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Traditional Medicinal Plants Used by the Temuan Villagers in Kampung Tering, Negeri Sembilan, Malaysia

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ABSTRACT The authors report a total of 35 species of medicinal plants used by the villagers in Tering village. 20 species (57%) were native plants while 15 species (43%) were cultivated plants. The plants were used to treat various kinds of ailments and other health problems normally faced by these people. The common mode of administration was oral (54.3%) followed by external use (37.1%). Decoction was the more common method of preparing herbal medicine (48.6%) followed by pounded or mashed (25.7%).The plants were used to treat many types of ailments ranging from simple ones such as joint aches and pains to serious ailments such as bone fractures, hypertension and tumors. Traditional knowledge and usage of medicinal plants is decreasing due to various factors such as modern medicines are easily available, the younger generation are less interested in folk medicine, changes in habitat causing certain medicinal plants to be unavailable or less available.

INTRODUCTION

The indigenous people (Orang Asli) of Peninsular Malaysia are grouped into 3 different ethnic groups: the Negritos (Semang), the Senoi and the Proto-Malays. The Temuan tribe is in the Proto-Malay ethnic group. The Temuan are agriculturists as well as hunters and gatherers. Thus, they make use of the biological diversity available to them for fulfilling various needs (Carey 1976; Ong 1991). The Temuan are a comparatively large tribe and well-known for their knowledge and usage of medicinal plants but much of this knowledge have yet to be recorded and published by the scientific community (Carey 1976; Ong 1994). As modernisation moves towards the doorstep of the indigenous tribes, knowledge and usage of biodiversity decreases and eventually become adulterated or lost to humanity. Thus, it is imperative that the scientific community records and publishes this knowledge.

Nicholas (2000) shows that the Temuans can be found in every state in Peninsular Malaysia. However, most of them still live in rural and suburban villages of Negeri Sembilan and Selangor. A study by Krimi et al. (2010) indicates that the two states are among the fastest developing states in Malaysia. Temuan are therefore, considered as the most vulnerable tribe as most of them are concentrated in the two states. Bunnell and Nah (2004) reported the resettlement of Temuan villagers in Selangor to make way for the construction of an airport. The fate of the Temuan resettlers affected by the construction of Selangor dam has been discussed by Nicholas (2000). Resettlement inevitably changes the culture of the Temuans as they adapt themselves to modern lifestyle. Traditional usage of natural resources such as medicinal plants is one aspect of their culture that is threatened by this change. There is, therefore, an urgent need to document traditional usage of natural resources such as of medicinal plants by Temuan. Apart from becoming historical records of the tribe, such information can also be used for the exploitation of medicinal plants commercially and sustainably.

The earliest comprehensive account on the ethnobiology of the Temuan was by Dunn (1975). Among others, he noted several species of ferns that have medicinal uses to the Temuan. Although there have been several other reports on the Temuan, those that specifically described their usage of medicinal plants have been few. Among them are by Ong (1990, 1994) and Hanum and Hamzah (1999). The former described medicinal uses of the *Ageratum conyzoides* L. to the Temuan and the practice of traditional medicine in another Temuan village, whereas the later reported medicinal uses of plants by the Temuan of an area in Peninsular Malaysia. The present study provides an account on the traditional uses of medicinal plants by the Temuan of a village in the state of Negeri Sembilan.

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MATERIAL AND METHOD

This study was conducted in a Temuan native village named Kampung (Malay word for village) Tering, in the state of Negeri Sembilan, Malaysia. It is located approximately 40 km east of Seremban, the state capital. The latitude is 2° 54.33' N while the longitude is 101° 57.46' E. This is a native village with the houses built in clearings surrounded by vegetation with a stream nearby. There are 15 households with a total of approximately 120 persons living in an area of about 81 ha. The houses are built using planks and beams, with certain portions being built using bricks and mortar. These houses are not built in the traditional native style using materials obtained from the surrounding forests. Thus, this village looks more like a Malay village than a native one. The presence of dogs is a good indicator of a native village as one does not see dogs in Malay villages. A total of 3 trips were made to the study site, each time staying for 5 to 7 days, observing, participating and conversing with the Temuan villagers. Information was obtained through general conversation, observation and participation with adult villagers guided by a predetermined set of questions during each visit using the method of ethnobotanical enquiry (Chin 1981; Martin 1995). The sessions were recorded and transcribed later. Plant specimens were collected using standard taxonomical procedures, taking specimens with flowers and fruits whenever possible (Womersley 1981). Photographs of every specimen were also taken and used together with the plant specimens for identification and record. Identification was carried out by referring to various references such as Henderson (1974 a,b) for wild flowers, Ng (1989) and Whitmore (1989) for trees, Keng (1969) and Ridley (1967) for general flora.

RESULTS

This study recorded a total of 35 species of medicinal plants used in the Temuan village called Kampung Tering (Table 1). The Temuan in this village walked for quite a distance from their village to search for certain medicinal plants. Of the total, 20 species (57%) were native plants that were collected from the jungle for use when needed, while 15 species (43%) were non-native plants. The 35 species were used to treat various kinds of ailments and other health problems normally faced by these people. The common mode of administration was oral with a total of 19 species (54.3%) with 13 species (37.1%) used externally while 3 species (8.6%) were used both externally and internally. Decoction was the more common method of preparing herbal medicine with 17 species (48.6%) followed by pounded or mashed with 9 species (25.7%).

DISCUSSION

The Temuan in Kampung Tering use 18 species that are wild which amounts to 51.4% of the total. This shows that the villagers still depend mainly on wild plant species for medicinal purposes. A total of 9 species are planted which is 25.7% of the total. This shows that the Temuan villagers have adopted the cultivation of 9 medicinal plant species which do not grow in the wild. A total of 8 species are both planted and wild which is 22.9% of the total. This is because some plants that are native in the forest or other natural habitats are also planted by them in the village or cultivation plots such as *Archidendron jiringa*, *Baccaurea motleyana*, *Crinum asiaticum* and *Parkia speciosa*. The plants that are both planted and wild also include introduced non-native plants that are both planted and also grow as wild plants such as *Averrohoa carambola*, *Catharanthus roseus* and *Psidium guajava*. According to Hamilton (2004), most of the medicinal plant species in the world are collected from the wild. There is a widespread belief that wild-harvested material is more efficacious, as is sometimes reflected in higher prices. Obtaining medicinal plants from the wild is also more economical compared to cultivating them. Effort by the Temuan to cultivate several species of medicinal plants reflects the increasing demand of the plants and their declining availability in the wild.

Present study shows that the Temuan in Kampung Tering used a fair number of plants as ethno-medicine. However, the total number is lower than that recorded in another Temuan village (Ong 1994). The villagers in the present study also used a bigger number of cultivated species compared to the previous study. This may be an indication of decreasing and changing traditional knowledge on medicinal plants due to development. This can be deduced partly

Table 1: List of medicinal plants used by villagers in Kampung Tering

Species No.	*Botanical name*	*Native name*	*Plant status*	*Part used*	*Ailment treated*	*Method of usage*
1	*Azadirachta indica* Juss.	Daun bambu	Planted, non-native	Leaf	Measles	Decoction taken orally, leaves placed on bed
2	*Aloe barbadensis* Mill.	Lidah buaya	Planted, non-native	Leaf	Dandruff, hair loss, burns, scalds	Leaf gel applied topically
3	*Alpinia galanga* (L.) Willd.	Lengkuas	Planted, non-native	Rhizome	Skin infection	Pounded and applied topically
4	*Apama tomentosa* Engl.	Kebeng, hati bumi	Wild, native	Root	Hypertension, stomachache	Decoction taken orally
				Shoot	Sores	Juice applied topically
5	*Archidendron jiringa* (Jack) Niels.	Jering	Planted, wild, native	Root	Hypertension	Decoction taken orally
6	*Averrhoa carambola* L.	Belimbing	Planted, wild, non-native	Leaf, bark, root	Diabetes, hypertension	Decoction taken orally
7	*Baccaurea motleyana* (Muell. Arg.) Muell. Arg.	Rambai	Planted, wild, native	Fruit rind	Sleepy	Pounded and taken orally
8	*Bonnaya veronicaefolia* Spreng	Sempedu ular	Wild, native	Leaf	Hypertension	Infusion taken orally
9	*Catharanthus roseus* (L.) Don	Kemunting cina	Planted, wild, non-native	Plant	Hypertension, tumor	Decoction taken orally
10	*Centella asiatica* (L.) Urban	Pegaga	Wild, non-native	Leaf	Hypertension, weak body	Decoction taken orally or eaten raw
11	*Cinnamomum javanicum* Bl.	Akar medang	Wild, native	Leaf	Abscess	Pounded and applied topically
12	*Cocos nucifera* L.	Kelapa	Planted, non-native	Young fruit	Fever, measles	Coconut water taken orally
13	*Crinum asiaticum* L.	Tembaga suasa	Planted, wild	Leaf	Bone fracture	Heated leaf bound topically
14	*Curcuma longa* L.	Kunyit	Planted, non-native	Rhizome	Acne, pimples	Pounded and applied topically
15	*Cymbopogon nardus* (L.) Rendl.	Serai wangi	Planted, native	Leaf	Aches, pains	Used topically as massage oil
16	*Dioscorea hispida* Dennst.	Ubi gadong	Wild, native	Tuber	Asthma	Decoction taken orally
17	*Elephantopus scaber* L.	Tutup bumi	Wild, non-native	Leaf	Cuts, wounds, skin diseases	Pounded and applied topically
18	*Elephantopus tomentosus* L.	Sembung	Wild, non-native	Leaf	Cuts, wounds	Pounded and applied topically
				Leaf, root	Sinusitis, influenza	Aroma inhaled
					Fever	Decoction taken orally
19	*Eurycoma longifolia* Jack	Tongkat ali	Wild, native	Leaf	Cuts, wounds	Pounded and applied topically
				Root	Men low in physical and sexual energy	Decoction taken orally
20	*Ficus aurantiaca* Griff.	Tengkuk biawak	Wild, native	Stem	Joint pain, short of breath, hypertension, leukemia	Decoction taken orally
21	*Gomphandra lanceolata* King	Sampu merisik	Wild, native	Root	Juvenile fever	Decoction taken orally

Table 1: Contd.....

Species No.	*Botanical name*	*Native name*	*Plant status*	*Part used*	*Ailment treated*	*Method of usage*
22	*Hibiscus rosa-sinensis* L.	Bunga raya	Planted, non-native	Leaf, flower	Hair greying	Pounded in water and applied topically
23	*Limacia oblonga* (Miers.) Hk.f. et. Thoms.	Akar sinik	Wild, native	Stem	Fever	Decoction taken orally
24	*Parkia speciosa* Hassk.	Petai	Planted, wild , native	Root	Diabetes, hypertension	Decoction taken orally
25	*Peucedanum japonica* Thunb.	Akar rejan	Wild, native	Root	Constipation	Pounded and applied on abdomen
26	*Phyllanthus oxyphyllus* Miq.	Dukung anak	Wild, native	Plant	Juvenile lethargy	Placed on the bed
27	*Piper betle* L.	Sireh	Planted, native	Leaf	Fever	Mashed in water and applied topically
28	*Psidium guajava* L.	Jambu batu	Planted, wild, non-native	Leaf	Diarrhea, stomachache	Decoction taken orally
29	*Rourea concolor* Bl.	Akar semelit	Wild, native	Root	Kidney disease, diabetes	Decoction taken orally
30	*Smilax calophylla* Wall.	Tepus layang	Wild, native	Plant	Weak muscles in baby	Decoction used as bath
31	*Striga asiatica* (L.) Kuntze.	Jarum mas	Wild, non-native	Plant	Hypertension	Decoction taken orally
32	*Tetracera macrophylla* Wall. and Thoms. ex Hk.f.	Akar mempelas	Wild, native	Stem	Physically weak	Decoction taken orally
33	*Tinospora crispa* (L.) Miers. ex Hk.f. and Thoms.	Bakawali	Planted, wild, non-native	Stem	Hypertension	Decoction taken orally
34	*Trema orientalis* (L.) Bl.	Batang mengkira	Wild, native	Leaf, shoot	Leukemia, HIV	Decoction taken orally
35	*Zingiber officinale* Rosc.	Halia	Planted, non-native	Rhizome	Body heaty, fever, flatulence	Pounded in water added sugar taken orally

from the more developed nature of this village as reflected in their type of houses where not even one house is built using materials obtained from the forests. This decrease in usage of native species in particular and medicinal plants in general will likely continue in the future as modern medicines are being made easily available to them and habitat degradation will result in many species becoming less available or not available within walking distance. The knowledge of medicinal plants itself may become diluted or lost as the young natives are less keen to learn and use medicinal plants. In cases where villagers do not have the knowledge or availability of plants from the forests, domesticated plants become the major ethno-medicinal plants (Ong and Nordiana 1999; Ong and Norzalina 1999) The results show that the villagers treated many types of medical problems using plants, ranging from simple problems such as aching joints and constipation to chronic diseases such as diabetes, leukemia and tumors. Such knowledge can provide leads for further scientific studies on efficacy and search for novel active compounds. It is important not only to record such ethno-medico knowledge and conduct further studies but also to take steps to conserve these medicinal plants before they are lost to human kind forever.

CONCLUSION

This study reveals the traditional uses of plants for treating ailments and health problems of the Temuan in Kampung Tering. About half of the total number of species that are used medicinally are obtained from the wild only. The importance of wild growing species of medicinal plants to

the thriving of traditional medicine of the Temuan is also revealed.

RECOMMENDATIONS

Similar study need to be carried on more Temuan villages in the future so that effective measures can be taken to conserve medicinal plants for economic and cultural uses.

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