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Saurav Paul
Saurav Paul: Assistant Professor in Botany (W.B.E.S.), Jhargram Raj Collage, Jhargram, 721507, West Bengal, India

Ananya Dey
CSIR Senior Research Fellow, Department of Botany, University of Burdwan, Burdwan, 713104, West Bengal, India

Correspondence:
Saurav Paul
Assistant Professor in Botany (W.B.E.S.), Jhargram Raj Collage, Jhargram, 721507, West Bengal, India
Email: sauravpaul059@gmail.com

A survey on ethnomedicinal plants of Nayagram Block of Jhargram District, West Bengal, India

Saurav Paul, Ananya Dey

ABSTRACT

Humans have been using plants for ailment of many common diseases since time immemorial. In modern day civilization using of these herbal medicines are generally restricted to the rural areas of our state as well as country. Nayagram is a marginal block of Jhargram district which shares the borders with Paschim Midnapore district of West Bengal and Odissa, a neighbouring state of ours. In this present study, plants which are used by the tribal and other local people of Nayagram CD block have been enlisted. The study reveals that a total of thirty-six [36]. plant species belonging to twenty-four [24]. families are used by the local people of our study site for treatment many common diseases. Scientific and local names of the plants, name of the families they belong to, parts of the plant used and their medicinal uses have been recorded in this study.

Keywords: Herbal Medicine, Nayagram CD Block, Bhargram District, Traditional Healers.

INTRODUCTION

From the very onset of its journey, human civilization has been depending on plants not only for breathing air, food or shelter but also for medicines. The age-old practice of using plants or parts of plants as remedies against various ailments has been continuing in parallel with the modernization of medical sciences. This traditional practice of using plants or its parts in various manners (juice, decoction, powder etc.) for their medicinal value is popularly known as 'Folk medicine', 'Herbal medicine', 'Ayurveda', 'Unani medicine' etc. This knowledge of Folk medicines is also being used for formulation of so-called todays' allopathic and homeopathic medicines upon which modern people mostly rely but the tribal and indigenous people of native communities mainly depend on these herbal medicines as remedies against many common diseases.

This knowledge of herbal medicines such as Collection, Preparation, Mode of Administration etc. run traditionally through the generations of families of local traditional healers. As human civilization progress more and more, less and less people from these communities are keeping their interests in these ways of treating diseases. So, this knowledge should be documented as much as possible before it's lost forever.

India is rich in its biodiversity and so its medicinal plant resources. Almost 3000 plant species are known to have various medicinal properties in our country [1]. In recent years, efforts of documenting these plant species and their uses in various forms of literature have up surged considerably. National Medicinal Plant Boards are constituted at State level by the Govt. of India to promote these practices among the indigenous communities of rural areas.

Earlier many ethne botanical inspections and survey were done in different districts of West Bengal [2-4] as well as in different blocks and forests in Jhargram District [5-7] but no such data were found to be reported from the Nayagram Block of Jhargram District. In this present study, we try to collect information from the traditional practitioners and other native people from our study site and report it.

Study Area

Nayagram CD block is a marginal block of the newly formed Jhargram district and situated at the extreme south of the district (Figure 1). It shares the North East and the East border with the Keshiary CD block and Danton I CD block of Paschim Midnapore District respectively. Jaleswar CD block and Suliapada CD block of Odisha surround the Nayagram CD block at the South and the West side respectively.

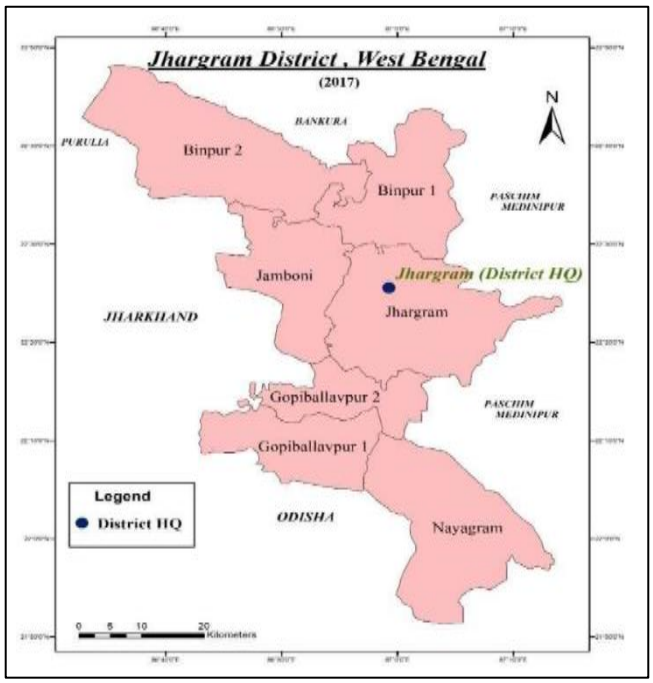

Figure 1: Map of Jhargram district showing different blocks

Nayagram is located at 22º01'55" and 87º10'41". It has an area of about 501.44 Sq.km. which is an extension of Chhotonagpur Plateau and has 90% hard lateritic soil and 10% alluvial soil.
Nayagram has a dry deciduous forest cover which is mostly dominated by Sal (*Shorea Robusta).* Besides that, several species e.g. - *Madhura Indica, Terminalia Arjuna, T. Billerica, T. Chebula, Pterocarpus Marsupium* and many other plants with medicinal properties are also found.

Nayagram CD block was selected for study due to its vast natural resources in respect of plants with medicinal importance and also for the Medicinal Plant Garden which was founded by the 'National Medicinal Plant Board' at the Murakati village under Patina Beat of Chand Abila Forest Range in the year 2016.

MATERIALS AND METHODS

Field surveys were conducted in different village areas of the Nayagram block and a special Ethno-botanical inspection was also done in the Medicinal Plant Garden of Murakati village.

The information was mainly gathered through oral interviews with traditional medicine men and discussion with the people of native communities also about the plants or its parts used for treatment of various diseases. We are also informed that medicines are prepared from the plants in form of juice, decoction, oil, paste etc. and mixtures with other plants or minerals also.

Local names of the medicinal plants, name of the parts used and their medicinal uses were collected from the interviews and discussion with the traditional healers and local people of indigenous communities. Photographs were taken and plants were identified with the help of 'Bengal Plants' by David Pain and other established literatures. The data thus collected are verified and cross checked with already published literatures [3,5-8].

RESULTS AND DISCUSSION

From this survey it was revealed that thirty-six (36). plant species belonging to twenty-four [24]. families are generally used for their medicinal values. Among these twenty-four (24). families, twenty-two (22). families are dicots and the rest two (02). families, Poaceae and Zingiberaceae are monocots.

Local names and scientific names of the plants along with their families, parts used and their health benefits are enumerated below (Table 1). Fabaceae was found to be represented by six (06) species which was followed by Competencies, Apocynaceae and Acantharean with three (03) species each. One (01) family, Asteraceae was found to be represented by two (02) species each whereas nineteen (19) families were recorded as monospecific (Figure 2). From this inspection it was also revealed that leaves are the most common plant parts used for medicinal purposes followed by barks. Fruits are third most common plant part used in various diseases. Seeds, latex, flowers, rhizomes, resins and even whole plants are also used to some extent for the production of medicines (Figure 3).

Though a vast number of people from our study site were discovered to be relying on these traditional herbal medicines, number many of these species are found to be decreasing due to demographic pressure, conversion of forest land into agricultural fields and lack of proper conservational approaches.

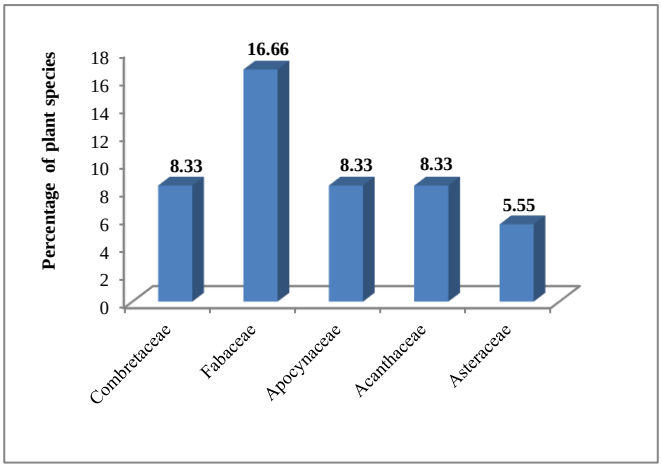

Figure 2: Bar graph showing some important families with species percentage

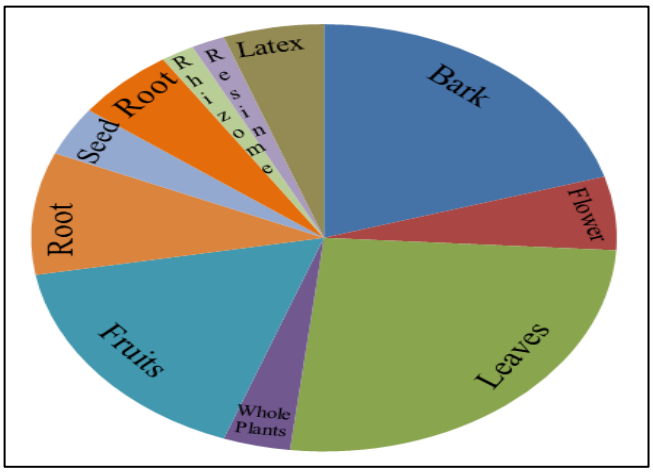

Figure 3: Pie diagram showing different plant parts used

CONCLUSION

This work is focused on surveying the plants of Nayagram CD Block which are commonly being used for their medicinal properties and may act as stepping stone of further research works in the fields of ethno-botany, phytochemistry and pharmacology. It is of utmost importance to document this knowledge of 'folk-medicines' before they are lost forever and more focuses should be given to the conservation and controlled utilization of these plants.

Acknowledgement

The authors are thankful to the tribal and other local people of Nayagram block for their cooperation and especially to the traditional healers of Nayagram block for sharing of their knowledge.

Conflict of Interest

None declared.

Financial Support

None declared.

Table 1: List of commonly used medicinal plants by the native communities of Nayagram Block

Sl. No.	Scientific Name	Local name	Family	Parts used	Ailments treated / Health Benefits
1	*Phyllanthus emblica L.*	Amlaki	Phyllanthaceae	Fruit	1. Ulcer 2. Improves Liver Function 3. As a component of ayurvedic remedy 'Trifala' it also improves immunity. 4. Application of Trifala soaked water (for 72 hrs.) clears opaqueness in eyes of persons above the age of 40
2	*Terminalia belliricia (Gaertn.) Roxb.*	Bahera	Combretaceae	Fruit	1. Cough & Cold 2. Loss of appetite 3. Constipation 4. As a component of ayurvedic remedy 'Trifala' it also improves immunity & other health functions
3	*Pterocarpus marsupium Roxb.*	Piyasal	Fabaceae	Bark, Latex	1. Diabetes
4	*Milletia pinnata (L.) Panigrahi*	Karanj, Dahar	Fabaceae	Seed, Bark	1. Oil prepared from seeds are in treating skin diseases 2. Tablets prepared from the barks are used in menstrual irregularity in women specially above the age of 40
5	*Holarrhena pubescens Wall. ex G.Don*	Kurchi	Apocynaceae	Bark	1. Diarrhea
6	*Terminalia arjuna (Roxb.) Wight & Arn.*	Arjun	Combretacae	Bark	1. Bark soaked water (overnight) and tablets prepared from bark are used in atherosclerosis and cardiomyopathy
7	*Schleichera oleosa (Lour.) Oken*	Kusum	Sapindaceae	Fruit, Bark	1. Fruits and Oil produced from bark is used in treating Skin diseases
8	*Cymbopogon schoenanthus (L.) Spreng*	Lemon grass	Poaceae	Leaf	1. Oil produced from leaves are used in treating rheumatism, stomachache
9	*Trewia nudiflora L.*	Pituli	Euphorbiaceae	Fruit, Leaf	1. Decoction prepared from leaves is used in Swelling and pain 2. Fruits are used in treating Kidney stones
10	*Terminalia chebula Retz.*	Haritaki	Combretaceae	Fruit, Stem	1. As a component of 'Trifala' it acts as remedy against Indigestion, gastritis etc. 2. Boosts immunity
11	*Hemidesmus indicus (L.) R.Br.*	Anantamul	Apocynaceae	Root	1. Skin diseases
12	*Aegle marmelos Corr.ex Roxb.*	Bel	Rutaceae	Leaf, Root, Fruit	1. Fever 2. Tuberculosis 3. Fruit is especially useful in treating Constipation
13	*Vitex negundo L.*	Nishinde	Verbenaceae	Latex, Leaves	1. Ear pain 2. Obesity 3. Cough
14	*Cassia fistula L.*	Bandar lathi	Fabaceae	Leaves, Fruit,	1. Fruit pulp helps in treating Piles, Ringworms

				Flower	2. Leaves and flowers can be used as purgative.
15	*Diopyros melanoxylon Roxb.*	Kendu	Ebenaceae	Leaf, Root, Bark	1. Scabies 2. Stomach disorders 3. Hyperglycemia
16	*Shorea robusta Roth*	Shal	Dipterocarpaceae	Roots, Resin	1. Flatuence 2. Resin is used in treating cancerous wounds
17	*Madhuca longifolia (Koenig)Macbride*	Mohua	Sapotaceae	Flower, Bark	1. Cardiac diseases 2. Dental problems 3. Skin diseases
18	*Achyranthes aspera L.*	Apang	Amaranthaceae	Whole plant	1. Body pain
19	*Andrographis paniculata (Burm.f.) Nees*	Kalmegh	Acanthaceae	Leaf	1. Tablets prepared from leaves are used as anthelmintic
20	*Enhydra fluctuans Lour*	Hinchey	Asteraceae	Whole plant	1. Dysentry 2. Inflammation 3. Skin diseases
21	*Strychnos nuxvomica L.*	Kuchila	Loganiaceae	Bark	1. Abdominal pain
22	*Azadirachta indica A.Juss.*	Neem	Meliaceae	Leaf, fruit	1. Leaves are used in treating ringworms, leprosy 2. Fruit is used in treating eye disorders
23	*Asparagus racemosus Willd.*	Shatamuli	Asparagaceae	Root	1. Dyspepsia 2. Diabetes 3. Improves female reproductive health
24	*Cissus quadrangularis L.*	Harjor	Vitaceae	Stem	1. Bone fractures
25	*Eclipta prostrate (L.) L.*	Keshut	Asteraceae	Leaf	1. Hair loss
26	*Calotropis procera (Aiton) W.T. Aiton*	Akanda	Asclepiadaceae	Latex	1. Digestive disorders 2. Septic wounds
27	*Syzygium cumini (L.) Skeels*	Kalo jam	Myrtaceae	Bark, Seed	1. Decoction prepared from bark is useful in dysentery 2. Powder produced from seeds are used in treating diabetes
28	*Oroxylum indicum (L.)Benth. ex Kurz*	Shonak	Bignoniaceae	Bark	1. Allergy
29	*Ocimum tenuiflorum L.*	Tulshi	Lamiaceae	Leaf	1. Cough 2. Insect bites
30	*Cucurma amada Roxb.*	Amada	Zingiberaceae	Rhizome	1. Bronchitis
31	*Catharanthus roseus (L.) G.Don*	Nayantara	Apocynaceae	Leaf	1. Cancerous wounds
32	*Justicia adhatoda L.*	Vasak	Acanthaceae	Leaf	1. Cough 2. Asthma 3. Bronchitis
33	*Butea monosperma (O.Kuntz) Taub.*	Palash	Fabaceae	Flower, Leaf	1. Diarrhea 2. Anthelmintic 3. Diabetes
34	*Tephrosia purpurea (L.) Piers*	Bon nil	Fabaceae	Root, Stem	1. Liver cirrhosis 2. Fever
35	*Hygrophila articulate Schumach*	Kulekhara	Acanthaceae	Leaf	1. Decoction produced from leaves is used in Anemia
36	*Saraca asoca (Roxb.) Willd*	Asok	Fabaceae	Bark	1. Menstrual problems in women

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