

## Traditional Phytotherapy among Karens of Middle Andaman

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Karens, originally a hill tribe hailing from Pegu district of western Myanmar, brought to Andaman by Britishers for forest timber operations during the year 1924-25. Although Karens have not been classified as tribals in the recent tribal notification, they form a minor ethnic group that has apparently been living amidst the forests of Mayabunder tehsil since decades. They possess extensive indigenous knowledge of the plants which they use in their ethnomedicinal practices. Information about 24 selected medicinal plants, their local names, parts used, methods of application and medicinal uses are recorded. The medicinal utilities of these plants used by Karens have not been recorded earlier. Ethnobotanical information related to agriculture, house building, canoe making and traditional artifacts are also recorded.

**Key Words:** Karen Tribe, Ethnobotany, Ethnomedicine, Mayabunder, Middle Andaman, Tribes, Phytotherapy  
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The role of indigenous knowledge in the realm of medicinal plants is noteworthy. Indigenous communities have bred out of the wild plants of the forests and they nurture rich knowledge about medicinal plants developed over generations by bold experimentation through trial and error methods<sup>1</sup>. The Andaman & Nicobar Islands (Fig. 1), the hotspots of biodiversity representing a great emporium of ethnobotanical wealth and is an abode of six different aboriginal native tribes. In spite of floristic, socio-economical and anthropological interests in these islands, studies on the folk medicinal utilities of plants are limited and meager<sup>2</sup>. Hence, the study on traditional Phytotherapy by Karens was undertaken.

Karens are hard working and depend on forests and sea for hunting and shell fishing, respectively. Karen word is a derivative of 'Kavin' as Britishers called the tribe and while the tribes call themselves *Pwakanyaw*, the quite and easygoing people. Karens hail from Henzada, Pathe and Nachaon areas of Pegu district in Western Myanmar<sup>3</sup>. Britishers brought a group of mere 200-250 Karens to Andaman Islands for forest timber operations during the year 1924-25. They were first given land at Webi village of Mayabunder tehsil in Middle Andaman. Within a span of 75-80 years, the tribe swelled to more than 2000 individuals and spread to nine villages<sup>4</sup>. Karens adapted a variety of

chores, thereby making good ground for ethnobotanical studies. They depend on traditional herbal remedies to cure different ailments. An attempt was made to document the traditional herbal treatment practices of Karen tribe for the first time, besides collecting information on ethnobotanical aspects of the tribe.

### Methodology

Field visits were carried out to the Webi and Karmatang villages of Mayabunder in Middle Andaman during October and November 2003. After initial discussions with Mr Saw Saytha (General Secretary, Karen Community, Webi village), interviews were conducted with local healers and elderly persons of the villages (Fig. 2). Since Mr Saw Aungtaun of Webi village and Mr Saw Joseph of Karmatang village of Mayabunder were found to possess thorough knowledge about medicinal plants of the area, they were taken to the surrounding forests and first hand ethnomedicinal data was gathered. In addition to the tribal names and medicinal uses, detailed information about mode of preparation (i.e. decoction, paste, powder and juice), form of usage such as fresh or dried and mixtures of other plants used as ingredients were recorded. The medicinal plants were also collected, identified, photographed and sample specimens were obtained for preparation of herbarium. Taxonomic identification of the

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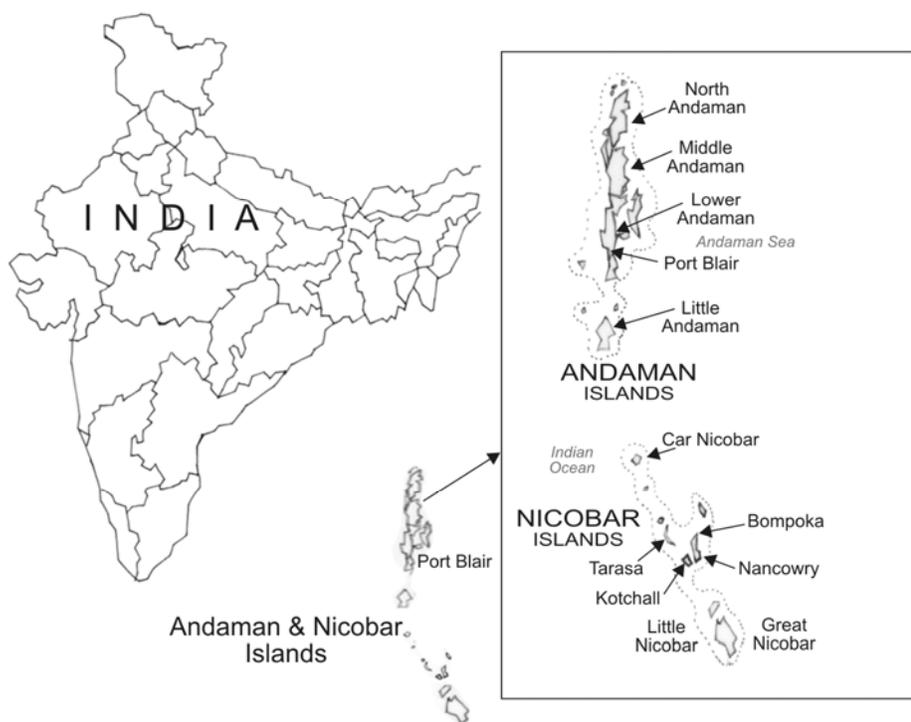


Fig. 1 Location Map of Andaman and Nicobar Islands

specimens was done using various floras<sup>5-7</sup>. The identified plant specimens were then confirmed with the PBL herbaria of BSI, Andaman & Nicobar circle, Port Blair. The specimens are deposited in the PBL, Port Blair.

### Observations

Karens, originally a hill tribe regard forests as a part of nature and greatly respect the forest deity. Spitting and urinating inside the forests are avoided and considered disrespect to forest spirit. They collect several plant products from the surrounding forests to carryout day to day activities. They are fond of hunting and traditionally avoid killing females or pregnant animals. The distinct customs and traditions of Karens are being kept alive by the community through their folk tales, songs, bamboo dance, traditional phytotherapy and domestic farming. Generally, they construct piled dwellings over raised platforms, which resembles Karen houses of native Myanmarse (Fig. 13). They use mats inside the house made up of cane (*Calamus palustris*) leaves and pandanus (*Pandanus odoratissimus* Linn.f) leaves. Using bamboo (*Gigantochloa nigrociliata*

Munro) and cane, Karens prepare baskets, winnowing fan (*Kd-leh*) and fishing mesh, which are the traditional artifacts found in their houses (Fig. 14). They are experts in making Karen boats and canoes. They make good canoes with the stems of 'Toungpienne' (*Artocarpus chaplasha* Roxb.). In the forests, they fell the trees, camp there for a couple of weeks, scoop off the wood from the stem and make the canoes.

Karens cultivate four Myanmarse varieties of paddy. They use one black type of *Burma chawal*, which is sweet in taste and appears grayish black when cooked (Fig. 4). To store paddy and rice, they prepare a big bowl of bamboo called *Thappa*, which is oval in shape and can hold about 500-600 kg of rice. Karens wear their traditional dress, a *lungi* called *Nee* and shirt *Achi*. A traditional circular cap made of bamboo is in general use during fieldwork. In recent days, owing to their contact with other communities, Karens have undergone changes in their attitudes, behaviour, customs and food habits.

In the present attempt, the ethnomedicinal aspects of 24 plant species distributed among 23 genera belonging to 17 families collected from Karen tribal



Fig. 2 Karen family at Karmatang village



Fig. 3 *Acorus calamus* Linn. plant



Fig. 4 *Burma chawal* cultivated at Karmatang village



Fig. 5 *Asparagus racemosus* Willd. plant



Fig. 6 *Canavalia ensiformis* (Linn.) DC with dried fruits



Fig. 7 *Centella asiatica* (Linn.) Urban. plant



Fig. 8 *Cassia occidentalis* Linn.



Fig. 9 *Cassia tora* Linn.



Fig. 10 *Millingtonia hortensis* Linn. f.



Fig. 11 *Urena lobata* Linn.



Fig. 12 *Zingiber zerumbet* (Linn.) J. E. Sm.



Fig.13 Piled dwelling constructed over raised platform



Fig. 14 Traditional artefacts made of bamboo and cane



Fig. 15 *Chowpii* used for herbal preparations



Fig. 16 Administration of drug with bat's bone needle



Fig. 17 *Cymbidium aloifolium* Linn. plant



Fig.18 *Kaempferia rotunda* Linn. plant

Table1—Medicinal plants used by Karens of Middle Andaman

Sl No	Botanical Name	Family	Vernacular Name	Habit	Diseases	Mode of Usage
1	<i>Acorus calamus</i> Linn.	Araceae	Laniti	Herb	Headache, Cold	Paste of rhizome along with <i>Piper betle</i> leaves, fresh <i>Kaempferia rotunda</i> rhizome, <i>Peperomia pellucida</i> plant and cloves by adding salt or sugar is applied on the forehead. Sometimes all these plants are boiled and vapour is inhaled.
2	<i>Ancistrocladus tectorius</i> (Lour.) Merr.	Ancistrocladaceae	Tealapathow	Tree	Fracture	Paste of leaves and stem bark with <i>Centella asiatica</i> plant, <i>Schefflera elliptica</i> leaves, <i>Oxalis corniculata</i> plant and <i>Curcuma longa</i> rhizome is applied on fractured area for 15 days.
3	<i>Asparagus racemosus</i> Willd.	Lilliaceae	Kanyoplur, Kanyammur	Herb	Jaundice	Paste of fresh root with sugar candy (Misri), diluted with water is taken twice a day for 7 days.
4	<i>Camellia sinensis</i> (Linn.) O. Kuntze	Theaceae	Chaye patti	Shrub	Centipede bite, Scorpion sting	Leaf paste is applied on the wound.
5	<i>Canavalia ensiformis</i> (Linn) DC.	Fabaceae	Burma Same	Herb	Skin disease	Seeds ground with hot rice kanji (gruel) by adding sugar, diluted by adding cold kanji is taken internally. The same mixture is smeared on the body also.
6	<i>Centella asiatica</i> (Linn.) Urban.	Apiaceae	Kamukhwa	Herb	Cuts & wounds, Fracture	Plant paste mixed with fresh paste of <i>Curcuma longa</i> rhizome, <i>Schefflera elliptica</i> leaves, <i>Oxalis corniculata</i> plant and <i>Ancistrocladus extensus</i> leaves is applied on the fractured region.
7	<i>Chromolaena odorata</i> (Linn.) King & Robinson	Asteraceae	—	Herb	Cuts & wounds,	Paste of young leaves and shoots along with paste of <i>Solanum torvum</i> leaves by adding limewater is applied on the cuts & wounds.
8	<i>Crotalaria pallida</i> Ail.	Fabaceae	Uhutesimil	Herb	Centipede bite Snake bite	The same paste is used in centipede bites. Leaf paste is applied on the wound from upside down for 10 days.
9	<i>Curcuma longa</i> Linn.	Zingiberaceae	Toiyakoo	Herb	Fracture	Paste of fresh rhizome and <i>Schefflera elliptica</i> leaves, banana fruit, egg and honey is applied on the fractured region for 15 days.
10	<i>Cymbidium aloifolium</i> (Linn.) Sw.	Orchidaceae	Titolini	Herb	Eye Pain Ear pain	Fresh rhizome paste diluted with water is filtered cleanly 3 –4 times with a clean muslin cloth. The filtrate is applied into eyes. Extract of the plant is put into the ears with the help of hen's feather.
11	<i>Kaempferia rotunda</i> Linn.	Zingiberaceae	Suu, Chu	Herb	Gastric problems, Giddiness, Ear pain	Fresh rhizome paste and a pinch of salt diluted with water is taken. Above extract is drifted into ears with hen's feather.

Table 1—Medicinal plants used by Karens of Middle Andaman—*Contd*

Sl No	Botanical Name	Family	Vernacular Name	Habit	Diseases	Mode of Usage
12	<i>Millingtonia hortensis</i> Linn.	Bignoniaceae	Ikritie	Tree	Headache, Fever, Body ache	Leaves pasted with fresh leaves of <i>Kaempferia rotunda</i> and bark of <i>Citrus medica</i> . To this mixture, paste of Dugong ( <i>Paani Soovar</i> ) bone, Whale bone ( <i>Bada Machli</i> ) and self-holing stone (Cheda patthar) is mixed. The mixture is diluted with water and this medicine is applied on the head and temples with the help of needle prepared with bat's bone.
13	<i>Oxalis corniculata</i> Linn.	Oxalidaceae	Tapopuri	Herb	Fracture	Paste of whole plant with <i>Centella asiatica</i> plant, <i>Ancistrocladus extensus</i> leaves, <i>Schefflera elliptica</i> leaves and <i>Curcuma longa</i> rhizome is applied on the fractured region.
14	<i>Peperomia pellucida</i> (Linn.) H.B.K.	Piperaceae	Mukhatbila, Paan patti	Herb	Cuts & Wounds, Head ache, Fever	Paste of the whole plant is used as poultice. The bruised leaves are applied to the head at temporal region.
15	<i>Phyllanthus emblica</i> Linn.	Euphorbiaceae	Aonla	Tree	Weakness after abortion	Paste of fruits prepared with <i>Acorus calamus</i> and <i>Curcuma longa</i> rhizome diluted with water is taken internally.
16	<i>Phyllanthus niruri</i> L.	Euphorbiaceae	Bhuiamla	Herb	Jaundice	Plant paste mixed with sugar candy ( <i>Misri</i> ), diluted by adding goat milk and filtered in muslin cloth is taken internally for 3 days at early morning. Taking of non-vegetarian food is avoided during the treatment period.
17	<i>Piper betle</i> Linn.	Piperaceae	-----	Herb	Head ache, Cold & cough	Betel leaves, cloves, <i>Acorus calamus</i> leaves are boiled together and vapours inhaled by covering with woolen blanket.
18	<i>Plumeria rubra</i> Linn.	Apocynaceae	-----	Tree	Tongue cleaning	Bark is rubbed on the tongue.
19	<i>Pongamia pinnata</i> (Linn.) Pierre	Fabaceae	-----	Tree	Urinary trouble, Bowel complaint	Bark decoction is taken internally.
20	<i>Schefflera elliptica</i> (Bl.) Harms.	Araliaceae	Daandaulase	Shrub	Teeth cleaning, Skin diseases	Bark decoction is used for cleaning affected teeth.
21	<i>Senna occidentalis</i> (L.) Link.	Caesalpiniaceae	Uhutesimil	Shrub	Fracture	Seed oil is used in skin diseases. Leaf paste with <i>Curcuma longa</i> rhizome, banana fruit, egg and honey is applied on fractured region.
22	<i>Spilanthes paniculata</i> Wall. ex. DC.	Asteraceae	Gasoo hate	Herb	Centipede bite	Seeds are ground with water and paste is applied on the wound externally for 10 days. Sometimes paste is diluted with water and is taken internally.
23	<i>Urena lobata</i> Linn.	Malvaceae	Sapathra	Herb	Toothache	Plant is boiled and parts are rubbed on the affected gums. Root is also chewed (but not swallowed) for toothache.
24	<i>Zingiber zerumbet</i> (Linn.) J.E. Sm.	Zingiberaceae	Pothako	Herb	Conjunctivitis	One spoon of freshly boiled rice is rolled in seven equal sized leaves. Through this roll, air is whooped into the eyes for seven times and the roll is thrown backside only.
					Cold & Cough	Powder of dried rhizome is inhaled.
					Head ache, Giddiness	Paste is applied on the forehead.

area of Mayabunder tehsil have been arranged alphabetically (Figs 3-12, 17, 18), along with their botanical names, family, vernacular names, plant parts used, form of preparation, method of use and dosage against different diseases or illness have been presented (Table 1). The plants are used in different forms such as paste, decoction, extract, infusion, powder, etc. The herbal preparations are sometimes applied with help of hen's feather or needle prepared with bat's bone (Fig. 16). Almost all the herbal preparations are made on a traditional stone called *Chowpii* (Fig. 15).

### Discussion

Traditional healthcare practices of indigenous people pertaining to human health are termed as *Ethnomedicine*. Ethnomedicine is the mother of all other systems of medicine<sup>8,9</sup>. Whatever traditional knowledge exists today, has its origin in past which has been passed through one generation. Karens are good herbalists and know ethnomedicinal importance of many herbs.

Present ethnomedicinal studies conducted among Karen tribe enumerate information about traditional uses of 24 plant species. Most of the plants used by Karens are herbs, however extracts from shrubs and trees are also used. Almost all the herbal preparations were prepared on a traditional stone called '*Chowpii*'. Although they depend on several rare and endemic plants growing in the surrounding forests, they also cultivate some plants. The conservation of medicinal plants not only saves the tribal lives, but also improves the socio-economic condition of the people<sup>10</sup>. Further, it may be noted that since the uses of some plants reported are so far not known therefore deserve special attention and detailed studies. Biological screening and phytochemical investigations of these plants are desirable. Study of the conservational practices according to the beliefs is an interesting area<sup>11</sup>. Therefore, some of the cultural

traditions are to be preserved, as they are associated with some important medicinal plants. The indigenous knowledge is to be documented and natural resources protected before they get depleted forever.

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