

Study of some important wild aromatic medicinal plants found in Imphal –West District, Manipur, India.

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Abstract- The present field investigation revealed that a total of 45 wild aromatic plants belonging to 19 families were recorded for different ailments viz. skin diseases, asthma, high blood pressure, diabetes, diarrhoea, dysentery, rheumatism etc. *Zingiberaceae* (12) family falls higher no. of species followed by *Asteraceae* (8), *Rutaceae* (6), *Lauraceae* (2). Some important aromatic wild medicinal plants which are widely used by the local healers are *Acorus calamus* Linn., *Aquilaria agallocha* Roxb, *Artocarpus lakoocha* Wall., *Curcuma amada* Rosc., *Cinnamomum tamala* Nees, *Curcuma angustifolia* Roxb, *Kaempferia rotunda*(L), *Citrus ganrhini* Lush, *Curcuma amada* Rosc, *Magnolia champaca* (L) Baill. However, *Cinnamomum tamala* Nees, *Curcuma angustifolia* Roxb, *Kaempferia rotunda*(L), *Curcuma amada* Rosc. are included in Red data list due to deforestation, urbanization and other human activities etc. as a result of which the rich habitats are gradually depleting day by day. Therefore, the conservation of rich biodiversity of bio-resources needs to be conserved for future generation.

Index Terms- Aromatic Plants, Conservation, Therapeutic, Biodiversity, Manipur.

I. INTRODUCTION

Manipur is widely characterized by rich diversity of ethno-medicinal plants as well as a rich heritage of medicinal and aromatic plants. It has two biodiversity hot spots of the world viz., Eastern Himalaya and Indo Myanmar (P.K Singh,2011).The use of wild medicinal plants in curing various diseases is still current, starting with ancient time (Salave *et al.*, 2010).The medicinal plants have value of drug due to the presence of specific chemical substances like alkaloids, glucosides, antioxidants, tannins, vitamins, essential and fatty oils etc. The main constituents of essential oils are mono and sesquiterpenes including carbohydrates, phenols, aldehydes, alcohols, ether and ketones are responsible both for the fragrance and for the biological activities. These plant constituents found in fruits, rhizomes, vegetables that are responsible for human health benefits. Manipur has rich heritage and long history on use of medicinal plants as medicine, cosmetics, health hygiene, toiletries, fragrance and food supplements in improving the

quality of life. Some aromatic plant products having an aromatic or pungent vegetable substances used to flavor food and food products. Conservation resources of medicinal plants have been conducted in different parts of the world (Joy *et al.*, 2001) (Lyle, 2007), (Shankar *et al.* 2010). Some of the note worthy account of the floristic study and the sacred plants species having medicinal and religious importance of Manipur have been reported by Mukherjee (1953), Jain and Shukla (1979), Phukan (1999) and (Khubongmayum,2004).

Medicinal plants are used as therapeutical activities such as diuretic, antiseptic, antihelminthic, stimulant, analgesics and carminative etc. In Manipur, medicinal plants are associated with folk traditions and local healers. Still, about 1200 medicinal plants are used by practitioner in traditional herbal home remedies (Tombiraj 2011). (Vieira *et al.*,1993) and (Jain *et al.*,2007) reported that approximately 85% of villagers consult with traditional medicine preparation involve plants extracts. The ethano-bio logical knowledge of people may help in understanding human environment interactions. In the present investigation, we focus on identification and conservation of wild aromatic plants currently used in the folk medicine.

II. MATERIALS AND METHODS

An intensive study of wild aromatic plants was carried out in Imphal-west (24014N latitudes and 93011 E longitudes). The present paper was based on the wild aromatic plants used by the indigenous group of communities of Manipur their identification, categorization with locally available materials. The field survey was conducted in the month of Feb-July of this year 2017 in different remote villages of the Imphal West District. Information on the wild aromatic medicinal plants and its products were collected from well-known village headman, many traditional healers regarding the utilities of plants as home remedies through interaction. Voucher specimens were collected from the natural habitat as well as from the markets and maintained were followed for correct identification and nomenclature (Sinha,1996; Brown,1969; Vedaja,1998).

Table 1. Wild aromatic medicinal plants

Sl. No.	Botanical name	Common Name	Local Name	Family	Flowering & Fruiting	Parts Used	Medicinal Uses
1.	<i>Artemisia indica</i> Linn	Worm seed	Laibakngau-nakuppi	Asteraceae	Sept-Feb	Whole plant	Stomach pain, anti-septic
2.	<i>Artemisia nilagirica</i> (Clarke) Pamp. Roxb	Indian worm wood fleavane	Laibakngou	Asteraceae	Oct-Jan, Jan-Feb	Whole plant	Tonic, antiseptic, insect repellent
3.	<i>Acorus calamus</i> Linn.	Sweet flag	Oak-hidak	Araceae	Non-flowering	Leaves, Root, Rhizome	Cough, fever, itching
4.	<i>Aquilaria agallocha</i> Roxb.	Eagle-wood	Agor	Rutaceae	May-August	Leaves, wood	Tonic, Diarrhoea, stimulant
5.	<i>Ageratum conyzoides</i> Linn.	Goat weed	Khongjai-napi	Asteraceae	Feb-July	Leaves	Hair care lotion, wound, gastrointestinal diseases
6.	<i>Alpina nigra</i> (Retz.) Rosc.	Shell ginger	Pullei	Zingiberaceae	May-july	Rhizome, leaves, inflorescence	Gout, colic pain, rheumatism, sex diseases
7.	<i>Alpina galanga</i> Wild.	Greater galangal	Kanghoo	Zingiberaceae	May-June	Rhizome, inflorescence	stimulant, carminative
8.	<i>Alpinia officinarum</i> Wild	Small galanga	Pulleimanbi	Zingiberaceae	May-June	Rhizome, inflorescence	Stimulant carminative, spices
9.	<i>Amomum dealbatum</i> Roxb.	Bengal cardamom	Namara	Zingiberaceae	April-May	Rhizome, inflorescence	High B.P, constipation
10.	<i>Artocarpus lakoocha</i> Wall.	Monkey jack tree	Hari-kokthong	Moraceae	July-Aug	Fruit, leaves	skin diseases, tonic, heart diseases
11.	<i>Aegle marmelos</i> (L.) Correa	Indian bael	Hei-khagok	Rutaceae	March-June	Fruit, leaves	Diabetes, dyspepsia, dysentery
12.	<i>Artabotrys hexapetalus</i> (L.F.)	Tai grape	Chini-champra	Amonacea	April-May	Inflorescence, leaves	Insect repellent, cholera, perfume
13.	<i>Blumeopsis flava</i> (D. Don) Merr.	Maiden-hair fern	Haochak	Asteraceae	Oct-Feb	Whole plant	bronchial congestion, skin diseases
14.	<i>Curcuma amada</i> Rosc.	Mango ginger	Heinouyai	Zingiberaceae	Aug-Sept	Rhizome	carminative, healing, sprain
15.	<i>Cucurma angustifolia</i> Rosc.	East Indian arrow root	Yaipal	Zingiberaceae	April-May	Inflorescence	Anti-fungal, anti-bacterial, cough, diarrhea

16.	<i>Cymbopogon flexuosus</i> St	Citronella grass	Houna	Poaceae	Sept-Dec	Leaves	Throat pain, hair care lotion
17.	<i>Carnarium bengalensis</i> Roxb.	East Indian Copal	Mekruk	. Bromeliaceae	May – July, November – January	Leaves, bark	chronic dysentery
18.	<i>Cinnamomum zeylanicum</i> Breyn.	Cinnamon	Ushingsha	Lauraceae	March – April, June – August.	Bark	dyspepsia, cold vomiting, astringent cough.
19.	<i>Cinnamomum tamala</i> (Linn.) Nees and Eberm.	Bayleaf	Tezpata	Lauraceae.	Feb.– June	Leaves	Cold, toothache, liver problem, urinary problem
20.	<i>Citrus laltipes</i> DC.	Khasipapeda	Heiribob	Rutaceae	March, Nov.	Fruit	Anti-dandruff, good complexion, stone case
21.	<i>Citrus ganrhini</i> Lush.	Citron	Heijang	Rutaceae	March – June	Fruit	Flavouring, confectionary
22.	<i>Citrus limethiodes</i> Tanaka	Grape fruit	Heithum	Rutaceae	April-june	Fruit	Flavouring, beverage, confection
23.	<i>Costus Speciosus</i> (K) sm	Male bamboo	Khongbal Takhellei	Zingiberaceae	May-July	Root	purgative, stimulant, tonic
24.	<i>Eryngium foetidum</i> Linn.	False coriander	Awa-phadigom	Myrtaceae	June-Aug, Nov-Jan	Fruit, leaves, root	High B.P, muscle pain stomach ulcer, nerve problem.
25.	<i>Eupatorium odoratum</i> Linn.)	Maiden hair fern	Hanurei	Asteraceae	May-Aug.	Leaves	Stop bleeding, anti-dandruff
26.	<i>Gynura cusimba</i> L.	Silk cotton tree	Terapaibi	Asteraceae	May-Aug	Leaves	Colitis, stimulant, tonic, stomach ulcer
27.	<i>Hedychium aurantiacum</i> Wall.	Cogon grass	Eengellei	Zingiberaceae	Aug-Oct	Inflorescence, rhizome	Bronchitis
28.	<i>Hedychium coronarium</i> Koenig	White ginger lily	Takhellei-angouba	Zingiberaceae	July-Aug	Rhizome	Throat problem, tonic
29.	<i>Hedychium marginatum</i> Clarke. C.B.	Red ginger lily	Takhellei-agangba	Zingiberaceae	July-Sept	Rhizome, leaves	Carminative, bronchitis, tonic
30.	<i>Houttuynia cordata</i> Thunb.	Molucca bean	Tongningkhok	Sauraceae	July-Sept	Leaves, rhizome	Dysentery, gonorrhoea,

							muscular pain, measles
31.	<i>Kaempferia rotunda</i> (L)	Aromatic ginger	Yaithamna-manbi	Zingiberaceae	May-June	Rhizome	Sinusitis, mumps, tumour, high bp.
32.	<i>Lantana camara</i> Linn.	Largeleaf lantana	Nongbanlei	Verbenaceae	Throughout the year	Leaves, fruit	Anti-fungal, diabetes, anthelmintic
33.	<i>Mesuaferrea</i> Linn.	Iron wood	Nageshore	Guttiferae	Oct-Dec	inflorescence	Piles, dysentery, cough, diarrhea
34.	<i>Magnolia champaca</i> (L) Baill	Fragrant champaca	Leihao	Magnoliaceae	May-March	Inflorescence, root	Dyspepsia, gonorrhoea, stomach complain
35.	<i>Paederia foetida</i> L.	Stinkvine	Oi-nam	Rubiaceae	March-Oct	Leaves	Piles, paralysis, rheumatism, dyspepsia
36.	<i>Pogostemon bengalensis</i> Kuntz.	Passion flower	Lamthoiding	Lamiaceae	In cold season	Leaves, root	Hair care lotion, piles
37.	<i>Pogostemon parviflorus</i> Benth	Phangla	Sangbrei	Asteraceae	Oct-Dec, Dec-Jan	Whole plant	Antibiotic to wound & cut, Piles, Hair care lotion
38.	<i>Plectranthus ternifolius</i> Don.	White champa	Khoiju-leikham	Lamiaceae	Sept-Nov, Jan-March	Leaves	Disinfectant, antifungicide
39.	<i>Pinus kesiya</i> Royle ex	Baguio pine	Uchan	Pinaceae	Feb-March	Wood, leaves	Cough, headache, anti bacterial
40.	<i>Scheffleravenulosa</i> C.B. Clarke	Needle wood	Utang	Araliaceae	Feb-Jun	Wood, leaves	Dropsy, paralysis
41.	<i>Spondia spinnata</i> (Linn.f.) Kurtz.	Indian hog plum	Heining	Anacardiaceae	March-June	Fruit, leaves	Piles, hair growth, dysentery, gonorrhoea
42.	<i>Tithonia diversifolia</i>	Mexican sunfloweri	Lam numitle	Asteraceae	Sept-Feb	Leaves, seed	Gastric problem, wound, bruises.
43.	<i>Vitex trifolia</i> (L.)	Chinese chaste tree	Urik-shibi	Verbenaceae	June-Sept	Leaves	Muscular sprain, anti-fungal, anticancer, tuberculosis
44.	<i>Zanthoxylum acanthopodium</i> D.C.	Winged leaf prickly ash	Mukthruhi	Rutaceae	Dec-Feb	Fruit, leaves	chronic fever, indigestion,

							cough, bronchitis
45.	<i>Zingiber cassumunar</i> Roxb.	Wild turmeric	Tekhao-yaikhu	Zingiberaceae	Aug-Sept	Rhizome	Womb related diseases, Irregular menstruation

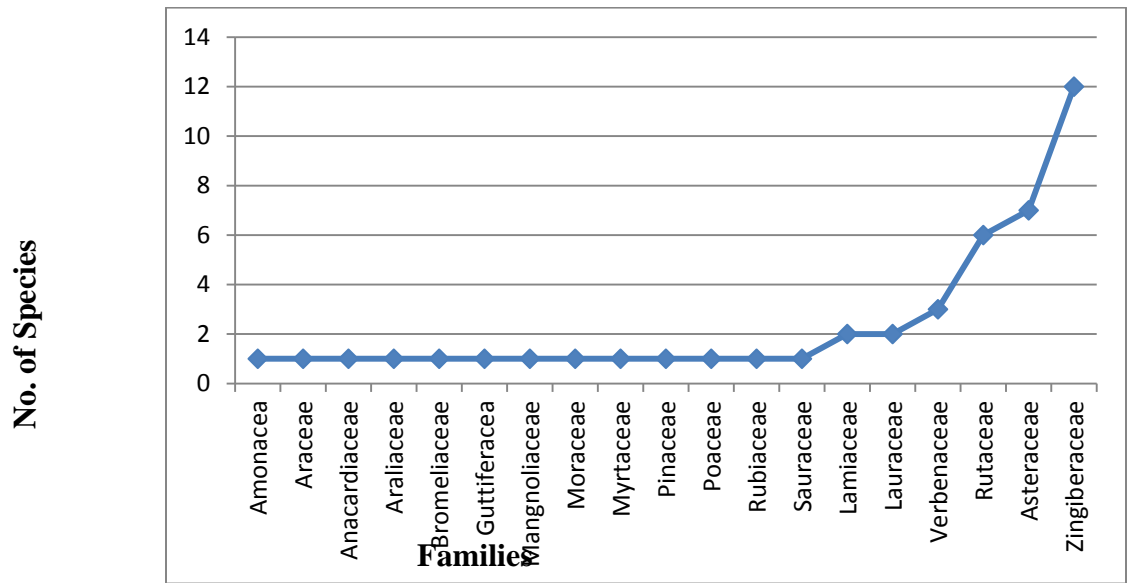


Fig 1: Family dominance curve of the wild aromatic plants.

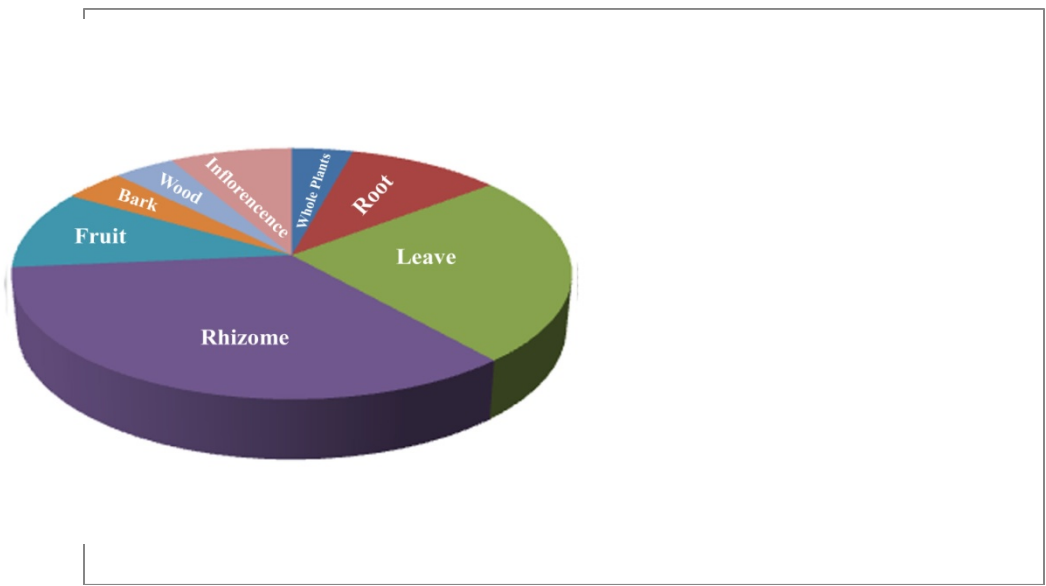


Fig 2: Graphical presentation of plant parts used.

III. RESULTS AND DISCUSSION

In the present investigation, a total of 45 wild aromatic plants belonging to 19 families were recorded in the Imphal west District, Manipur (Table 1). And the plant species are arranged in alphabetical order. Table 2 Showed that the plant parts used in different ailment. The higher no. of species falls in the *Zingiberaceae* (12) family followed by *Asteraceae* (8),

Rutaceae (6), *Lauraceae* (2). Out of the total aromatic plants, four species included in IUCN Red data list viz, *Cinnamomum tamala* Nees, *Curcuma angustifolia* Roxb, *Kaempferia rotunda*(L), *Curcuma amada* Rosc. (Anonymous 2013). The usage of herbal medicine has been increased to many diseases and there is a great demand for therapeutic. The side effect of herbal products are not yet reported in many industries and market. The used of these species plants to enhance the taste of

foods, beverages and drugs is still needed by the communities of Manipur, because of poor socio-economic conditions. Lack of institutional support, unsustainable use, cultural changes have threatened resources and local traditional knowledge (Rajendro et al.,2009). The present investigation suggested that for an urgent need to explore proper domestication research and development of rapid medicinal plant production and new good technologies. Publics should be educated and have scientific knowledge about the herbal products. The rapid increasing interest in the field of medicinal plants, we must require active collaboration amongst Scientists, Technologies ,Government or Private Organization.

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