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Ethnobotanical Study of Certain Medicinal Plants used by local peoplein Lakhimpur District of Assam, India.

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Abstract : The present study deals with the certain medicinal plants used by local communities as Ahom, Brahmin, Bodo, Deoris, Kaibartta, Koch, Kalita, Mishing, Adibashi etc. in Lakhimpur district of Assam for the treatment of various diseases & ailments. The information was collected through questionnaire with the village head (GaonBurah), traditional healers and old age people etc. A total number of 21 plant species belonging to 17 families have been documented and used as traditional medicine by local communities of the study area. The herbal medicine were prepared from various plant parts of single plant or multiple plants like root, leaves, shoot, seed etc. Leaf is dominantly used than parts of the plants for the preparation of herbal medicine. Altogether, 19 types of diseases including anemia, cough, eczema, pneumonia, gastric problem etc. have been reported to be cured by using these 21 plant species of the study area.
Keywords : Ethno-botany, medicinal plant, diseases, communities.

Introduction

From ancient time, man has used plant as a source of medicines. Initially, these formed folklore ethno medicine which are practiced in India and some other parts of the world like Africa, China and south America. It is usually unwritten and preserved only through indigenous people and minority culture. The ethnic groups are rich in indigenous knowledge and it is deeply rooted in their tradition and culture.Indigenous people living in different geographical belts usually depend on local medicinal plants and plant product to meet their daily requirements for food, fodder, medicine etc. According to World Health Organization (WHO), 80% of the rural population in developing countries utilizes locally available medicinal plants for their primary health care needs. India is very rich in its endemic flora and floristically unique and interesting. About 800 species of medicinal plants are in current use by local communities all over India.

Assam is a state of North Eastern Region of India having rich biodiversity of herbal medicinal plants[1] . Now a days, the medicinal plants play an important role in the sustainable development of a particular area. Different ethnomedicinal studies have been conducted by several workers[2-5] from time to time and several others[6-13]from North Eastern Region of India. In the present investigation, an attempt has been made to document the folklore knowledge about the medicinal plants used by the local communities of Lakhimpur district.

Study area

The Lakhimpur district is situated in the North-East corner of Assam. The district lies between 26°48′ to 27°53′ North latitude and 93°42′ to 94°20′ Eastern longitude. It is bounded by Siang and Papumpare district of Arunachal Pradesh on the North, Dhemaji district and Subansiri river on the East, Majuli on South and

Gahpur on the West. The geographical area of Lakhimpur district covers an area of 2277 sq km, out of which, 2257 sq km is rural and 20 sq km in urban. The climate of the area is humid and monsoon in nature. Average annual rainfall of the district is about 2182°34 mm. The relative humidity of the district is 80.33.The average temperature in summer season is 28.45°C and in winter is 17.33°C. The soil is sandy and acidic in nature. The vegetation of the district is rich in trees, shrubs, herbs, climbers etc. due its geographical locations, evergreen and deciduous forest along with grasslands and wetlands. The local communities of the study area such as Ahom, Adibashi ,Brahmin, Bodo, Deoris, Kaibartta, Koch, Kalita, Mishing etc.

Method of Study

The ethnobotanical study was carried out during 2013-2014 from different localities of Lakhimpur district of Assam. The ethnomedicinal information were collected by well planned questionnaire from local traditional healers called Bez and Bezine and old age people. Extensive field trips were conducted to personal interview among the old age people, local traditional healers to enquire about the success of traditional medicine. The plant species were collected and identified with the help of regional and local flora[14-15].The routine method have been followed for collection of plants species and herbarium technique[16] in the present study. The collected data are tabulated with their botanical name, local name, family, part used, mode of preparation and administration and ailments (Table no 1).

Table No: 1 Description of Ethnobotanical study of certain medicinal plants used by local people of Lakhimpur district of Assam.

Sl No	Scientific name	Local name	Family	Part used	Mode of preparation and administration	Ailments
1	*Adathoda vasica*(L.) Nees	*Bogabahok*	Acanthaceae	Bud	Approximate 3-4 nos bud of *Adathoda vasica*(L.) Neesare boiled and it is used with food items for 7 days only.	Lose of metal of women.
2.	*Aloe barbadensis*(L.) Mill	*Sal-kuwori*	Liliaceae	Shoot	Approximate 25-30 gm juice of shoot of *Aloe barbadensis*(L.)Mill mixed with equivalent amount of water and got milk.One dose once daily in empty stomach for 3-5 days only.	Stomach pain
3	*Asparagus racemosus* Willd.	*Hotmul*	Liliaceae	Root	Approximate 3-4 root of *Asparagus racemosus* Willd. are grinded and juice is extracted and mixed with one glass of got milk. One dose once daily for 3-4 days only.	Anemia
4	*Aquilaria malaccensis* Lamk.	*Agoru*	Thymeleaceae	Seed oil	Seed oil of *Aquilaria malaccensis*Lamk.on the effected portion of the boby.	For Snake bite.
5	*Calamu stennuis* Roxb	*Bet goch*	Araceae	Shoot	One shoot of *Calamu stennuis* Roxb is warm up and used on the effected portion of the nail.	Killing nail worm
6	*Caesalpinia bonduc*(L.) Roxb	Letaguti	Caesalpiniaceae	Seed	Seed of *Caesalpinia bonduc*(L.) Roxb is grinded and mixed with water. One teaspoonful of the juice is taken twice daily after food for 3days only.	Stomach problem.

7	*Commelina benghalensis* L.	*Kona-himolu*	Commelinaceae	Leaf	Approximate 2-3 drops of leaf juice of *Commelina benghalensis* L. is used orally once daily for 3-4 days only.	Sore of Eye
8	*Costus speciocus*(J.Koenig) Sm	*Jomlakhut*i	Costaceae	Root	One root of *Costus speciocus* (J.Koenig) Sm is grinded and juice is extracted. One dose once daily in empty stomach for 3-4 days only.	Urinary problem .

Table No 1 Contd.

Sl No	Scientific name	Local name	Family	Part used	Mode of preparation and administration	Ailments
9	*Cynodon dactylon* Rich	Dubori bon	Poaceae	Whole plant	Few amounts of whole plant of *Cynodondactylon* Richis grinded and juice is extracted. One dose apply orally in nose twice daily for 3 days only	Sinusitis
10	*Lageneri a vulgaris* Ser	*Jatilao*	Cucurbitacea e	Shoot	One cup shoot juice of *Lageneria vulgaris*Ser once daily in empty stomach for 2-3 days only.	Pain of Pregnancy woman. (After child birth)
				Seed	Approximate 10-12 nos seed of *Lageneria vulgaris*Ser are boiled in water and vapour used by nose twice daily for 3 days only.	Bleeding from nose.
11	*Leucasas pera* (Willd) Spreng.	Drun bon	Labiatae	Apical bud	Few amounts of apical bud *Leucasaspera*(Willd) Spreng.are boiled with one glass of water and added few amounts of salt. After few minutes to be cold, it is used as gargle twice daily after food for 5-6 days only.	Tonsillitis
				Bud	Approximate 1-2 nos buds*Leucusaspera*(Willd) Spreng.are grinded and 1-2 drops juice is used orally on the nose.	Bleeding from nose.
12	*Litseacitr ata*Blume	*Mezangko ri*	Lauraceae	Bark	One inch bark of each*Litseacitrata*Blumeshoot of *Caesalpiniacucullatum* W. & A.,*Cucumaamada*Roxb, 9-10 nos*piper nigrum*L.**,** 25 gm liver ofPorcupineall are boiled in 1 litre of water and approximate upto 250 gm dose should be prepared. One dose once daily in empty stomach for 3-4 days only.	Pneumonia /T.B

Table No 1 Contd.

Sl No	Scientific name	Local name	Family	Part used	Mode of preparation administration	Ailments
13	*Lowsonia inermis*L.	Jetujka	Lythraceae	Leaf	Few amounts of leaves of *Lowsonia inermis* L. and *Leucus aspera*(Willd) Spreng. are grinded and mixed with water and juice is extracted. One teaspoonful juice is used once daily before breakfast for 7-8 days only.	Gastric problem
14	*Musa balbisiana* Colla	*Vim kol*	Musaceae	Dry Bark	Approximate 7-9 nos dry barkof *Musa balbisian a*Colla are warm up and 5 nos rhizome are grinded and mixed with 1 litre of water and kept it for one day. One cup of dose once daily in empty stomach until to finish the 1 litre dose.	Gastric problem.
15	*Punica granatum* L.	Dalim	Punicaceae	Young fruit	One fruit of *Punica granatum* L. grinded and mixed with half glass of Goat milk and paste is used once daily before food for 3 days only.	Blood dysentery
16	*Ricinus communis* L.	*Aragoch*	Euphorbiaceae	Leaf	Few leaves of *Ricinus communis* L. are grinded and paste are used orally on the affected portion of the body.	Eczema
17	*Solanum indicum*L.	*Titavekuri*	Solanaceae	Root/ fruit	Approximate 3 nos of root and 5-6 nos of fruit of *Solanum indicum* L. and 5-6 nos of *Piper nigrum* L. are grinded and mixed with few ml of water. One dose once daily in empty stomach for 3-4 days only.	Cough.
18	*Solanum nigrum* L.	*Loshkosi*	Solanaceae	Leaves	Few leaves of *S.nigrum*L. are boiled with water for extraction of juice and to make one glass of dose. The dose is used once daily in empty stomach before breakfast for 7 days only.	Jaundice.

Table No 1 Contd.

Sl No	Scientific name	Local name	Family	Part used	Mode of preparation administration	Ailments
19	*Solanum myriacanthum* Dunal	*Kotahibegena*	Solanaceae	Root	Root juice of *Solanum myriacanthum* Dunal mixed with few ml of water. Two teaspoonful juice is used as orally for twice daily until the cure of the disease.	Tonsillitis.
20	*Vintexnugando* Linn	*Posotia*	Verbenaceae	Leaf	Approximate 3-4 nos leaves *Vintex nugando* Linn are grinded and paste are used orally in the effected portion of the body.	Scabies
21	*Caesalpinia cucullatum* W. & A.	*Tezmuri*	Caesalpiniaceae	Branch	Daily washed with the branch of *Caesalpinia cucullatum* W. & A. on the	Teeth pain

					teeth in morning time for few days.	

Results and discussion

A total no of 21 plants species belonging to 17 families against 19 nos of ailments were enumerated. These are herbs, shrub, climbers etc. Solanaceae is the most dominant family containing 3 species as followed by Liliaceae, Caesalpiniaceae (2 species) whereas the rest of other families like Araceae, Commelinaceae, Poaceae, Verbenacea, Rutaceae etc. are monospecific one. From the table no 1, It was observed that leaf is predominantly used as folklore medicine containing 5 species for treatment of various ailments as followed by root(4 species), shoot, seed and bud(3 species), bark , fruit(2 species), whole plant and branch(1 species) of each. Present study includes 21 plant species used as folklore medicine for anemia, cough, eczema, pneumonia, gastric problem etc. The study reveals that different plants are used for different ailments like *Lageneria vulgaris*, *Leucusaspera*,(bleeding from nose) and on the other hand, single plant is also used for different ailments like *Litsea citrate* (Pneumonia/TB).The folklore medicine were prepared in different parts of the single plant or combination of two or more than two plants.

Water and got milk are used as medium for the preparation of folklore medicine. The traditional healers generally prescribed average or maximum 3-4 doses for 3-5 days for the application of medicine.The traditional healers advised to the patients to avoid allopathic medicine, alcohol, oily, spicy, meat, and fish during the treatment period for various diseases.

The growth form of the documented medicinal plant species and percentage of different plant part used for the preparation of herbal medicine were presented in Fig 1 and Fig 2.Percentage of different plant part used for the preparation of herbal medicine presented in fig 3.

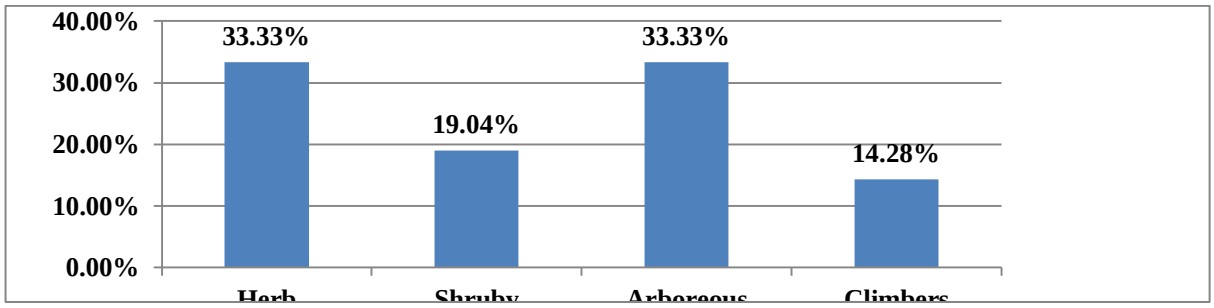

Fig 1: Growth form of the documented medicinal plant species.

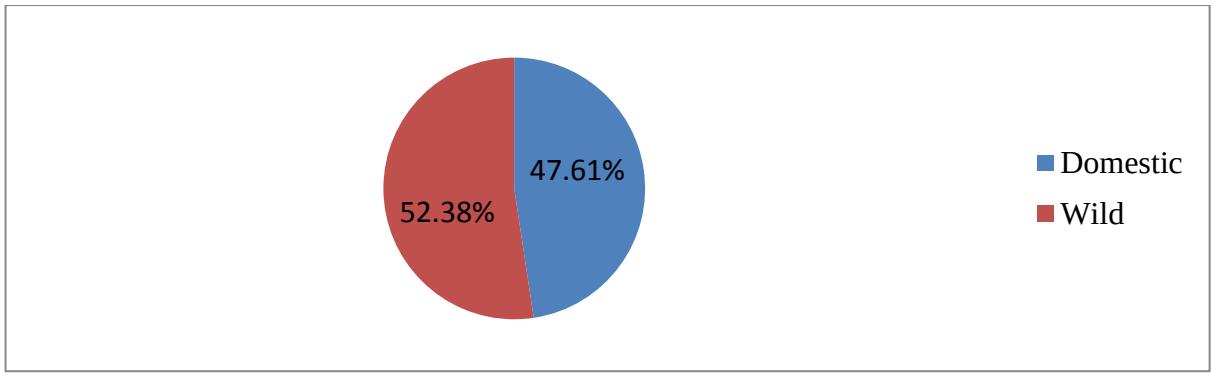

Fig 2: Percentage of nature of plant species.

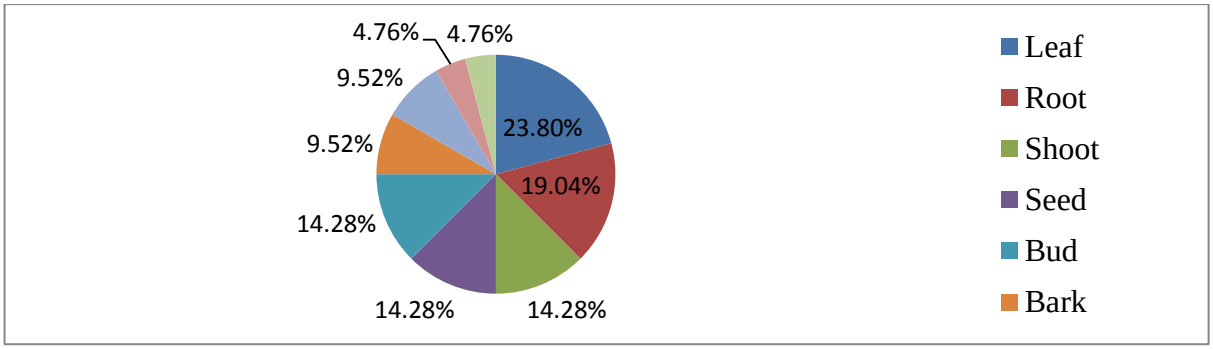

Fig.3: Percentage of different plant part used for the preparation offolklore medicine.

Conclusion

In the present study, 21 plant species used as folklore medicine for the treatment of various disease/ailments. Since, all these plant species were used more or less proportion by human beings for completion of their basic needs. The tradition healers are the main source of knowledge on medicinal plants of the study area. Therefore, it is our prime duty to protect and conserve and maintain them in proper way for future use. On the other hand, the phytochemical investigation of these medicinal plants are necessary for the preparation of modern drugs and cosmetic product.

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