal plants belonged to the families Lamiaceae, Zingiberaceae, Acanthaceae, and Asteraceae with 3 species each. This is followed by Euphorbiaceae, Malvaceae, Piperaceae, Arecaceae, Melastomataceae, and Rubiaceae with 2 species each. Herbs were the main source of medicinal plants in terms of number of

species (38 % of total species, 19 species) followed by shrubs (30%, 15 species), trees (28 %, 14 species) and climbers (4 %, 2 species). The plant parts used for medicinal preparations were leaves, roots, flowers, fruits, rhizomes and some cases the whole plants is utilized including the roots. The most frequently utilized plant parts were the leaves (40%) followed by roots (34%), fruit (14%) and whole plants (6%). Gastro-intestinal problems including stomach ache, diarrhea, urinary stones, indigestion and flatulence were among the most frequent ailments treated with the medical plants (36 % of all remedies). It is followed by respiratory problem and fever (18%), dermatological complaints (10%) hypertension (8%) and other health problem. The main administration routes of the remedies were taken orally (74%) and topical application (26%). The most common method of preparation is decoction (54%), poultice (24%) and infusion (22%).

### DISCUSSION

This study recorded a total of 50 species of plants used in traditional medicine in Masjid Ijok village. The number of plant species used in traditional medicines is, however, not always consistent between Malay villages. Ong et al. (2011b) recorded a total 56 species of plants that are used in traditional medicine in a Malay village. Ong and Nordiana (1999), however, recorded a total of 146 species of medicinal plants in another Malay village. The number of medicinal plant species recorded in this study is higher than those recorded for several local communities of other ethnic groups such as the Kensiu in Baling, the Semai in Tapah, the and Temuan in Negeri Sembilan. Nur Shahidah et al. (2012) noted that the Kensiu of a village in Baling only use 39 species of medicinal plants. Ong et al. (2012b) noted the Semai in a village in Tapah use only 37 species of medicinal plants. Ong et al. (2011a) recorded 35 species of medicinal plants in a village in Negeri Sembilan. The number recorded by Ong et al. (2012a) for a Jah Hut community in Pahang was comparable to the number of species recorded in the present study. Ong et al (2011b) pointed out that the total number of medicinal plants known to and used by any particular village can vary substantially. The present study also supports the remark by Ong et al. (2011c,d) that the Zingiberaceae is one of the main medicinal plant families in Peninsular Malaysia.

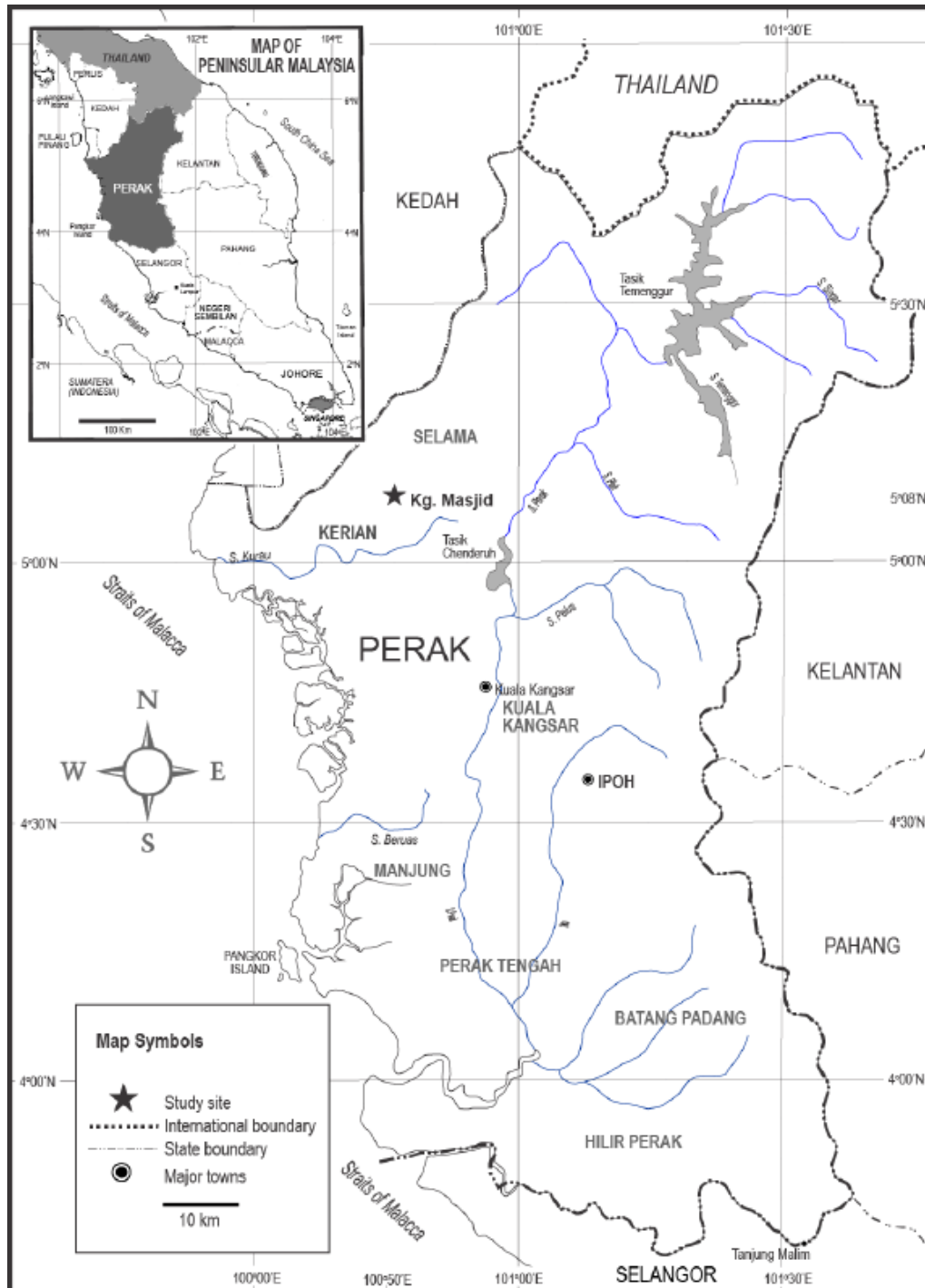


Fig. 1. Location of study site

Table 1: Medicinal plants of Masjid Ijok village

No.	Species name	Local name	Family name	Habit	Plant parts	Use	Preparation	Administration
1	<i>Ageratum conyzoides</i> L.	Pokok Tahil Babi	Asteraceae	Herb	Leaves	Treat colic, colds and fevers	Infusion	Orally
2.	<i>Allium tuberosum</i> Rottler ex Spreng	Kucah	Amaryllidaceae	Herb	Leaves	Treating parasites in the intestines	Decoction	Orally
3.	<i>Ananas nanus</i> L.B. Smith	Nenas Batu	Bromeliaceae	Herb	Fruit	Kidney stones	Infusion	Orally
4.	<i>Andrographis paniculata</i> (Burm.f.) Wall. ex Nees	Hempedu Bumi	Acanthaceae	Herb	Whole plant	Hypertensions	Decoction	Orally
5.	<i>Annona muricata</i> L.	Durian Belanda	Annonaceae	Tree	Leaves	Fever	Infusion	Dressing
6.	<i>Areca catechu</i> L.	Pinang	Arecaceae	Tree	Root	Kidney stone	Decoction	Orally
7.	<i>Barringtonia racemosa</i> (L.) Spreng.	Putat	Lecythidaceae	Tree	Fruit	Cough, asthma	Infusion	Orally
8.	<i>Blumea balsamifera</i> (L.) DC.	Capa	Asteraceae	Shrub	Leaves	Diarrhea	Decoction	Orally
9.	<i>Carica papaya</i> L.	Betik	Caricaceae	Shrub	Ripe fruit	Constipation	Infusion	Orally
10.	<i>Cassia tora</i> (L.) Roxb	Gelenggang kecil	Fabaceae	Herb	Root	Kidney stones	Decoction	Orally
11.	<i>Centella asiatica</i> (L.) Urban	Pegaga	Mackinlayaceae	Herb	Whole plant	Aging	Infusion	Orally
12.	<i>Chassalia curviflora</i> (Wallich) Thwaites	Beberas	Rubiaceae	Shrub	Roots	Coughs	Decoction	Orally
13.	<i>Citrus aurantiifolia</i> (Chris. & Panz.) Swin.	Limau nipis	Rutaceae	Tree	Fruit	Dysmenorrhea	Infusion	Orally
14.	<i>Clerodendron paniculatum</i> L.	Pepanggil	Lamiaceae	Shrub	Root	Asthma	Decoction	Orally
15.	<i>Clidemia hirta</i> (L.) D. Don	Senduduk babi	Melastomataceae	Shrub	Root	Poison antidote	Decoction	Orally
16.	<i>Clinacanthus nutans</i> (Burm F.) Lindau	Belalai gajah	Acanthaceae	Shrub	Leaves	Gastro-intestinal	Decoction problems	Orally
17.	<i>Cocos nucifera</i> L.	Kelapa	Arecaceae	Tree	Root	Kidney stone	Decoction	Orally
18.	<i>Coleus atropurpureus</i> Benth.	Ati-Ati	Lamiaceae	Herb	Leaves	Diarrhea	Poultice	Dressing
19.	<i>Cymbopogon flexuosus</i> (Nees ex Steud.) Will.							
20.	Watson <i>Cyperus alternifolius</i> L.	Serai hitam	Cymbopogon	Herb	Root	Indigestion	Decoction	Orally
21.	<i>Elettariopsis slahmang</i> C.K. Lim	Halia Kesing	Zingiberaceae	Herb	Leaves	Treat	Poultice postpartum	Dressing
22.	<i>Euphorbia hirta</i> L.	Ara Tanah	Euphorbiaceae	Herb	Whole plant	Gastrointestinal disorders	Decoction	Orally

Table 1: Contd...

No.	Species name	Local name	Family name	Habit	Plant parts	Use	Preparation	Administration
23.	<i>Eurycoma longifolia</i> Jack	Tongkat ali	Simaroubaceae	Tree	Root	Low sexual energy	Decoction	Orally
24.	<i>Ficus deltoidea</i> Jack	Mas cotek	Moraceae	Shrub	Leaves	Hypertension	Decoction	Orally
25.	<i>Hibiscus rosa-sinensis</i> L.	Bunga Raya	Malvaceae	Shrub	Leaves	Fever	Infusion	Dressing
26.	<i>Kaempferia galangal</i> L.	Cekur	Zingiberaceae	Herb	Leaves	Womb healing after childbirth	Decoction	Orally
27.	<i>Kalanchoe pinnata</i> (Lamk.) Pers.	Setawar	Crassulaceae	Herb	Leaves	Headache	Poultice	Dressing
28.	<i>Leucaena leucocephala</i> (Lamk.) De Wit	(Lamk) De Wit	Petai Belalang	Leguminosae	Tree	Seed	Stomachache, contraception, abortifacient	Orally
29.	<i>Mallotus barbatus</i> Müll.Arg.	Pokok Tapu	Euphorbiaceae	Tree	Root	Gastrointestinal disorders	Decoction	Orally
30.	<i>Mangifera foetida</i> Lour	Machang	Anacardiaceae	Tree	Leaves	Skin Complaints	Poultice	Dressing
31.	<i>Maranta arundinacea</i> L.	Ubi Larut	Marantaceae	Herb	Root	Poison antidote	Decoction	Orally
32.	<i>Melastoma decemfidum</i> Roxb. ex Jack	Sendu-duk	Melastomataceae	Shrub	Root	Kidney stones	Decoction	Orally
33.	<i>Mikania micrantha</i> Kunth ex H.B.K.	Selaput Tunggul	Asteraceae	Climber	Leaves	Stop minor external bleeding	Poultice	Dressing
34.	<i>Molineria latifolia</i> (Dryand. ex W.T. Aiton) Herb. ex Kurz	Remba	Asteraceae	Herb	Root	Menorrhagia	Decoction	Orally
35.	<i>Morinda citrifolia</i> L.	Mengkudu	Rubiaceae	Tree	Leaves	Treat post-Fever	Poultice	Dressing
36.	<i>Oroxylum indicum</i> Vent.	Beka	Bignoniaceae	Tree	Leaves	Diabetes	Poultice	Dressing
37.	<i>Orthosiphon aristatus</i> (Bl.) Miq.	Misai Kucin	Lamiaceae	Shrub	Leaves		Decoction	Orally
38.	<i>Oxalis barrelieri</i> L.	Belimbing tanah	Oxalidaceae	Herb	Root	Hypertension	Decoction	Orally
39.	<i>Pandanus atrocarpus</i> Griff.	Mengkuang	Pandanaceae	Shrub	Root	Kidney stones	Decoction	Orally
40.	<i>Parkia speciosa</i> Hassk.	Petai	Mimosaceae	Tree	Fruit	Diabetes	Infusion	Orally
41.	<i>Piper betle</i> L.	Sirih	Piperaceae	Climber	Leaves	Stop internal bleeding in nose	Infusion	Poultice
42.	<i>Piper sarmentosum</i> Roxb. ex Hunter	Kadok	Piperaceae	Herb	Root	Cough, asthma	Decoction	Orally
43.	<i>Psidium guajava</i> L.	Jambu biji	Myrtaceae	Tree	Young Leaves	Diarrhea,	Infusion	Orally
44.	<i>Rhinacanthus communis</i> (L.) Kurz	Ubat Kurap	Acanthaceae	Shrub	Leaves	Skin complaints	Poultice	Dressing
45.	<i>Scorodocarpus borneensis</i> (Baill.) Becc.	Kulim	Olacaceae	Tree	Fruit	Indigestion	Infusion	Orally

Table 1: Contd...

No.	Species name	Local name	Family name	Habit	Plant parts	Use	Preparation	Administration
46.	<i>Sida rhombifolia</i> L.	Senangu-ri	Malvaceae	Shrub	Root	Fever	Decoction	Orally
47.	<i>Solanum torvum</i> Swar.	Terung Ceweng	Solanaceae	Shrub	Fruit	Hypertension	Infusion	Orally
48.	<i>Stachytarpheta jamaicensis</i> (L.) Vahl	Cabai tali	Verbenaceae	Shrub	Leaves	Scabies, abscess	Poultice	Dressing
49.	<i>Tacca integrifolia</i> Ker Gawler	Keladi murai	Tacca	Herb	Tubers	Skin complaints	Poultice	Dressing
50.	<i>Zingiber officinale</i> Roscoe	Halia	Zingiberaceae	Herb	Rhizom	Flatulence	Decoction	Orally

Most the medicinal uses of plant species recorded during the present have already been documented either in one or more documentations on Malay traditional medicine such as by Yusof (2013), Jamal et al. (2011), Ong et al. (2011c,d), Ong and Norzalina (1999), Ong and Nordiana (1999) and Zakaria and Mohd (1994). Medicinal plant species recorded in the present study but not documented by these authors are *Allium tuberosum* Rottler ex Spreng, *Clinacanthus nutans* (Burm F.) Lindau, *Cymbopogon flexuosus* (Nees ex Steud.) Will. Watson, *Elettariopsis slahmong* C.K. Lim, *Maranta arundinacea* L., *Pandanus atroparpus* Griff., *Rhinacanthus communis* (L.) Kurz, and *Scorodocarpus borneensis* (Baill.). Medicinal plant species that are consistently present in all the above works and also recorded during the present are *Carica papaya* L., *Coleus atropurpureus* Benth., *Piper betle* L. and *Psidium guajava* L. Description of medicinal use(s) of most species in the present is generally same as all the authors except in the latter certain species are provided with more medicinal uses or more elaborate preparation methods.

The survey and documentation of medicinal plant used by local community is mandatory for conservation and sustainable utilization. According to Eyzaguirre and Watson (2002), a plant species should be conserved in home gardens in a village if it's undergoing for domestication process. *Scorodocarpus borneensis* (Baill.) Becc, *Eurycoma longifolia* Jack and *Parkia speciosa* Hassk that are found in Masjid Ijok village are not cultivated but usually spared by villagers for various purposes that include medicine. There are also species of plants recorded in this study that grow wild in bushes within the village area. The plants also serve alternative medicines to treat certain ailments when modern medicines are expensive and difficult to get or there are no modern drug specifically to treat the ailments. An example of plant that is still used by villagers for quick treatment of minor external bleeding is *Mikania micrantha* Kunth ex H.B.K.

Sustainable utilization is important to conserve of medicinal plants. Plant parts that are commonly used in traditional medicine vary with communities in Peninsular Malaysia. A study by Nur Shahidah et al. (2012) shows that roots as the most commonly used plant part in the traditional medicine of the Kensiu tribe in Pen-

insular Malaysia. The present study shows the leaves as the most common part of plants used in Malay traditional medicine. Studies at two other Malay villages by Ong et al. (2011) also show similar results. Usage of leaves is less destructive as compared to roots and whole plants.

### CONCLUSION

Herbs constitute the highest proportion of medicinal plant species used by the traditional medicine practitioner in the present study. Medicinal uses of most plants recorded in this study are generally the same as already recorded. Medicinal values of certain plant species recorded in the present were hardly heard of or not recorded before. These are *Allium tuberosum* Rottler ex Spreng, *Clinacanthus nutans* (Burm F.) Lindau, *Cymbopogon flexuosus* (Nees ex Steud.) Will. Watson, *Elettariopsis slahmong* C.K. Lim, *Maranta arundinacea* L., *Pandanus atroparpus* Griff., *Rhinacanthus communis* (L.) Kurz, and *Scorodocarpus borneensis* (Baill.) Becc. All the species recorded in this study can be obtained from home garden or within the village area which suggest the potential role of home gardens and village area in the conservation of medicinal plants.

### RECOMMENDATIONS

The present study is mainly limited by the number of traditional medicine practitioner engaged as an informant and inability to interview patients that seek treatment from him. As such it was not possible to assess effectiveness of the plants for treating the ailments as claimed by the traditional medicine practitioner. Similar but more comprehensive studies should be extended to more villages especially in remote parts of Peninsular Malaysia so that more information on medicinal values of local plants can be gathered. This is crucial in the exploitation and conservation of medicinal plants. Scientific merits on the reported medicinal value of the plants should also be pursued. This can be done by including laboratory and clinical investigation on the chemical constituents of the medicinal plants.

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