

## Traditional Medicinal Plants Used by the Kensiu Tribe of Lubuk Ulu Legong, Kedah, Malaysia

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**ABSTRACT** This study is based on information obtained through interviews with respondents, observations, collection and identification of medicinal plants in Kampung Orang Asli Lubuk Ulu Legong Baling, Kedah. A total of 39 species from 35 families of medicinal plants used for treating various ailments were recorded. 10.2% of the species were used to treat more than one ailment. The common mode of administration was oral (69.2%) followed by external use (30.8%). The common part of plant used is the root followed by leaves, stem, fruit, whole plant and tuber. Decoction (69.2%) is a common method of preparing herbal medicine followed by pounded (15.4%), mashed (7.7%), burned (2.6%), shredded and incantation (3%). 59% of the species were obtained from the wild, 28.2% were planted and 12.8% species of the species were both wild and planted.

### INTRODUCTION

The term "Orang Asli" encompasses three basic types of communities; the Negritos, the Senoi and the proto-Malays. The Kensiu tribe belongs to the Negritos ethnic group who were largely nomadic foragers, living in one location as long as the food supply was able to maintain the community (Harper 1997; Nicholas 2000). Most of them lived in the jungle of the North and North-East Malaysian peninsula. However, today the Kensiu tribe lives in permanent settlements which can be found in the north-east of the state of Kedah and a few of them can be found living in Perak and Kelantan (Nicholas 2000; Nagata 2006). The Kensiu is a minority tribe in minority group of Orang Asli.

This study focuses on the plants used in traditional medicine by the Kensiu tribe. Prior to this study there were no prior records regarding this matter. The usage of medicinal plants in Kensiu traditional knowledge must be recorded and preserved before it is lost forever as modernization is slowly creeping towards the doorsteps of the indigenous tribes (Ong et al. 2011).

Documentation of traditional knowledge on medicinal plant usage by the native people in Peninsular Malaysia is still far from complete (Ong et al. 2012). This study was carried out to help the Kensiu to conserve their knowledge of medicinal plants usage that may be useful for the future generation especially its genetic and pharmaceutical resources. This study is also a part of the effort towards conservation and developing the main resources in the Kensiu com-

munity. Information from this study can also be used as a reference for further studies which can be expanded for further research especially for species with high health and economic values.

### MATERIALS AND METHODS

This study was conducted in a Kensiu tribe village named Kampung Orang Asli Lubuk Ulu Legong in the state of Kedah. It is located in the North of Baling the second largest district in Kedah with a longitude of 5°47' 439" N and a latitude of 100°54' 075" E. In this village there are 46 houses which were built by the Department of Orang Asli Development (JKOA) in 1952 with a total of 258 persons living in an area of about 2.51 km<sup>2</sup> including the vegetation fields. While there are also houses built using planks and beams, most of the houses were built using bricks. However, there are several cottages that can be found built using material from surrounding forests such as bamboo walls and floor and roofed with leaves that are built next to their brick houses.

Information was obtained using several ethno-botanical methods. The first method is site surveys including interviews with villagers guided by a predetermined set of questions, observations on site and specimen collection. These sessions were recorded using a field notebook and voice recorder. All of these methods were applied during the field trips which were conducted from June 2011 till June 2012. Plant specimens were collected and determined according to Martin (1995). Photographs of the specimens were also taken for identification purposes. Identification was done using various

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references. The species recorded are listed in a table according to alphabetical order of the binomial names.

## RESULTS

This study recorded a total of 39 plant species used in traditional medicine by the Orang Asli in Kampung Lubuk Ulu Legong. Table 1 lists the binomial and family names, native names, status of species, parts used, ailments treated, and method of usage of the plant. The 39 plant species of medicinal use corresponds to 34 families. Of the total species, 36 of them are angiosperms, while only 2 species are pteridophytes and 1 species a mushroom. These plant species were obtained from 23 species of wild plants that were collected for use when needed, 11 species of planted plants, and 5 species of plants were both wild and planted. The 39 species were used to treat various kinds of ailments and other health problems normally faced by these people. The most common plant part used in the preparation of herbal medicines in this study is roots (51.3%) and leaves (28.2%). Other plant parts used and recorded in the preparation of herbal medicines are stem, bark, whole plant, fruit, and tuber. More herbal medicines were taken orally (69.2%) compared to topical usage (30.8%). The common methods of preparing herbal medicine are decoction (69.2%), followed by pounded or mashed (23.1%), burned (5.1%), incantation and shredded (2.6%). The families with the highest number of medicinal plant species were Zingiberaceae (4 species), followed by Asparagaceae, Rubiaceae and Sapindaceae (2 species each). Only one species was found in in each of the other 30 families.

## DISCUSSION

Traditional knowledge and use of plant resources should be recorded and published before it is lost due to modernization (Ong et al. 2011a). This valuable knowledge may drift away and finally be lost forever as the younger generations of natives are less keen to learn and use these medicinal plants to treat their various ailments (Ong et al. 2011c).

This study recorded 39 species of medicinal plants used by Kensiu in one village. 23 species (59%) are wild species. This shows that the villagers were still dependent on the gathering of wild species for medicinal purposes. There is a

widespread belief that wild-harvested material is more efficacious and can fetch higher prices (Alan 2004).

A total of 11(28.2%) species were planted. This shows that the Kensiu villagers have adopted the cultivation of 11 medicinal plants which do not grow in the wild. A total of 5 species (12.8%) were both planted and gathered from the wild. This is because some plants that are native in the forest are also planted in their house compounds such as *Curcuma xanthorrhiza* Roxb., *Guioa pubescens* (Zoll. and Mor.) Radlk., *Hedychium longicornutum* Baker, and *Mitragyna speciosa* Korth. However, according to the respondents, there are efforts by this community to cultivate more medicinal plant species; but, it is difficult to cultivate them because of certain biological features or ecological requirements.

The most common part of medicinal plants used by the Kensiu in this study is the root with 20 species which accounted for 51.3% of the total number of species recorded. This is followed by leaves with 11 species (28.2%), fruits with 4 species (10.3%), stems and barks with 3 species (7.7%), whole plant with 2 species (5.1%) and tuber with 1 species (2.6%). A previous study on the Temuan tribe also showed that the root is the main part used in herbal medicine (Ong et al. 2011c).

Medicinal plant species most susceptible to over-harvesting are habitat specific, slow growing and destructively harvested for their roots, whole plant, tuber and bark (Schippmann et al. 2002). These species suffer most from harvesting and need to be conserved before the plant species are seriously depleted. It is even worse when the plant species also has high commercial value in the community. According to the respondents some species with its root part being used in this study are *Dysoxylum alliaceum* (Bl.) Bl., *Barringtonia acutangula* (L.) Gaertn. and *Fibraurea cloroleuca* Miers. Examples of species with the entire plants used in the preparation of herbal medicine are *Cinnamomum cinereum* Gamb. and *Helmintostachys zeylanica* (L) Hook. While the species with its tuber used is *Lignosus rhinocerus* (Cooke) Ryvarden. These plant species were obtained from the wild for economical purposes and were not cultivated. When native herbal medicine was used only by the natives, there was much less pressure on species survival compared to when these species become commercialized due to demand may

**Table 1: List of medicinal plants recorded in this study**

S. No.	Scientific name/Family	Native name	Status	Part used	Ailment treated	Method of usage
1	<i>Areca catechu</i> L. Arecaceae	Pinang	P	Fruit	Fever	Soaked in water incantation and taken orally
2	<i>Barringtonia acutangula</i> (L.) Gaertn. Barringtoniaceae	Gajah beranak/ham	W	Root	Blood circulation	Decoction taken orally
3	<i>Carica papaya</i> L. Caricaceae	Betik	P	Fruit	Cough	Mixed with honey taken orally
4	<i>Cinnamomum cinereum</i> Gamb. Lauraceae	Tajalawang	W	Whole plant	Flatulence	Decoction taken orally
5	<i>Cnestis ramiflora</i> Griff. Connaraceae	Asam jawa bukit	W	Root	Diabetes	Decoction taken orally
6	<i>Costus speciosus</i> (Koenig.) Smith Zingiberaceae	Tepus bukit (bungaputih)	W	Stem	Cuts, wounds	Pounded and applied topically
7	<i>Curcuma xanthorrhiza</i> Roxb. Zingiberaceae	Temulawak	P,W	Root	Ageing	Decoction taken orally
8	<i>Durio zibethinus</i> Murray Bombacaceae	Durian	P	Leaf	Fever/Influenza	Mashed in water with leaves from several other species used as bath
9	<i>Dysoxylum alliaceum</i> (Bl.) Bl. Meliaceae	Hatap selaya	W	Root	Post-partum	Decoction taken orally
10	<i>Etingera elatior</i> (Jack) Smith Zingiberaceae	Kantan	P	Leaf	Body aches	Decoction used as bath
11	<i>Eurycoma longifolia</i> Jack Simoroubaceae	Tongkat ali	W	Root	Hypertension Low sexual energy	Decoction taken orally
12	<i>Eupatorium odoratum</i> L. Asteraceae	Kapal terbang	W	Leaf	Cuts, wounds	Pounded and applied topically
13	<i>Fibraurea cloroleuca</i> Miers. Menispermaceae	Pokok kuning	W	Root	Jaundice	Decoction used as bath
14	<i>Freycinetia javanica</i> Bl. Pandanaaceae	Kelawit mantai	W	Root	Back pain	Decoction taken orally
15	<i>Guioa pubescens</i> (Zoll. & Mor.) Radlk. Sapindaceae	Cemenui	P,W	Root Leaf	Influenza Fever Headache	Decoction used as bath Pounded and applied topically on forehead
16	<i>Hedychium longicornutum</i> Baker Zingiberaceae	Ramu akar cacing	P,W	Root	Worms	Decoction used as bath
17	<i>Helminthostachys zeylanica</i> (L.) Hook. Ophioglossaceae	Tunjuk langit	P	Whole plant Root	Post-partum Diabetes	Decoction taken orally Decoction taken orally
18	<i>Hibiscus rosa-sinensis</i> L. Malvaceae	Bunga raya	P	Leaf	Fever/Influenza	Mashed in water with leaves from several other species used as bath
19	<i>Kalanchoe pinnata</i> (Lam.) Pers. Crassulaceae	Setawar/sedingin	P	Leaf	Headache	Pounded and applied topically on forehead
20	<i>Labisia pumila</i> (Blume) Mez Primulaceae	Kacip fatimah	W	Root	Post-partum Increase the energy	Decoction taken orally
21	<i>Lawsonia inermis</i> (L.) Pers. Lythraceae	Inai	P	Leaf	Cuts, wounds Kidney stones	Pounded and applied topically Decoction are taken orally
22	<i>Leea indica</i> (Burm.f.) Merr Vitaceae	Kerak nasi	W	Leaf	Diabetes	Decoction taken orally

**Table 1: Contd.....**

S. No.	Scientific name/Family	Native name	Status	Part used	Ailment treated	Method of usage
23	<i>Lignosus rhinocerus</i> (Cooke) Ryvarden Poly poraceae	Susu rimau	W	Tuber	Asthma Increase energy Breast cancer	Burned and applied on the chest Eaten raw Shredded and mixed with water applied topically Decoction taken orally
24	<i>Lophatherum gracile</i> Brongn Graminae	Cekrek	W	Root	Body aches Hypertension	Decoction taken orally
25	<i>Loranthus cochinchinensis</i> Lour. Loranthaceae	Dedalu api	W	Stem	Diarrhea	Decoction taken orally
26	<i>Mitragyna speciosa</i> Korth Rubiaceae	Ketum	P,W	Leaf	Headache	Pounded with salt applied at forehead.
27	<i>Musa sapientum</i> L. Musaceae	Pisang kebatu	P,W	Fruit	Scalds	Burned and mixed with oil applied topically
28	<i>Neodissochaeta gracilis</i> (Jack.) Bakh. Melastomataceae	Cetliot	W	Leaf	Fever Influenza	Mashed in water with leaves from several other species used as bath
29	<i>Nephelium lappaceum</i> L. Sapindaceae	Rambutan	P	Leaf	Vomit	Washed and taken orally
30	<i>Oroxylum indicum</i> (L.) Kurz Bignoniaceae	Pokok bekah	P	Bark	Family planning for women	Decoction taken orally
31	<i>Parameria barbata</i> (Blume) K. Schum. Apocynaceae	Akar putih	W	Root	Body aches	Decoction taken orally
32	<i>Peliosanthes lurida</i> Ridl. Asparagaceae	Lemba seratus	W	Root	Flatulence Veins aches	Decoction taken orally
33	<i>Peliosantheae Asparagaceae</i> Wall. Peliosantheae	Rambu suntum	W	Root	Aging	Ground and applied topically on face
34	<i>Psidium guajava</i> L. Myrtaceae	Jambubatu	P	Fruit	Hemorrhoids	Decoction taken orally
35	<i>Scorodocarpus borneensis</i> Becc. Olacaceae	Kulim	W	Root	Low sexual energy for man	Decoction taken orally
36	<i>Smilax calophylla</i> Wall. Smilacaceae	Alek tembaga	W	Root	Asthma	Decoction taken orally
37	<i>Tectaria angulata</i> (Willd.) Copel Dryopteridaceae	Paku bukit/ubat lelah	W	Root	Asthma	Decoction are taken orally
38	<i>Thottea grandiflora</i> Rottb. Aristolochiaceae	Perdubaruang	W	Root	Low sexual energy for man	Decoction with another herb are taken orally
39	<i>Timonius wallichianus</i> (Korth.) Val. Rubiaceae	Patah bawah tangga	W	Root		

P – Planted; W – wild

exceeding supply (Ong et al. 2011c). According to Alan (2004) in order to conserve these plants from extinction and un-sustainability, the results from the study and documentation of the knowledge of medicinal plant species need to be given back to the communities to promote conservation, livelihood security, healthcare and preservation of local culture.

The result also shows that 69.2% of the medicinal plants species are made into decoctions

to be taken orally. This indicates that they use more than half of the plant species for internal medicine taken orally compared to topical applications. Decoction is the main method of preparation of medicines derived mostly from the roots and leaves.

The findings in this study show that traditional knowledge on plant species as herbal medicine is still strong in this community. However, harvesting of plant species for the roots,

whole plant and tubers to treat ailments and other health problems, may threaten the survival of these medicinal plants. In order to prevent this from happening, the Kensiu tribe has to be educated regarding the importance of preserving these valuable plant resources.

### CONCLUSION

This study has recorded 39 species of medicinal plants used by the Kensiu tribe in Kampung Lubuk Ulu Legong Baling, Kedah, Malaysia. Some of the species may have the potential to be used in clinical trials in treating various ailments which can end up in the form of health foods or food supplements that can contribute towards better health.

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