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Hanako Jamir K
Department of Botany,
Fazl Ali College, Mokokchung,
Nagaland, India

Kruolalie Tsurho
Department of Zoology,
Fazl Ali College, Mokokchung,
Nagaland, India

Documentation of medicinal plants and its uses by Phom tribe of Longleng district, Nagaland

Hanako Jamir K and Kruolalie Tsurho

Abstract

The present study was carried out in the district of Longleng, Nagaland which lies at 94°- 95° East Longitude and 26° - 27° North Latitude covering a total area of 885 square kilometres. The study was conducted during January 2015 to December 2015. The distribution and abundance of these indigenous medicinal plants were recorded through consultation of the villagers and local traditional healers of Phom tribe of Longleng District. In the present study, a total of 71 medicinal plants were documented and further the scientific names, common names, local names, family, habitat and medicinal uses were given. The indigenous medicinal plants documented were found in warm and cold regions of the district respectively.

Keywords: Phom tribe, medicinal plants, uses

1. Introduction

India is considered as one of 17 mega biodiversity centres in the world comprising of two hotspots regions viz; Western Ghats and Eastern Himalayas. The rich and diverse flora and fauna of India is an indication of the country's wide range of environmental regimes. The country has wide ranging ecosystem from hot and humid tropics to alpine meadow. The total flora comprises over 45,000 species in the region. Out of which, 15000 are flowering plants having medicinal values and the rest non-flowering plants. The North-East India comprises of 50% of the India's large biodiversity. The region is considered as the centre of speciation and is also the main centres for the origin of cultivated crops. This region has diverse natural resources which are useful to the people of the region and also serve as a platform for biodiversity interaction at different levels. Nagaland is the sixteen state of India and it borders the state of Assam to the west, Arunachal Pradesh and part of Assam to the north, Burma to the east and Manipur to the south. The state capital is Kohima and the largest city is Dimapur. It has an area of 16,579 square kilometres with a population of 1,980,602 per the 2011 Census of India. The state is inhabited by 16 major tribes - Ao, Angami, Chakhesang, Chang, Khamniungan, Konyak, Lotha, Phom, Pochury, Rengma, Sangtam, Sumi, Yimchunger, Zeliang, Kuki and Kachari. Each tribe is unique in character with its own distinct customs, language and dress. Nagaland has basically an agricultural economy. Over 70% of the population is dependent on agriculture. The main crops are rice, millet, maize and pulses. Rice is the dominant crop and also the staple diet of the people. Of the gross cropped area under food grains, rice accounts for about 84.4%. The two methods of cultivation among the Naga tribes are jhuming and terrace cultivation. The area under jhum cultivation is about 87,339 hectares and under terraced cultivation is about 62,091 hectares. Nagaland with its varied agro-climatic conditions has several types of forest and is covered with coniferous trees, numerous broad leaved varieties of flora, medicinal plants, bamboos and it is therefore has immense potential to utilize and cultivate almost all varieties of medicinal and aromatic plants. The indigenous people of the state have vast knowledge of their plant resources as medicine and have been using over the years. However, very few studies were made available on the uses of medicinal plants from Longleng district. In this regard, the present study is to document the information about the uses of medicinal plants by the Phom tribe of Longleng district.

2. Materials and Methods

2.1 Study site

The present study was carried out in two locations within the Longleng district which lies at 94° - 95° East Longitude and 24° -25° North Latitude.

Correspondence
Hanako Jamir K
Department of Botany,
Fazl Ali College, Mokokchung,
Nagaland, India

The two locations were; lower altitude of 800 metres above sea level at Tamlu Block and the higher altitude of 1066 metres above sea level at Longleng Block. The villages selected under Tamlu Block were: Bara Namsang, Shetap, Shemnyuching and Tamlu and the villages selected under Longleng Block were: Hukpang and Pongching. Comparing the two locations, the vegetation was sparse at Tamlu block due to frequent human activities and interference while the Longleng block has rich vegetation and denser forest.

2.2 Method

The survey was conducted in January 2015 to December 2015 in the selected villages through personal interviews and interaction about collection practices to ensure long-term survival of wild populations and their associated habitats. The information regarding the use of medicinal plants by the local traditional healers were recorded during the period. The medicinal plants were observed in the natural habitats in both the two locations and simultaneously the plants were collected for herbarium records.

3. Result

A total of 71 medicinal plants having 66 genera and 46 families were recorded in the present study. The information regarding the scientific names, common names, local names, families, habits, parts used and the therapeutic uses of the plants recorded were given in the Table -I, II, III and IV.

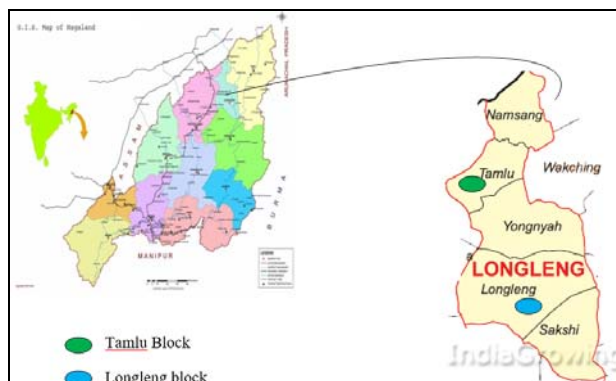


Fig 1: Map of Longleng district, Nagaland, India.

Table 1: List of medicinal plants and its uses by the Phom tribe of Longleng district, Nagaland.

Sl. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
1	<i>Acmella oleracea</i>	Toothache plant	Pork-o-aok	Asteraceae	Herb	Leaves and roots	Toothache.
2	<i>Aconitum fischeri</i> Rehb.	Fischer monkshod	Khangko Ngenlang lik	Ranunculaceae	Herb	Roots.	Diarrhoea, Rheumatism.
3	<i>Adiantum philippense</i> L.	Walking maiden hair fern	Huhnyem	Adiantaceae	Fern	Leaves and rhizomes	Antipyretic and cough
4	<i>Albizia procera</i>	White siris	Yanting peu	Fabaceae	Tree	Leaves and bark	Ulcers and stomachache.
5	<i>Ageratum conyzoides</i> L.	Billy goat-weed	Hou dhung	Asteraceae	Herb	Whole plant	Cuts and wounds, insect repellent.
6	<i>Allium hookeri</i>	Chives	Honam longkhih	Liliaceae	Herb	Leaves and roots	Anthelmintic.
7	<i>Allium odorum</i> L.	Oriental garlic	Biyas	Liliaceae	Herb	Leaves	Urinary problems.
8	<i>Alocasia macrorrhiza</i> L.	Giant taro	Hoyangtoh	Araceae	Herb	Leaves, stems and corms	De-worming
9	<i>Aquilaria agallocha</i>	Agarwood	Agor	Thymelaeaceae	Tree	Wood and resins.	Diarrhoea, Dysentery, Rheumatism.
10	<i>Arisaema concinnum</i>	Elegant cobra lily	Hoyang-hek	Araceae	Herb	Tubers	De-worming for cattle, insect repellent
11	<i>Arisaema consanguineum</i> Schott.	Himalayan cobra lily	Hoyang hek	Araceae	Herb	Tubers	Anti-bacterial anti-fungal.
12	<i>Artemisia vulgaris</i>	Common wormwood	Ngonho Hanshem	Asteraceae	Herb	Leaves and roots	Antipyretic, Anthelmintic and against skin infection.
13	<i>Baccaurea ramiflora</i> Lour.	Burmese grape	Xopolik	Phyllanthaceae	Tree	Fruits	Tonic
14	<i>Bauhinia glauca</i> (Benth.) Wall. ex Benth.	Climbing bauhinia	Alidhangd-ang cheu	Caesalpinaceae	Climber	Bark	Astringent, Diarrhoea, dysentery
15	<i>Bauhinia variegata</i> Lam.	Mountain ebony	Phampeu cheu	Caesalpinaceae	Tree	Flowers, bark and roots	Diarrhoea, dysentery and stomach disorders.
16	<i>Begonia palmate</i> D. Don.	Begonia	Ontokphah	Begoniaceae	Herb	Roots	Astringent.
17	<i>Blechnum capense</i> Schldtl.	Fern	Adak	Blechnaceae	Fern	Rhizome	Muscular pain
18	<i>Blumea lacera</i> L.	Kashidoria	Angkhu dung	Asteraceae	Herb	Whole plant	Cough, Asthma
19	<i>Bombax ceiba</i> L.	Cotton tree	Jouhpeu	Bombacaceae	Tree	Bark, gum seeds, roots, flowers,	Aphrodisiac and digestive disorders.
20	<i>Careya arborea</i> Roxb.	Beauty berry	Jitpu pou	Verbenaceae	Shrub	Leaves, barks, stems	Rheumatism, carminative.

Table 2: List of medicinal plants and its uses by the Phom tribe of Longleng district, Nagaland.

Sl. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
21	<i>Calotropis gigantean</i> L.	Crown flower	Holojiph	Asclepiadaceae	Shrub	Whole plant	Fever, cough.
22	<i>Canna indica</i> L.	Indian shot	Choupha cheu	Cannaceae	Herb	Fruit and rhizome	Diuretic.
23	<i>Caryota urens</i> Linn.	Jaggery palm	Mi	Arecaceae	Tree	Nuts and leaves	Seminal weakness, urinary disorders.
24	<i>Clerodendrum colebrookianum</i>	East Indian Glory Bower	Kainam	Verbenaceae	Shrub	Leaves	Antiseptic, tonic and bronchitis
25	<i>Colocasia esculenta</i> Linn. Schott	Elephant ear	Yau tou	Araceae	Herb	Corms	Insect sting, cuts, burns.
26	<i>Costus speciosus</i> (J. Konig) Sm.	Crepe ginger	Thongsha	Costaceae	Herb	Rhizome	Purgative, Anthelmintic, rheumatism.
27	<i>Cymbopogon citrate</i>	Wild lemon grass	Chelak	Poaceae	Grass	Leaf oil	Asthma and headache.
28	<i>Datura suaveolens</i>	Angel's trumpet	Bujok shamjok	Solanaceae	Shrub	Leaves and seeds	Asthma and whooping cough.
29	<i>Debregeasia longifolia</i> (Burm. F.) Wedd.	Wild rhea	Hangnyin	Urticaceae	Tree	Fruits and barks	Anti-dandruff, digestion.
30	<i>Dicranopteris linearis</i>	Silver fern	Nyuhheph chongkang	Gleicheniaceae	Fern	Leaves and roots	Fever, epilepsy, de-worming and asthma.
31	<i>Dioscorea oppositifolia</i> L.	Wild yam	Nok khi pou	Dioscoreaceae	Climber	Tubers	Contraceptive.
32	<i>Dioscorea pentaphylla</i> Linn	Yam	Phouh	Dioscoreaceae	Climber	Tubers	Arthritis, asthma, contraceptive.
33	<i>Dolichos lablab</i>	Hyacinth bean	Leplang	Fabaceae	Climber	Whole plant	Fever, abdominal pain and antiseptic.
34	<i>Drymaria cordata</i>	Chickweed	Bidthung	Caryophyllaceae	Herb	Leaves and stem	Antidote, appetizer, blood purifier, reduces fever.
35	<i>Elsholtzia blanda</i> Benth.	Lomba	Nyapalang	Lamiaceae	Shrub	Whole plant	Kidney and urinary bladder problems.
36	<i>Embllica officinalis</i> Gaertn.	Indian gooseberry	Sanglik	Euphorbiaceae	Tree	Fruits and seeds.	Anaemia, dysentery, haemorrhage, jaundice.
37	<i>Entada scandens</i> (L.) Benth.	Nicker bean	Bang	Leguminosae	Climber	Seeds	Anti-dandruff, burns.
38	<i>Erythrina arborescens</i>	Coral shrub	Mongleh kotan	Fabaceae	Tree	Leaves and bark	Fever, joint pain and asthma.
39	<i>Etilingera linqiiformis</i> Roxb.	Torch ginger	Yeusham tong	Zingiberaceae	Shrub	Roots	Stomach-ache and rheumatism.
40	<i>Ficus semicordata</i>	Drooping fig	Phokho	Moraceae	Tree	Fruits	Diarrhoea.

Table 3: List of medicinal plants and its uses by the Phom tribe of Longleng district, Nagaland.

Sl. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
41	<i>Girardinia heterophylla</i> Decne.	Himalaya nettle	Heishuin phok	Urticaceae	Herb	Leaves	Gonorrhoea.
42	<i>Hedychium aurantiacum</i>	Ginger lily	Pungsho cheu	Zingiberaceae	Herb	Rhizome	Carminative.
43	<i>Hibiscus rosa-sinensis</i>	China rose	Pangcheu	Malvaceae	Shrub	Flowers, leaves and stems.	Cough and cold, sores and relieves periodic pain.
44	<i>Hodgsonia heteroclite</i> (Roxb.) Hook.f. & Thomson	Oil nut	Bai lik	Cucurbitaceae	Climber	Leaves and nuts	Fever, bacterial infections.
45	<i>Houttuynia cordata</i> Thunb.	Stink grass	Yau oupong	Saururaceae	Herb	Whole plant	Stomach-ache, cholera, dysentery.
46	<i>Ipomoea batata</i>	Sweet potato	Hoyangki	Convolvulaceae	Climber	Leaves and tubers.	Burns, diarrhoea.
47	<i>Kalanchoe pinnata</i> .	Clapper bush	Hohlong kak	Crassulaceae	Herb	Leaves	Burns, dysentery, diabetes and antibacterial.
48	<i>Livistona jenkinsiana</i> Griff.	Major Jenkins palm	Yuh	Arecaceae	Shrub	Fruits and seeds	Stomach ailments.
49	<i>Mucuna pruriens</i>	Cowhage	Yeukhoye-uklik	Papilionaceae	Shrub	Roots and Pods	Body tonic, menstrual problems.
50	<i>Ocimum basilicum</i> L.	Sweet basil	Cheujing nyapa	Lamiaceae	Herb	Leaves and seeds	Antispasmodic, carminative, stomachic and tonic
51	<i>Parkia roxburghii</i> G. Don.	Tree bean	Pangho	Mimosaceae	Tree	Seeds	Diarrhoea, dysentery.
52	<i>Perilla frutescens</i> Linn.	Purple common perilla	Namnyu	Lamiaceae	Herb	Stem, leaves and seeds	Antidote, antiseptic, tonic.
53	<i>Piper longum</i> L.	Long pepper	Belulak ho nyiang	Piperaceae	Climber	Fruits and roots	Respiratory tract problems and dysentery
54	<i>Psophocarpus tetragonolobus</i>	Winged bean	Kongshem longhi	Fabaceae	Herb	Seeds	Cough.

	(L.)D.C.						
55	<i>Rhus semialata</i> Murr.	Nutgall	Bo lik	Anacardiaceae	Tree	Fruits	Stomach-ache, food poisoning.
56	<i>Saccharum officinarum</i>	Sugarcane	Ngojong	Poaceae	Grass	Culms	Jaundice, arthritis.
57	<i>Smilax perfoliata</i>	Indian smilax	Dhong shik	Smilacaceae	Climber	Leaves and roots	Diuretic, stimulant, tonic.
58	<i>Solanum indicum</i> Linn.	Indian night shade	Pu khangko	Solanaceae	Shrub	Roots and fruits	Asthma, dry cough, dropsy.
59	<i>Solanum khasianum</i>	Nightshade	Phinto shik	Solanaceae	Shrub	Whole plant	Contraceptive, germicide.
60	<i>Stemona tuberosa</i>	Stemona root	Asangkong-keih	Stemonaceae	Shrub	Tubers	Antibacterial, expectorant.

Table 4: List of medicinal plants and its uses by the Phom tribe of Longleng district, Nagaland.

Sl. No	Scientific name	Common name	Local name	Family	Habit	Part used	Uses
61	<i>Stixis suaveolens</i> Roxb.	Madhumalati	Yuhdung khangkoh	Capparidaceae	Climber	Fruits	Cough, malaria.
62	<i>Strobilanthes wallachii</i>	Wild petunia	Phampouh	Acanthaceae	Shrub	Whole plant	Stimulant, Menorrhoea.
63	<i>Tagetes erecta</i>	Marigold	Oung-hah cheu	Compositae	Herb	Whole plant	Rheumatism, bronchitis, laxative.
64	<i>Thysanolaena maxima</i>	Broom grass	Deuhpou	Poaceae	Grass	Roots	Fever.
65	<i>Tithonia diversifolia</i>	Mexican sunflower	Shapchu	Asteraceae	Shrub	Flowers	Wound and bruises.
66	<i>Thunbergia mysorensis</i>	Clock vine	Nganeh ekpeth	Acanthaceae	Shrub	Leaves	Stomach disorders and anti-dandruff.
67	<i>Tropaeolum majus</i>	Nasturtium	Heisheit	Tropaeolaceae	Herb	Whole plant	Purgative, anti-bacterial.
68	<i>Urena lobata</i>	Bur mallow	Pakhon Hongdem	Malvaceae	Shrub	Leaves and roots.	Antibacterial, diuretic, diarrhoea.
69	<i>Wedelia chinensis</i> (Osbeck) Merr.	Bhangara	Pattei Hin-nek	Asteraceae	Herb	Whole plant	Tonic, increases blood pressure.
70	<i>Zanthoxylum oxyphyllum</i>	Nepal prickly ash	Chalak	Rutaceae	Shrub	Seed, bark and leaves.	Carminative, rheumatism, asthma.
71	<i>Zingiber officinalis</i>	Ginger	Gingnyu	Zingiberaceae	Herb	Rhizome, roots, leaves and stigma.	Antiseptic, anti-inflammatory and urinary problems.

During the study period, it was observed that the herbs are the most important medicinal plants which are used largely by the local people, followed by the shrubs, trees, climbers, grasses and ferns respectively (Figure – 2).

It was observed that every plant parts are used as medicine by the local traditional healers of Longleng district, Nagaland. The part used are leaves followed by roots, whole plants, seeds, fruits, barks, tubers, rhizomes, stems, flowers, nuts,

corms, pods, wood, gum, culms, resins and stigma (Figure -3). The Phom tribe used medicinal plants to cure different ailments ranging from toothache to fever. The maximum number of plants used for curing of ailments are rheumatism, cough, diarrhoea, dysentery, asthma, stomach-ache, fever, burns, anti-bacterial, carminative, diuretic, stimulant antidote to jaundice (Figure : 4).

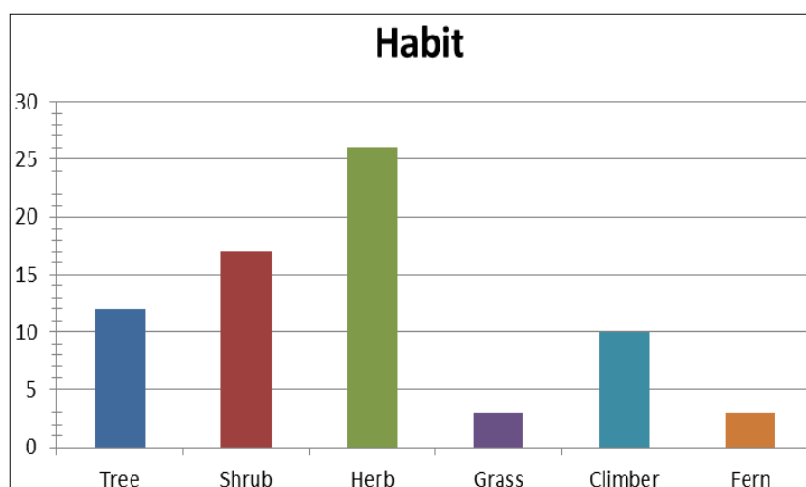


Fig 2: Bar diagram showing the uses of different medicinal plants.

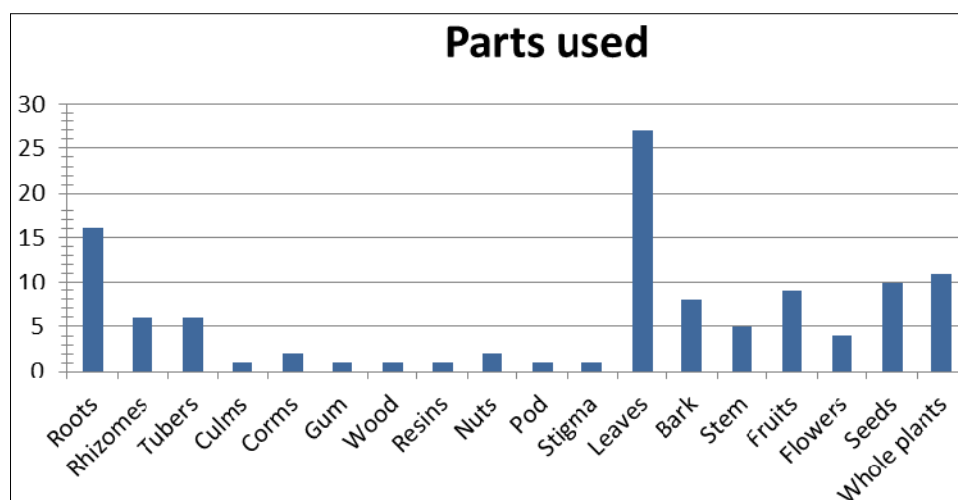


Fig 3: Bar diagram showing different parts used for medicinal purpose from medicinal plants.

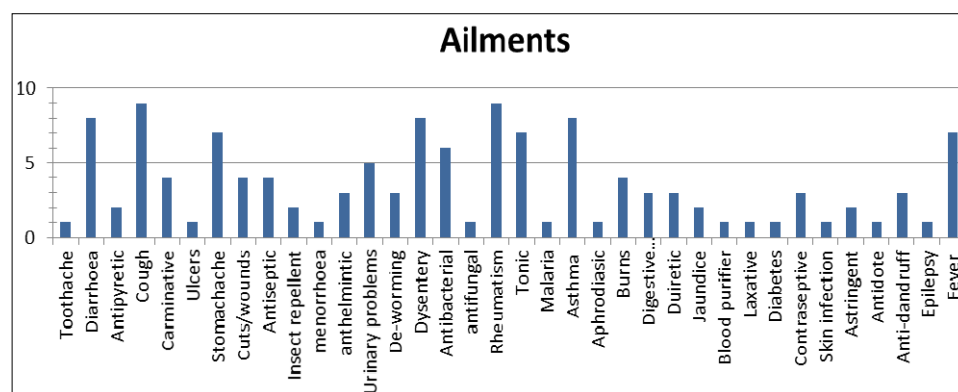


Fig 4: Bar diagram showing different ailments from the uses of medicinal plants.

4. Discussion and Conclusion

The present study was carried out in two blocks – Longleng block and Tamlu block of Longleng district, Nagaland. The Tamlu block showed less vegetation due to frequent human activities and interference while the Longleng block has rich vegetation and denser forest. Since time immemorial, the uses of medicinal plants are practised by the traditional local healers of the district. However, the documentation of the medicinal plants and its uses in the district was found to be in the nascent stage.

Although, modern medicine is widely used in the district yet the old practice of using medicinal plants by the local traditional healers still exists in this very district. The medicinal plants used are found in the wild and the wild species of these medicinal plants are slowly declining due to rampant collection, destruction of forest and unsustainable exploitation by local people of the region. Therefore, the urgent steps required at this juncture is the need for conservation and to create awareness on medicinal plants and its uses to the general public before the whole species becomes endangered.

Today, the younger generation does not have much knowledge on the uses of these medicinal plants due to immediate availability of modern drug in the medical stores. However, medicinal plants used by the local inhabitants showed that medicinal plants are used for curing of different ailments in absent of pharmaceutical drugs. Thus, the documentation of this traditional knowledge on medicinal plants for its uses is highly recommended before the practised fades away slowly.

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