

Study of some important medicinal plants found in Imphal-East District, Manipur, India

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Abstract- The present study revealed that a total of 50 medicinal plants, belongs to 26 families are recorded for the treatment of different diseases viz. asthma, arthritis, cough, fever, diabetes, dysentery, gastric and indigestion, jaundice, toothache, skin diseases, etc. Some important medicinal plants widely used are *Acorus calamus* Linn., *Cassia alata* Linn., *Andrographis paniculata* Nees., *kaempferia galanga* Linn., *Zanthoxylum acanthopodium* DC., *Eryngium foetidum* Linn., *Eupatorium birmanicum* DC., *Adhatoda vasica* Nees., etc. Some of the species reported in the present paper are in critical conditions due to deforestation, over exploitation, various activities of human population for their survival and other developmental activities such as agriculture, urbanization etc. as a result of which the rich habitats are gradually depleting day by day. Therefore, it is suggested that the high diversity of bio-resources needs to be conserved for livelihood sustenance of the future generation.

Index Terms- Traditional knowledge, Conservation, Marketable, Medicinal plants, Manipur

I. INTRODUCTION

India is extremely rich in medicinal plant diversity distributed in different geographical and environmental conditions and associated tribal and folk knowledge systems. India has the second largest tribal population in world after Africa (Kshirsagar & Singh, 2000). Manipur, a state of north-eastern India is known for its ecologically distinctive and rich biodiversity, having many endemic flora and fauna and rich cultural diversity. Medicinal plants have been used virtually all cultures as a source of medicine. It is estimated that 70-80% people worldwide rely chiefly on traditional, largely herbal, medicines to meet their primary health care needs (Srivastava *et al.*, 1995). Approximately 85% of traditional medicine preparations involve the use of plants or plants extracts (Vieira and Skorupa, 1993). The use of medicinal plants and traditional medicinal knowledge system is still continuing from time immemorial through ages, by the communities of Manipur. The state is endowed with a variety of medicinal plants. It has virgin forests and rich comparatively unexplored ecosystems. A number of workers have investigated on the utility of certain plants of Manipur for the treatment of diseases. Study of some Dicotyledonous plants of Manipur and recorded the names of useful plants of the state (Deb, 1961). Important medicinal plants of Manipur were recorded by (Shukla and Baishya, 1979). Similarly, investigation of medicinal plants and its uses were discussed in Manipur by (Sinha, 1996 and Singh *et al.*, 2003) and the sacred plants species having medicinal and religious

importance was reported by (Khubongmayum, 2004). The rich wealth of bio-resources and potential need proper management, conservation and development to utilize these in some suitable form for health care of the people and to develop herbal based industries. In present study, we chose some plants currently used in the folk medicine in Imphal-east district, Manipur. So far few works has been reported on ethnobotanical uses of plant species found in Imphal-east district. Thus, keeping this in view, the present investigation was carried out.

II. MATERIALS AND METHODS

Information on the use of medicinal plant was collected during Jan. 2013 to Dec. 2013 through field surveys in different remote villages of the Imphal-east District. The questionnaires were devised to identify the indigenous knowledge of plant based remedies from local people. Plant based remedies have presented with botanical name of species followed by family, local name, parts used and ethno-medical uses. The collected plant specimens were identified based on Sinha, 1987, Hooker, 1872-1898, Kanjilal *et al.*, 1934-1940, Bor, 1940 and correct nomenclature were given to the specimens. The socio-economic importance of the medicinal plants are also studied. The botanical name, family, local name along with its medicinal uses were presented under its plant species (Table 1).

Table 1: Medicinal plant species used by local people of Imphal-East District, Manipur

Sl. no.	Scientific Name	Family	Local Name & Common name	Parts use	Medicinal values	M/NM
1.	<i>Acorus calamus</i> Linn.	Araceae	Ok-hidak Sweet flag	Rhizome	Cough, fever, itching	NM
2.	<i>Adenostem malavenia</i> (L.) Kuntze	Asteraceae	Lalu-kok Sticky daisy	Leaves	Fresh injuries & skin disease	NM
3.	<i>Adhatoda vasica</i> Linn.	Acanthaceae	Nongmangkha- angouba Malabar nut	Leaves & flower	Cough, fever, dysentery	NM
4.	<i>Alocasia cucullata</i> (Lour.) Schott	Araceae	Palukabi/Singju-pan Chinese taro	Rhizome	Purify blood	M
5.	<i>Alpinia galanga</i> (Linn.) Willd.	Zingiberaceae	Kanghu Blue ginger/Thai ginger	Rhizome	Regulate blood circulation	M
6.	<i>Andrographis paniculata</i> (Burm.f.) Wall.	Acanthaceae	Bhubati King of bitters/ Andrographio	Leaves	Chronic fever	NM
7.	<i>Artemisia nilagirica</i> (Linn.)	Asteraceae	Laibak-ngou Mugwort	Shoot & leaves	Mouth ulcer & dizziness	NM
8.	<i>Asparagus filicinus</i> Buch. Ham.	Liliaceae	Nungarei Fern Asparagus	Root	Dysentery & epilepsy	NM
9.	<i>Butea monosperma</i> (Lam.)	Papilionaceae	Pangonglei Butca Gum Tree	Leaves, bark, gum, seed	Diarrhea, dysentery, snake bite	NM
10.	<i>Cardamine hirsute</i> (Linn.)	Brassicaceae	Chantruk-maan Hairy bittercress	Whole plant except root	Diuretic, better urination	NM
11.	<i>Cassia alata</i> (Linn.) Roxb.	Caesalpiniaceae	Daopata-achouba Candle bush	Leaves	Diabetes, skin diseases	NM
12.	<i>Calotropis gigantea</i> (Linn.) W.T.Aiton	Asclepiadaceae	Ang-got Crown flower	Shoot	Ring worm & leprosy	NM
13.	<i>Cinnamomum tamala</i> (Buch. Ham.)	Lauraceae	Tejpata Indian bay leaf	Leaves	Dizziness, headache	M
14.	<i>Clerodendrum serratum</i> (Linn.) Moon	Verbenaceae	MoirangKhanambi Bayflower/bleeding heart	Leaves, stem	Fever, dysentery, asthma, bronchitis	NM
15.	<i>Clerodendrum colebrookianum</i> (Walp.)	Verbenaceae	Kuthap Glorybower	Leaves	Skin diseases, dysentery	NM
16.	<i>Curcuma caesia</i> (Roxb.)	Zingiberaceae	Yaimu Black turmeric	Rhizome	Cough, dysentery	NM
17.	<i>Costus speciosus</i> (J. Konig) C. Specht	Zingiberaceae	Okchak- KhombiKhongban- Takhelei Crepe ginger	Rhizome	Urinary stone case	NM
18.	<i>Cedrela toona</i> (Roxb.) ex Rottler & Willd.	Meliaceae	Tairen Red – cedar	Leaves	Skin diseases & poxes	NM
19.	<i>Cymbopogon citrates</i> (D.C.) Stapf.	Gramineae	Lemon grass	Leaves	Digestion	M
20.	<i>Cymbopogon flexuosus</i> (Nees ex Sleud.) Will. Watson	Gramineae	Haona Malabar grass	Leaves	Cut & injuries for early healing	NM
21.	<i>Eryngium foetidum</i> (Linn.)	Apiaceae	Awa-phadigom Coriander	Whole plant	Arthritis	M
22.	<i>Eupatorium birmanicum</i> (DC.)	Asteraceae	Langthrei Burma Agrimony	Young shoot & Leaves	Epilepsy	NM
23.	<i>Euphorbia hirta</i>	Euphorbiaceae	Pakhangleiton	Young stem &	Diarrhoea, dysentery &	NM

	(Linn.)		Asthma plant/ Hairy spurge/garden spurge	flower	colic pain	
24.	<i>Gynura nepalensis</i> (D C.)	Asteraceae	Terapaibi Ashitaba	Young stem & flower	Against stomach ulcer	NM
25.	<i>Hedychium coronarium</i> (J. Koenig)	Zingiberaceae	Takhellei-angouba White ginger lily	Rhizome	Cough,vomiting	NM
26.	<i>Hedychium marginatum</i> (C. B. Clarke)	Zingiberaceae	Takhellei-angangba Red ginger lily	Rhizome	Bronchitis & stomach ulcer	NM
27.	<i>Iris bakeri</i> (Chapin.)	Iridaceae	Kombirei Fire- maned bowerbird	Rhizome	Brain coolant & hysteria	M
28.	<i>Jatropha gossypifolia</i> (Linn.)	Euphorbiaceae	Kege-manbi Bellyache bush/ Black physic nut	Leaves & root	Eczema, leprosy & snake bites	NM
29.	<i>Kaempferia galangal</i> (Linn.)	Zingiberaceae	Yaithamna-manbi Aromatic ginger	Rhizome	Baldness	M
30.	<i>Melothria perpusilla</i> (Blume.) Cogn.	Cucurbitaceae	Lamthabi Creeping cucumber	Leaves & Fruit	Jaundice & kidney affection	M
31.	<i>Meriandra benghalensis</i> (Roxb.) Benth.	Lamiaceae	Kanghuman Salvia abyssinica	Leaves	Cough, dizziness	M
32.	<i>Mimosa pudica</i> (Linn.)	<i>Mimosa pudica</i>	Kangphal-ikaithabi Sleepy plant	Young shoot	Piles & jaundice	NM
33.	<i>Ocimum basilicum</i> (Linn.)	Lamiaceae	Naosek-lei Thai basil/ Sweet basil	Leaves & young shoots	Fever	M
34.	<i>Oroxylum indicum</i> (Linn.) Benth. ex Kurz	Bignoniaceae	Shamba Broken Banes Tree	Leaves & seed	Gastric ulcer, tonsil	NM
35.	<i>Phlogacanthus thyriformis</i> (Roxb.) Nees.	Acanthaceae	Nongmangkha Poison Berry	Leaves & flower	Fever ,cough	M
36.	<i>Piper longum</i> (Linn.)	Piperaceae	Tabopi Long pepper	Root & fruit	Jaundice,laxative	NM
37.	<i>Plumbago zeylanica</i> (Linn.)	Plumbaginaceae	Telhidak Ceylon Leadwort/ Doctor bush	Root	Piles,bronchitis	NM
38.	<i>Pogostemon parviflorus</i> (Benth.)	Lamiaceae	Sangbrei Phangla	Leaves & root	Bleeding piles	M
39.	<i>Polygonum orientale</i> (Linn.)	Polygonaceae	Yellang Smartweeds	Tender leaves & shoots	Tonic & against headache	M
40.	<i>Polygonum posumbu</i> (Buch.-Ham.) ex D.Don	Polygonaceae	Phak-pai Smartweed	Tender shoots & leaves	Heart beat increases	M
41.	<i>Psophocarpus tetragonolobus</i> (Linn.) D.C.	Papilionaceae	Tengnou-manbi Four-angled bean/ Winged bean	Young fruit	Cough	M
42.	<i>Rhussemi alata</i> (Murr.)	Anacardiaceae	Heimang Chinese Sumac	Fruit, leaves	Intestinal worms, hair care	M
43.	<i>Sesbania grandiflora</i> (Linn.) Poiret.	Papiplionaceae	Chuchu-rangmei Agati or humming bird	Young fruit	Diabetes	M
44.	<i>Sida rhombifolia</i> (Linn.)	Malvaceae	U-han Queensland hemp/ Indian hemp.	Leaves	Urinary disorder, rheumatism	NM
45.	<i>Stevia rebaudiana</i> (Bertoni.)	Asteraceae	Stevia Sweet leaf/ Sugar leaf	Leaves	Diabetes control	NM
46.	<i>Scutellaria discolor</i> (Wallich. ex Benth.)	Lamiaceae	Yenakhat Skull cap	Leaves	Menstrual pain	M

47.	<i>Smilax ovalifolia</i> (Roxb.)	Liliaceae	Kwa-mana-manbi Kumarika	Aerial part	Skin diseases	NM
48.	<i>Swertia chirata</i> (Wall.) C.B. Clarke	Gentianaceae	Chiraita Chirayita	Stem	Tonic, stomachic & laxative	NM
49.	<i>Tinospora cordifolia</i> (Thunb.) Miers.	Menispermaceae	Ninthou-khong-lee Guduchi	Leaves	Diarrhoea & muscular sprain	NM
50.	<i>Zanthoxylum acanthopodium</i> (D.C.)	Rutaceae	Mukthruvi Andaliman/ Toothache Tree	Young leaf & fruit	Fever, cough, bronchitis	M

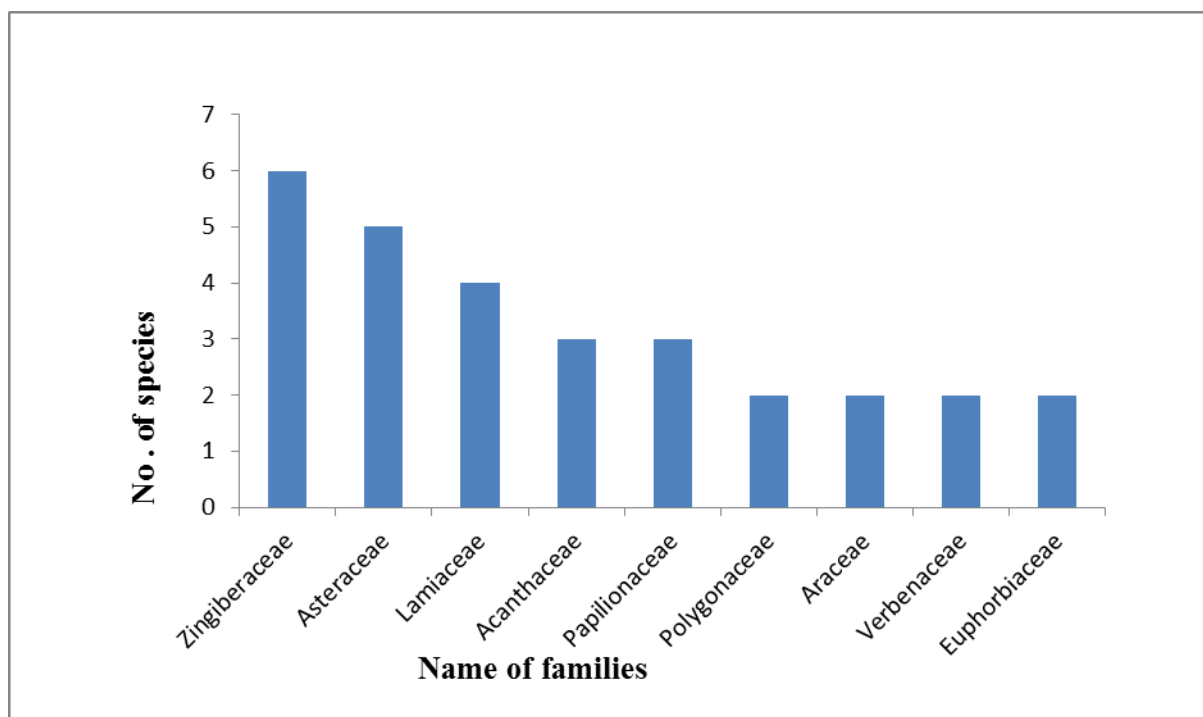


Fig.1: Family distribution of medicinal plant species

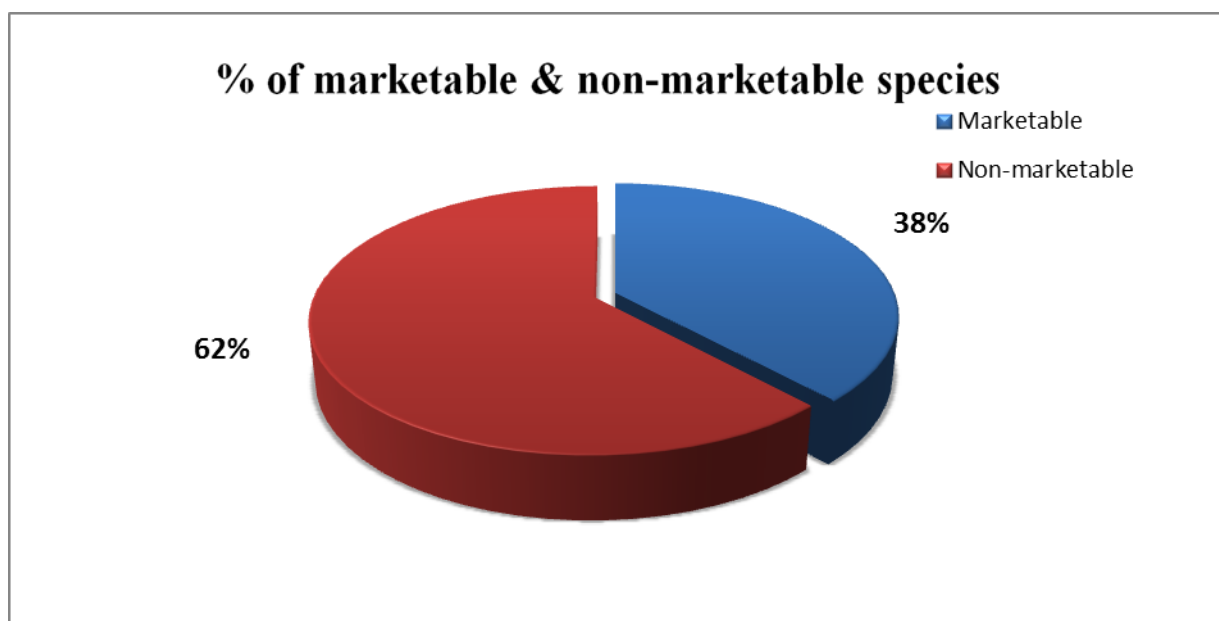


Fig.2: Graphical presentation of marketable and non-marketable of medicinal plant species.

III. RESULTS AND DISCUSSION

The investigations revealed that total of 50 species of medicinal plants belonging to 30 families were collected from Imphal-East district of Manipur. Data obtained from the present investigation were compiled in table 1. And the plant species are arranged in alphabetical order. The maximum number of species falls in the zingiberaceae family followed by Asteraceae, Laminaceae, Araceae, Verbenaceae, Euphorbiaceae etc. The used of these plants to treat various illness is still needed by the communities because of poor socio-economic conditions, the highest and difficult to access the allopathic medicines. The destructive harvest is of grave consequences from both ecological as well as survival point of view of the species Dawit & Ahadu, 1993. The present study suggests for an urgent need to explore ethnobotanical potential of the area, extensively, covering additional villages, to identify the more plants of pharmaceutical value and the plants for their uses. The efforts are also required to strengthen community based conservation initiatives. These ethnobotanical data may provide a base to start the search for new compounds for the phytochemist, pharmacologist and pharmacognosysts. Moreover, it may be mentioned that over exploitation of these species in the name of medicine may lead some species ultimately to the disappearance in future. Thus, proper documentation of this indigenous traditional medicinal knowledge is needed for future generations.

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