

ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS USED BY THE JAH HUT PEOPLES IN MALAYSIA

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ABSTRACT

CONTEXT: An ethnobotanical study was carried out among the Jah Hut people who live in the central part of peninsular Malaysia. **MATERIALS AND METHODS:** The information on the medicinal plants was obtained from interview with a traditional medicinal man. The traditional uses and remedies were documented. The literature searches were carried out for the evaluation on the current status of investigations on these plants. **RESULTS:** In this study, we present 16 species of plants, which are commonly used among the Jah Hut people to cure some common diseases. **DISCUSSIONS:** This study is important to preserve the knowledge of medicinal plants used by Jah Hut people. The surveys of phytopharmacological literatures of these plants have great pharmacological and ethnobotanical significance.

KEY WORDS: Ethnobotany, herbs, Jah Hut, Malaysia, medicinal plants

The area of ethnobotanical study is located in Pahang state, the central part of peninsular Malaysia. This study was carried out amongst small ethnic group of 'Orang Asli' (aboriginal peoples), Jah Hut, who live in Kampung Keboi ('Kampung' means village), within the tropical forest in Jerantut district. The climate is equatorial with an average temperature of 23-32°C. The annual rainfall is between 1525 and 3050 mm/year. These climate conditions allow the growth of diverse plants with economical value and many of which are therapeutically important. There are about 1300 medicinal plant products registered by the Ministry of Health of Malaysia and are available in market.^[1]

There are approximately 4000 Jah Hut peoples

distributed over 11 villages, which extend along the west bank of Pahang River from Jerantut in the north to Termeloh in the south. They speak the Jah Hut language, which is affiliated to the Mon-Khmer branch of Austroasiatic family. It does assimilate with many Malay words. In Jah Hut language, 'Jah' means 'people' and 'Hut' means 'no', however they cannot explain the meaning of these combined words. Kampung Keboi is one of the smallest Jah Hut settlements and has about 100 inhabitants. Jah Hut people live in Malay style houses, which stand on stilts. Their main agricultural activities include rubber tapping, growing rice, and rearing domestic fowls, such as chicken. The wood carving activities are practiced among the Jah Hut. This is not the only source of income, but also an extension

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of their traditional ideological framework based on their religious beliefs. Although they live in forests, they are not completely isolated, their economical dealing with neighboring people exist since a few 100 years ago.^[2]

The traditional herbal knowledge is passed from generation to generation in the verbal form by traditional medicinal man or 'bomoh'. In recent years, folk medicine is no more an attraction to the younger generation, they are more dependent on western medicine. They are unable to recognize the herbs and possess very little knowledge on traditional herbal remedy. Nowadays many young people migrate to urban areas for education and job opportunities. As a consequence, only the elder people possess the knowledge of herbs and it is estimated only a handful of people are able to use the traditional remedy to treat illness. Thus, the traditional knowledge is rapidly eroding. In addition, there is a lack of ethnobotanical survey carried out in these areas. For these reasons, the documentations of the traditional uses of indigenous plants are important to preserve their knowledge. The purpose of this study is to investigate the traditional uses and remedies of various indigenous plants, which are commonly used among the Jah Hut people.

MATERIALS AND METHODS

All verbal information on the medicinal plants were obtained through an interview with a traditional medicinal man. This was done by Rev. Anthony Naden, a priest of a Catholic Church, who devoted his life in the service of the aboriginal people. The local name, parts of plants used, ailments treated, preparations and

mode of uses were recorded. The collected specimens were identified at the species level in the Herbarium of Forest Research Institute Malaysia under supervision of Dr. E. Soepadmo. The voucher specimens were dried, labeled and stored. The search of recent scientific phytopharmacological literatures were carried out in order to obtain the information on the current status of investigations of these plants.

RESULTS

In this study, 16 species of plants were documented. The information obtained includes the botanical name, local name, parts of the plant used, traditional uses, preparations and modes of uses. The data recorded in Table 1 are arranged in alphabetical order according to botanical names.

It is worth to note that some of these plants have already been studied experimentally, i.e., *Eurycoma longifolia*, *Hedyotis capitellata*, *Melastoma malabathricum*, *Morinda citrifolia*, *Lycopodiella cernua* and *Vernonia cinerea*. The pharmacological activities reported in recent literatures are recorded in Table 2.

DISCUSSIONS

Eurycoma longifolia are extensively studied in some institutions in Malaysia and the herbal preparations are available in the market.^[3-12] It is a popular herb used by many local races of Malaysia and mainly used as aphrodisiac, anti-pyretic and anti-malarial remedy.^[39] Not surprisingly, Jah Hut people often use it as an aphrodisiac remedy. This observation agrees with various pharmacological studies in which

Table 1: Remedies of plant used by Jah Hut peoples

Sr. No.	Botanical name (family name)	Local names	Parts used	Traditional uses	Preparations	Modes of uses
1.	<i>A. angustiloba</i> (L.) Miq. (Apocynaceae)	Ludoh	Leaves	Headache	Crushed	External application (two to three times daily)
2.	<i>Coptosapelta tomentosa</i> (L.) (Blume) Valeton ex K. Heyne (Rubiaceae)	Salah	Roots	Parasitic worm infections	Decoction	Oral (one glass two to three times daily)
3.	<i>Eurycoma longifolia</i> (L.) Jack (Simaroubaceae)	Tongkat Ali	Roots	Virility	Decoction	Oral (two teaspoons daily)
4.	<i>Hedyotis capitellata</i> (L.) Wall. ex G. Don (Rubiaceae)	Bubut	Roots	Urinary problems	Decoction	Oral (two to three times daily)
5.	<i>H. populneus</i> (L.) (Geisl.) Pax (Euphorbiaceae)	Remaya	Leaves	Headache	Crushed	External application (two to four times daily)
6.	<i>Lycopodiella cernua</i> (L.) Pic. Serm. (Lycopodiaceae)	Paku	Leaves	Vertigo	Crushed with charcoal	External application on face (two to three times daily)
7.	<i>Lygodium flexuosum</i> (L.) Sw. (Schizaeaceae)	Ribu	Leaves	Measles	Crushed with rice	External application (two to four times daily)
8.	<i>Melastoma malabathricum</i> (L.) (Melastomataceae)	Senuduk	Roots	Diarrhea	Decoction	Oral (one glass two to three times daily)
9.	<i>Maranta arundinacea</i> (L.) (Marantaceae)	Ketap	Roots	Burning feeling in stomach after delivery	Decoction	Oral (one glass two to three times daily)
10.	<i>Morinda citrifolia</i> (L.) (Rubiaceae)	Mengkudu	Leaves, fruits	Boils on head	Decoction (leaves, fruits) /crushed (fruits)	External application (two to three times daily)
11.	<i>P. minima</i> (L.) (Solanaceae)	Lepung	Leaves, roots	Pain below naval	Decoction	Oral (one glass four to five times daily)
12.	<i>Pseuderanthemum crenulatum</i> (L.) (Lindl.) Radlk. (Acanthaceae)	Seemelet	Leaves	Boil on body	Crushed	External application (two to four times daily)
13.	<i>P. piloselloides</i> (L.) M.G. Price (Polypodiaceae)	Titik	Leaves	Pain on body	Crushed/ decoction	For crush, external application/for decoction, oral (one glass two to three times daily)
14.	<i>Smilax lanceifolia</i> (L.) Roxb. (Smilacaceae)	Dunnon	Leaves	Pricking pain	Crushed	External application
15.	<i>Smilax myosotiflora</i> (L.) (Smilacaceae)	Ubi Jaga	Bulbs	Virility, back pain	Decoction	Oral
16.	<i>Vernonia cinerea</i> (L.) Less. (Compositae)	Trombe	Leaves, roots	Asthma	Decoction	Oral (one glass two to three times daily)

anti-hyperglycemic, anti-malarial, anti-proliferative, anti-schistosomal, anxiolytic and aphrodisiac activities are found in both *in vivo* and *in vitro* studies.^[3-17]

Jah Hut people often use *M. citrifolia* to treat

boils by topical application of leaves or fruits. This coincides with pharmacological validation, since boils (impetigo, folliculitis, furuncles, or carbuncles) are often caused by *Staphylococcus aureus*; *M. citrifolia* possess anti-bacterial properties to counter it.^[30]

Table 2: Pharmacological activity of plants reported in literatures

Plants	Pharmacological activity reported in literatures	References
1. <i>Eurycoma longifolia</i>	Anti-hyperglycemic, anti-malarial, anti-proliferative, anti-schistosomal, anxiolytic, aphrodisiac	3-17
2. <i>Hedyotis capitellata</i>	Anti-bacterial	18
3. <i>Lycopodiella cernua</i>	Anti-bacterial, anti-fungal	18, 19
4. <i>Melastoma malabathricum</i>	Anti-bacterial, anti-nociceptive, anti-proliferative, anti-viral	18, 20, 21
5. <i>Morinda citrifolia</i>	Analgesic, anti-atherosclerotic, anti-bacterial, anti-fungal, anti-helminthic, anti-hypertensive, anti-inflammatory, anti-malarial, anti-proliferative, anti-viral, immune modulation, nitric oxide scavenging activity	22-32
6. <i>Vernonia cinerea</i>	Analgesic, anti-bacterial, anti-inflammatory, anti-pyretic	33-38

Jah Hut people often use *V. cinerea* to relief asthma. Asthma is reversible airway obstruction associated with mucosal inflammation caused by mast cells and basophils degranulation resulting in the release of inflammatory mediator. Recent studies revealed the anti-inflammatory activities of *V. cinerea*,^[34,35] therefore it is reasonable to use it in relieving asthma.

Other plants, which were not documented in phytopharmacological literatures and of interest may be exploited so that the underlying mechanisms in different diseases of treatment by pharmacological methods can be done. This approach has great significance in discovery of novel pharmacological preparations. For example, *Alstonia angustiloba* and *Homalanthus populneus* are used to relieve headache in Jah Hut herbal remedy. Since headache can be caused by a wide spectrum of factors, stress, neurological disturbances, infections and so on, it might be interesting to study the underlying mechanisms of these herbs, or pure substances within it, against headache. It may probably possess anti-depressant or anti-hypertensive activity. The *Physalis minima*, *Pyrrosia piloselloides* and *Smilax lanceifolia* are often used to relieve

pain, it is of practical use to search and extract the substances with analgesic action and study the underlying action by phytochemical, pharmacological and toxicological methods.

In conclusion, this study is important to preserve the knowledge of medicinal plants used by Jah Hut people and also it is of important significance to exploit novel pharmacological agents in various treatments of diseases.

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