

Herbal remedies among the *Khasi* traditional healers and village folks in Meghalaya

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The paper provides first hand information on the herbal remedies practiced by the rural folks of Meghalaya. During the study, out of several known herbal plants 54 plant species belonging to 53 genera and 38 families were found to be used by the local medicine men and village folks to cure various ailments. The report incorporates the mode of application and dosage of these herbal drugs, which is obtained with great difficulty because in many cases these medicine men are reluctant to share their knowledge.

Keywords: Ethnobotany, Ethnomedicine, Medicinal plants, Traditional healers, Meghalaya

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The term Ethnobotany is defined as the study of human evaluation and manipulation of plant materials, substances and phenomenon including relevant concepts in primitive and unlettered societies¹. The term ethnobotany implies an explanation on local people's perspective on culture and scientific knowledge². It can also be defined as all studies, which describe local people's interaction with the surrounding natural vegetation³. The tribal people and ethnic races throughout the world have developed their own culture, customs, cults, religious rites, taboos, legends and myths, folk tales and songs, foods, medicinal practices, etc. Numerous wild and cultivated plants play a very important and vital role among these cultures. This interrelationship has evolved over generation of experience and practices. The medicinal plants in particular have received the attention of scientists from chemical, pharmacological and clinical angles in India and abroad. Studies on folk medicines through ethnobotanical surveys are also gaining importance. A vast knowledge on medicinal plants exists as oral among the folklore and traditional medicine men of India, where a large number of potent medicinal herbs are found growing wild.

Meghalaya, which lies between 25°05' N and 26°10' N Latitudes and 89°47' E and 92°47' E Longi-

tudes has immense scope of ethnobotanical studies due to the natural forest coverage (Fig. 1). Due to poor transportation and medical facilities in the rural areas, the rural folks to a great extent still hold onto their traditional faith in local medicine men and wild herbal plants. Interestingly, it was also noted that in some cases, prayers to the almighty or chanting of mantras sometimes accompany administering of the herbal medications. Therefore, it is interesting to record the traditional wisdom about plant wealth of their surroundings though there is a steady decline in human expertise capable of recognizing various medicinal plants. A paper was brought forward based on the folklore medicobotany of the *Khasi* and *Jaintia* tribes in Meghalaya⁴. A list of 31 medicinal plants used by tribals of Meghalaya was also given⁵. Work on the Ethnobotany of some weeds of *Khasi* and *Garo* hills of Meghalaya brought forth a paper, which deals with the ethnobotany of 65 taxa belonging to 26 families of angiosperms⁶. A record of 74 plant species used by the *Khasi* and *Jaintia* tribes have been published⁷. Work on the ethnobotany of *Khasi* and *Chakma* tribes of Northeast India showed the importance and uses 37 plant species belonging to 34 genera and 15 families⁸.

Methodology

An ethnobotanical survey of the East Khasi hills, West Khasi hills and Ri Bhoi districts of Meghalaya

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was conducted during January 2005 to April 2006. It was seen that knowledge of herbal remedies for treatment of various diseases rests with the traditional healers, which belong to a family of indigenous practitioners and skills have been passed on from one generation to the other only by word of mouth. Each village has one or two traditional healers or *Nong ai dawai kynbat* as they are called locally. Each of them practices at home or has a place in the weekly market of the villages, where people come to consult him. Information on the traditional medicinal uses of plants was collected through direct field interviews with them. Most importantly, the patients who have been cured by these medicine men were also interviewed. Interviews with a number of elderly people, who have a great deal of experience in indigenous herbal treatment of diseases were also conducted. Contact was established with village headman, community leaders, and priests from whom guidance was sought. Field visits and collection on all seasons was done with the help of the informants. The collected specimens were identified and final identification was done at the Herbarium of Botany Department, North Eastern Hill University (NEHU), Shillong.

Enumeration

The medicinal plants recorded during the work are listed below in alphabetical order by botanical names, family name, local/vernacular name (LN), and use(s).

Allium sativum L., (Liliaceae), LN: *Rynsun*

Uses: Bulb is fried in mustard oil; oil is used for massaging newborns and is taken orally for cough. Bulb is also taken with hot milk to relieve cough. Raw bulb is chewed for mouth sores.

Allium tuberosum Roxb., (Liliaceae), LN: *Jyllang*

Uses: Leaf decoction is given in urinary troubles and as diuretic.

Acorus calamus L., (Araceae), LN: *Bet, Ryniaw*

Uses: Leaf decoction is taken daily in case of paralysis. Decoction of underground plant part is fomented on the body of a paralytic patient. Roots and leaves are used for the treatment of epilepsy, stomach problems in new born, and ailments due to evil eye.

Ageratum conyzoides L., (Asteraceae), LN: *Kynbat myngai*

Uses: Leaf paste is applied on cuts and wounds.

Anotis wightiana Wall., (Rubiaceae), LN: *Bat lynkha smaiwtung synlei*

Uses: Paste of whole plant of *Anotis wightiana* Wall., *Hypericum laxum* (Bl.) Koidzumi, & *Leucas*

ciliata Benth., and leaves of *Paederia foetida* L. is used as an antidote for snakebite.

Areca catechu L., (Arecaceae), LN: *Kwai*

Uses: Nut chewed with *Piper betle* L. and lime is applied on cuts.

Begonia roxburghii A. DC., (Begoniaceae), LN: *Jajew jylwang*

Uses: Leaf decoction is used for bathing a person with measles for quick relief. Tuber paste is taken in diarrhoea and dysentery. The tubers with fruits of *Solena heterophylla* Lour. are taken to relieve fever⁴. Rootstock is taken in bile dysentery⁵.

Brunella vulgaris L., (Lamiaceae), LN: *Jahynwet*

Uses: Tender leaf paste is applied on cuts and wounds for quick healing.

Centella asiatica (L.) Urb. (Apiaceae), LN: *Khliang syiar, lbong syia*.

Uses: Leaves are taken as raw to cure blood deficiency and helps in purification of blood. Whole plant is also taken for blood dysentery.

Cheilanthes albomarginata Cl., (Cheilanthaceae), LN: *Tyrkhang lieh*

Uses: Ground frond is applied over boils.

Citrus medica L., (Rutaceae), LN: *Sohmad*

Uses: Leaf decoction is used for bathing newborns and infants to prevent them from cold.

Clerodendron colebrookianum Walp., (Verbenaceae), LN: *Jarem*

Uses: Leaf decoction is taken against high blood pressure, malaria and liver troubles. Leaves are first warmed over fire and then leaf paste is applied over the body in case of rheumatism⁴.

Coix lacryma-jobi L., (Poaceae), LN: *Sohriew*

Uses: Leaf juice is taken in diarrhoea, dysentery, fever, small pox and as tonic.

Crassocephalum crepidioides (Benth.) Moore, (Asteraceae), LN: *Jathymmai*

Leaf paste is applied on cuts and wounds.

Dendrobium chrysanthum Lindl., (Orchidaceae), LN: *Tiew lyngskaw*

Uses: Stem paste mixed with little water is applied externally on injuries and after setting a fractured bone.

Dischidia nummularia Br., (Asclepiadaceae), LN: *Kynbat kudam*

Uses: Leaf paste is applied on wounds, injuries and bone fractures.

Drymaria cordata (L.) Willd. ex Roem. & Schult., (Caryophyllaceae), LN: *Kynbat thalap*

Uses: Whole plant paste is applied against leprosy. Leaf paste is applied in case of snakebite⁵.

Eriosema himalaicum Ohashi., (Fabaceae), LN: *Sohpen*

Uses: Tubers are taken orally against dysentery. Tuber paste is taken with honey to prevent bad breath coming from the mouth.

Eryngium foetidum L., (Apiaceae), LN: *Dhonia Bhoi*, *Dhonia khlaw*, *Kynbat ksuid*

Uses: Victims of fits and epilepsy are made to smell the leaf paste.

Erythrina arborescens Roxb., (Fabaceae), LN: *Diengsong*.

Uses: Stem pieces (about 15 cm) burnt at the tip and are smoked like a cigar. The smoke relieves toothache and prevents dental caries.

Flemingia procumbens Roxb., (Fabaceae), LN: *Sohphlang*

Uses: Tuber skin is taken raw for deworming.

Gaultheria fragrantissima Wall., (Ericaceae), LN: *Lathynrait*

Uses: Leaf juice of *Gaultheria fragrantissima* Wall., *Clerodendron colebrookianum* Walp. and *Eucalyptus maculata* Hook. is massaged over the body of persons suffering from rheumatism and paralysis. In case of migraines and pneumonia the juice is applied over the forehead.

Geranium nepalense Sweet, (Geraniaceae), LN: *Batmieng*

Uses: Leaves are chewed to relieve from toothache and bleeding gums.

Hedyotis uncinella Hook & Arn., (Rubiaceae), LN: *Bat iong*

Uses: Leaf paste is applied for insects' stings. It is also applied for skin diseases⁴.

Houttuynia cordata Thunb., (Saururaceae), LN: *Jamyrdoh*

Uses: Leaf juice is taken for cholera, dysentery, curing of blood deficiency and purification of blood.

Hypericum laxum (Bl.) Koidzumi, (Hypericaceae), LN: *Bat rit sla*, *Bat saw rit*

Uses: Extract of whole plant of *Anotis wightiana* Wall., *Hypericum laxum* (Bl.) Koidzumi & *Leucas ciliata* Benth., and *Paederia foetida* L. leaves is used as an antidote for snakebite.

Kaempferia galanga L., (Zingiberaceae), LN: *Sying khmoh*, *Sying shmoh*

Uses: Rhizome is taken orally against poisoning, when there is blood vomiting. In infants, the rhizome is applied for mouth sores and tongue blisters.

Lactuca laevigata (Bl.) DC., (Asteraceae), LN: *Khmud sim*, *Jhur kthang*

Uses: Leaves are taken against high blood pressure, diabetes and skin infections on the face.

Leucas ciliata Benth., (Lamiaceae), LN: *Bat nian-glynur*

Uses: Extract of whole plant of *Anotis wightiana* Wall., *Hypericum laxum* (Bl.) Koidzumi & *Leucas ciliata* Benth., and *Paederia foetida* L. leaves is used as an antidote for snakebite.

Leucosceptrum canum Smith., (Lamiaceae), LN: *Soh Kjit*

Uses: Root decoction and root juice is taken in malaria.

Myrica nagi (non Thunb.) Hook., (Myricaceae), LN: *Sohlia*

Uses: Stem bark is taken in powdered form against dysentery.

Oxalis corniculata L., (Oxalidaceae), LN: *Sohkhia khnai*

Uses: Whole plant ground with *Drymaria cordata* (L.) Willd. ex Roem. & Schult., mixed with water and is taken against fever with vomiting.

Paederia foetida L., (Rubiaceae), LN: *Jyrmis ma iw tung*

Uses: Extract of whole plant of *Anotis wightiana* Wall., *Hypericum laxum* (Bl.) Koidzumi, & *Leucas ciliata* Benth., and *Paederia foetida* L. leaves is used as an antidote for snakebite.

Passiflora edulis Sims., (Passifloraceae), LN: *Sohbrap*

Uses: Juice of tender plant leaves ground with *Psidium guajava* L. leaves is taken in blood dysentery.

Phrynium pubinerve Bl., (Marantaceae), LN: *Sla met*

Uses: Plant rhizome along with mature leaves of *Zanthoxylum acanthopodium* DC., *Pteridium aquilinum* rhizome, *Sarcandra glabra* (Thunb.) Nakai. leaves and *Polygonum alatum* Spreng. leaves are mixed together and ground. The fine mixture is then wrapped into many small packets with *Phrynium pubinervi* Bl., leaf and the packets are heated in the fire covered with ash so that they do not get burnt. After half an hour, all the packets are taken out while it is hot and the contents of each packet is then emptied into a piece of white cloth and tied at one end. It is then fomented on the body of persons suffering from leprosy and also in paralytic patients. This hot mixture is effective in treating various kinds of skin diseases

as well (Fig. 2). In case of boils, the rhizome paste is applied locally.

Pinus kesiya Royle ex Gordon, (Pinaceae), LN: *Kseh khasi*

Uses: Young shoots are taken early in the morning to get relieve from cough in children.

Potentilla fulgens Wall., (Rosaceae), LN: *Lynniang*

Uses: Roots are edible and effective against high blood pressure.

Polygonum alatum Spreng., (Polygonaceae), LN: *Jakyrphuh*

Uses: Plant rhizome along with mature leaves of *Zanthoxylum acanthopodium* DC., *Pteridium aquilinum* rhizome, *Sarcandra glabra* (Thunb.) Nakai. leaves and *Polygonum alatum* Spreng. leaves are mixed together and ground. The fine mixture is then wrapped into many small packets with *Phrynium pubinervi* Bl., leaf and the packets are heated in the fire and covered with ash so that they do not get burnt. After half an hour, all the packets are taken out while

it is hot and the contents of each packet is then emptied into a piece of white cloth and tied at one end. It is then fomented on the body of persons suffering from leprosy and also in paralytic patients. This hot mixture is effective in treating various kinds of skin diseases as well. In case of boils, the rhizome paste is applied locally.

Polygonatum oppositifolium Royle., (Liliaceae), LN: *Sying maw*

Uses: Mixture of plant rhizome along with *Zanthoxylum acanthopodium* DC. mature leaves, *Pteridium aquilinum* rhizome, *Sarcandra glabra* (Thunb.) Nakai. leaves and *Polygonum alatum* Spreng. leaves is wrapped into many small packets with *Phrynium pubinervi* Bl., leaf and the packets are heated in the fire and covered with ash so that they do not get burnt. After half an hour all the packets are taken out while it is hot and the contents of each packet is then emptied into a piece of white cloth and tied at one end. It is then fomented on the body of



Fig.2 Heated mixture of herbal plants

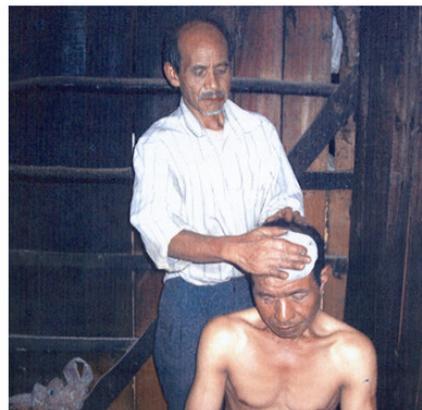


Fig.3 Mixture applied for skin diseases

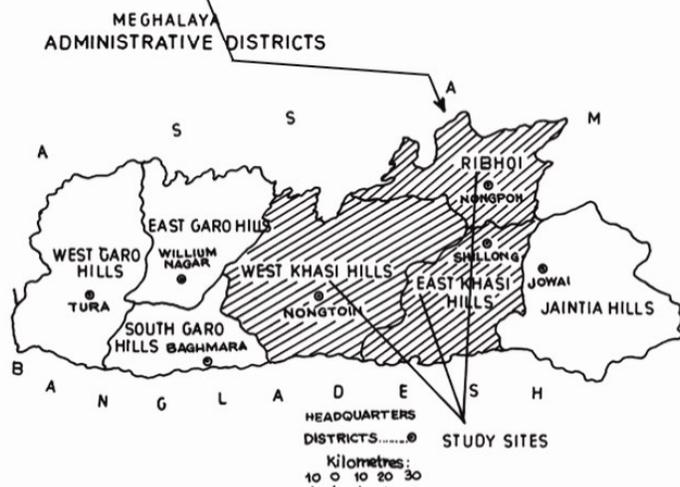


Fig.1 Location map of the study area



Fig. 4 Mixture applied for treating leprosy

persons suffering from leprosy and also in paralytic patients. This hot mixture is effective in treating various kinds of skin diseases as well. In case of boils, the rhizome paste is applied locally.

Pteridium aquilinum (L.) Kuhn ex Decken (Polypodiaceae), LN: *Tyrkhang shatri*

Uses: Plant rhizome along with mature leaves of *Zanthoxylum acanthopodium* DC., *Pteridium aquilinum* rhizome, *Sarcandra glabra* (Thunb.) Nakai. leaves and *Polygonum alatum* Spreng. leaves of are mixed together and ground. The fine mixture is then wrapped into many small packets with *Phrynium pubinervi* Bl., leaf and the packets are heated in the fire and covered with ash so that they do not get burnt. After half an hour, all the packets are taken out while it is hot and the contents of each packet is then emptied into a piece of white cloth and tied at one end. It is then fomented on the body of persons suffering from leprosy and also in paralytic patients. This hot mixture is effective in treating various kinds of skin diseases as well. In case of boils, the rhizome paste is applied locally. For removal of gall stones decoction of *Smilax ferox* Kunth roots along with *Pteridium aquilinum* (L.) Kuhn ex Decken. rhizome is taken daily three times a day.

Rhus semialata Murr., (Anacardiaceae), LN: *Sohma, Sohmluh*

Uses: Dried fruits are taken against cholera and dysentery.

Rotala rotundifolia (Roxb.) Koehne., (Lythraceae), LN: *Bat dohkoid*

Uses: Leaf paste is applied for boils.

Rubus micropetalus Gardner, (Rosaceae), LN: *Sohnepbah*

Uses: Edible fruits are taken against cough. Crushed stem bark is taken for mouth ulcers.

Sarcandra glabra (Thunb.) Nakai., (Chloranthaceae), LN: *Tiew Krismas*

Uses: Ground leaves mixed with ginger are applied on wounds where there is pus. Root extract is taken orally for irregular menstrual bleeding.

Smilax ferox Kunth, (Smilacaceae), LN: *Shiah krot*

Uses: For removal of gall stones, decoction of *Smilax ferox* Kunth roots along with *Pteridium aquilinum* (L.) Kuhn ex Decken. rhizome is taken daily three times a day.

Solanum torvum Sw., (Solanaceae), LN: *Soh pdok*

Uses: A plate filled with water is taken and then a red hot iron *dao* (big iron knife used for cutting wood), which was heated over the fire till it becomes

red is placed on top of this plate. Dried seeds of *Solanum torvum* Sw., are put on one corner of the heated *dao* and the seeds are covered with a hollow tube. A small amount of mustard oil is poured on the seeds. The seeds get burnt in mustard oil due to the heat from the hot *dao* and fumes appear and come out through the tube, the fumes are allowed to circulate in the buccal cavity to prevent dental caries or to get relieve from toothaches. This should be done early in the morning before brushing the teeth and before taking any food. Fruits are reported for similar use⁴.

Spilanthes paniculata DC., (Asteraceae), LN: *Jasat*

Uses: Brushing teeth with inflorescence relieves toothache.

Swertia chirata Ham., (Gentianaceae), LN: *Charita*

Uses: Leaves and root are taken for treating malaria.

Tabernaemontana divaricata (L.) R. Br., (Apocynaceae), LN: *Syntiew khlaw*

Uses: Leaf paste with lime is applied for insect bites and skin diseases. Whole plant has anthelmintic properties and leaf paste is applied to relieve headache and fever⁴.

Thysanolaena maxima Herb. O. Kuntze., (Poaceae), LN: *Synsar*

Uses: Inflorescence paste mixed with a pinch of slaked lime is applied locally for treatment of boils and cancer. Young stem juice is applied on the eye when eyes become red and dirty⁴.

Valeriana jatamansii Jones, (Valerianaceae), LN: *Jatung*

Uses: Leaf and root paste is applied after setting a fractured bone. Whole plant paste is applied against diseases of the nails where the nails fall off.

Viola distans Wall., (Violaceae), LN: *Jamaiang*

Uses: Leaf paste is applied on boils.

Viscum articulatum Burm. (Loranthaceae), LN: *Mangkaring*

Uses: Whole plant along with *Smilax ferox* Kunth, root is boiled in water until the colour of the solution becomes like red tea, then small pieces of ginger is added. This medicine is known locally as *Dawai Niangsohpet*. When cooled, it is given to new born and is also applied over the stomach to prevent stomach troubles. This juice is also given to lactating mothers and expectant mothers to prevent stomach troubles and are advised to avoid egg and pork.

Zanthoxylum acanthopodium DC. (Rutaceae), LN: *Jaiur khlaw*

Uses: Its rhizome along with mature leaves of *Zanthoxylum acanthopodium* DC. mature leaves, *Pteridium aquilinum* rhizome, *Sarcandra glabra* (Thunb.) Nakai., leaves (more quantity than the others) and *Polygonum alatum* Spreng., leaves of are mixed together and ground. The fine mixture is then wrapped into many small packets with *Phrynium pubinervi* Bl., leaf and the packets are heated in the fire and covered with ash so that they do not get burnt. After half an hour all the packets are taken out while it is hot and the contents of each packet is then emptied into a piece of white cloth and tied at one end. It is then fomented on the body of persons suffering from leprosy and also paralytic patients. This hot mixture is effective in treating various kinds of skin diseases as well (Fig. 2). In case of boils, the rhizome paste is applied locally.

Discussion

Though the rural folks are often hesitant in sharing their knowledge with others, yet friendship has been established with them through frequent visits to the study area. The present work has brought to light the indigenous medicinal recipes of 54 plant species belonging to 53 genera and 38 families, which could cure a number of ailments without any side effects as proclaimed by these village folks and the patients who have recovered. During the survey some new herbal medicines that are not mentioned in important ethnomedicinal literature have been recorded. It was also observed that for majority of cases a single plant is administered singly but for a good number of diseases also the recipe includes a combination of many plants and plant parts. At the same time it was seen that a single herbal recipe is effective for treatment of a number of ailments, which shows that a single plant is used for more than one ailment.

The medicinal properties of some plants recorded during the present survey were also reported by earlier workers based by tribe *Khasis* and *Jaintias* of Meghalaya.⁴⁻⁵ Among these were *Begonia roxburghii*

A. DC., *Clerodendron colebrookianum* Walp., *Drymaria cordata* (L.) Willd. ex Roem. & Schult., *Hedyotis uncinella* Hook & Arn., *Sarcandra glabra* Thunb., *Solanum torvum* Sw., *Tabernaemontana divaricata* (L.) R. Br. and *Thysanolaena maxima* Herb. O. Kuntze. However, some differences are there as far as ailments for which they were administered, method of preparation, plants parts used are concerned. Many new uses of plants and recipes have been recorded and listed for the first time.

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