

## Survey of Monocot ethno-medicinal plants in Purba Medinipur, Paschim Medinipur and Jhargram districts of West Bengal, India

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### ABSTRACT

Present study is on ethno-medicinal uses of 59 monocotyledonous plants in Purba Medinipur, Paschim Medinipur and Jhargram districts of West Bengal in India. Herbal uses against many common diseases such as epilepsy, rheumatism, kidney disorder, heart ailments, leprosy, jaundice, dysentery, toothache, diarrhoea, diabetes, alopecia, snakebite, piles, leucoderma, bronchitis, arthritis, menstrual disorder, tuberculosis, ulcers, dyspepsia, boils, indigestion, etc. have been recorded. Relevant uses of 59 flowering plant species along with family, local name (s), habit and parts used are discussed in this paper.

Figures : 02, Plate:1

References : 24

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KEY WORDS : Ethno-medicinal uses, Jhargram, Monocots, Paschim Medinipur, Purba Medinipur, West Bengal.

### Introduction

Since time immemorial the humans used plants and their products as preventive measures for various diseases. In spite of many modern allopathic, homoeopathic and ayurvedic medicines available today, they still depend on crude herbal extracts particularly in rural areas. A variety of natural sources examined, plants proved to have high potential and yielded utmost number of commercially viable curative agents<sup>2,8</sup>. Traditional medical knowledge of medicinal plants and their use by indigenous healers are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future<sup>13</sup>. The present study deals with the uses of monocot plants against different kinds of ailments in the said three districts of West Bengal.

### Methods

#### The study area:

Geographically Purba Medinipur, Paschim Medinipur and Jhargram districts are the parts of southern West Bengal. Due to seasonal variation, climatic set up, physiographic condition, soil structure there developed a diverse spectrum of flora of its own. Generally, the soil of Purba Medinipur and some parts of Paschim Medinipur are alluvial type whereas most parts of Paschim Medinipur and Jhargram districts are lateritic type. Dense Sal forests are distributed to the major parts of Paschim Medinipur and Jhargram districts whereas Purba Medinipur witnessed sparsely distributed such type of forest. During summer in three districts the maximum temperature raises up to 44 °C and in winter goes down to 9°C. The annual average rainfall is about

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TABLE-1: List of monocotyledonous plants along with their family, local name(s), habit, parts used and medicinal uses

Botanical name	Family	Local name(s)	Habit	Parts used	Medicinal uses
<i>Acorus calamus</i>	Acoraceae	Bach	Herb	Rhizomes; roots	Skin disease, cough, bronchitis, kidney trouble, intermittent fever
<i>Agave americana</i>	Amaryllidaceae	Bans keora	Shrub	Leaves	Rheumatism, cancer, venereal sores
<i>A. cantala</i>	Amaryllidaceae	Murga	Shrub	Roots; leaves	Diuretic, diaphoretic, bruises
<i>A. sisalana</i>	Amaryllidaceae	Sisal	Shrub	Plant juice; leaves	Blood pressure, swelling of throat of cattle
<i>Allium tuberosum</i>	Liliaceae	Chives	Herb	Whole plant; Seeds	Kidney problem, heart complaints
<i>Alocasia indica</i>	Araceae	Mankachu	Herb	Rootstock; rhizomes; leaves	Leprosy, injury, jaundice, stop bleeding
<i>Aloe barbadensis</i>	Liliaceae	Ghitakumari	Herb	Leaves (fresh part)	Constipation, eczema
<i>Alpinia galanga</i>	Zingiberaceae	Galangal	Herb	Rhizomes; seeds	Expectorant, kidney troubles, diarrhoea
<i>Amorphophallus campanulatus</i>	Araceae	Oi	Herb	Corm; seeds; tuber; roots; leaves	Asthma, tumors, rheumatic swelling, rheumatism, ophthalmia, sores of cattle
<i>A. margaritifera</i>	Araceae	Baruna	Herb	Seeds	Toothache
<i>A. sylvaticus</i>	Araceae	Ban oi	Herb	Corm; seeds	Toothache, glandular swelling

<i>Asparagus adscendens</i>	Asparagaceae	Maha satabari	Shrub	Tuberous root	Dysentery, increase flor of breast milk
<i>A. officinalis</i>	Asparagaceae	Hillua	Shrub	Whole plant; Tuberous root	Diuretic, jaundice, rheumatism
<i>A. racemosus</i>	Asparagaceae	Satamuli	Shrub	Tuber roots; leaves	Dysentery, epilepsy, to treat night blindness
<i>Borassus flabellifer</i>	Areaceae	Tal	Tree	Whole plant; root; spadices; fruits; toddy	Expectorant, anthelmintic, hepatic disorder, nausea, skin diseases
<i>Calamus viminalis</i>	Areaceae	Barabet	Scrambler	Roots; stem; leaves	Chronic fever, anthelmintic, jaundice
<i>Canna indica</i>	Cannaceae	Kalabati	Herb	Roots; stalks; flowers; seeds	Dropsy, eye problems
<i>Chlorophytum borivillianum</i>	Liliaceae	Safed Mushli	Herb	Tubers	Diabetes, increase lactation, used as tonic
<i>Coix gigantea</i>	Poaceae	Danga Gurgura	Herb	Seeds	Diuretic, weight loss
<i>C. lacryma-jobi</i>	Poaceae	Gurgura	Herb	Leaves; seeds; Roots	Menstrual disorder, anti-cancer
<i>Colocasia esculenta</i>	Araceae	Altikachu	Herb	Leaves, corm	Alopecia, stimulant, internal haemorrhage
<i>Commelina benghalensis</i>	Commelinaceae	Kanchira	Herb	Whole plant	Leprosy, eczema, snakebite
<i>Costus speciosus</i>	Costaceae	Kemuk	Herb	Roots; rhizomes; rhizomes & roots	Dyspepsia, skin diseases, urinary trouble

<i>Crinum asiaticum</i>	Amaryllidaceae	Nagdan	Herb	Bulbs; leaves, roots; seeds	Rheumatism, urinary trouble, skin diseases, purgative
<i>Curculigo orchioides</i>	Amaryllidaceae	Talmuli	Herb	Rhizomes; roots	Piles, asthma, jaundice, diarrhoea, stop bleeding
<i>Curcuma amada</i>	Zingiberaceae	Am ada	Herb	Roots; rhizomes	Diarrhoea, skin diseases
<i>C. aromatica</i>	Zingiberaceae	Ban Halud	Herb	Rhizomes; roots; leaves	Scabies, headache, cool down high fever, dropsy
<i>C. caesia</i>	Zingiberaceae	Kala Haldi	Herb	Rhizomes; roots	Leucoderma, asthma, snakebite
<i>C. longa</i>	Zingiberaceae	Halud/ Haldi	Herb	Rhizomes; leaves	Scabies, dyspepsia, dropsy, dysentery
<i>C. zedoaria</i>	Zingiberaceae	Palo	Herb	Rhizomes; roots; leaves	Asthma, toothache, diarrhoea, dropsy
<i>Cymbopogon citratus</i>	Poaceae	Gandhabena	Herb	Roots; leaves	Bronchitis, cholera, dyspepsia
<i>C. flexuosus</i>	Poaceae	Lemon grass	Herb	Leaves; oils from leaves	Leprosy, rheumatism, headache
<i>C. martini</i>	Poaceae	Parmarosa	Herb	Whole plant parts	Arthritis, cough, urticaria
<i>C. winteriannus</i>	Poaceae	Citrunella	Herb	Leaves	Antibacterial agent, insect repellent
<i>Cynodon dactylon</i>	Poaceae	Durba	Herb	Whole plant parts; roots	Conjunctivitis, diarrhoea, dropsy
<i>Cyperus inundatus</i>	Cyperaceae	Pati	Herb	Whole plant parts; tuber roots	Dysuria, healing of ulcers, stimulant, tonic

<i>C. scariosus</i>	Cyperaceae	Nagar mutha	Herb	Tubers	Diuretic, anti-diarrhoeal, digestive
<i>Desmotachya bipinnata</i>	Poaceae	Kush	Herb vaginal discharge	Roots; whole plant	Asthma, jaundice, piles, boils,
<i>Dioscorea alata</i>	Dioscoreaceae	Kham alu	Twiner	Tubers	Anthelmintic, leprosy, piles
<i>D. bulbifera</i>	Dioscoreaceae	Ban alu, Chupri alu	Twiner	Tuber roots	Ulcers, piles, sores
<i>D. esculenta</i> var. <i>spinosa</i>	Dioscoreaceae	Kanta alu	Twiner	Tuber roots	Dysentery, boils, to treat swellings
<i>D. pentaphylla</i>	Dioscoreaceae	Kanta alu	Twiner	Tubers	Dislocation of limb joints, rheumatic swelling
<i>D. triphylla</i>	Dioscoreaceae	Churella alu	Twiner	Tubers	Indigestion, vomiting
<i>Erianthus munja</i>	Poaceae	Munj	Herb	Stem; roots	Urinary complaints
<i>Gloriosa superba</i>	Liliaceae	Ulatchandal	Rambler	Leaves; tubers; tubers	Piles, skin diseases, pimples, rheumatism
<i>Kaempferia galanga</i>	Zingiberaceae	Bhui champa	Herb	Rhizomes, rootstock, leaves; tubers	Leprosy, skin diseases, piles
<i>Kyllinga nemoralis</i>	Cyperaceae	Nirbish	Herb	Whole plant	Snakebite, diabetes
<i>K. triceps</i>	Cyperaceae	Nirbish	Herb	Roots & its oil	Diabetes, skin diseases
<i>Sansevieria cylindrica</i>	Liliaceae	Mahadevjata	Herb	Whole plant; rhizomes	Gynecological disorders
<i>S. roxburghiana</i>	Liliaceae	Murba	Herb	Rhizomes	Vomiting, cough, high fever

<i>Scindapsus officinalis</i>	Araceae	Gajpipul	Climber	Fruits; roots	Expectorant, stimulant, bronchitis, diarrhoea
<i>Smilax ovalifolia</i>	Smilacaceae	Kumarika	Scrambler	Roots	Veneral diseases, rheumatism, dysentery, urinary problem
<i>Typhonium trilobatum</i>	Araceae	Ghet kachu	Herb	Tuber, roots	Boils, colic, snakebite
<i>Vetiveria zizanioides</i>	Poaceae	Bena	Herb	Roots	Blood disorder, excessive sweating
<i>Yucca gloriosa</i>	Liliaceae	Betal	Shrub	Fruits	Rheumatism, ulcers, dysentery
<i>Zingiber cassumunar</i>	Zingiberaceae	Ban ada	Herb	Rhizomes; roots	Cough, fever, dysentery
<i>Z. officinale</i>	Zingiberaceae	Ada	Herb	Rhizomes	Piles, pains, bronchitis, dropsy, asthma
<i>Z. zerumbet</i>	Zingiberaceae	Kalanjam	Herb	Rhizomes	Skin disease, leprosy, sore-throat

**TABLE-2: Habit groups and their numbers**

Type of habit	Total number
Climber	02
Herbs	42
Rambler	01
Scrambler	01
Shrubs	07
Tree	01
Twiners	05
Total	59

1400 mm.

**Data collection:**

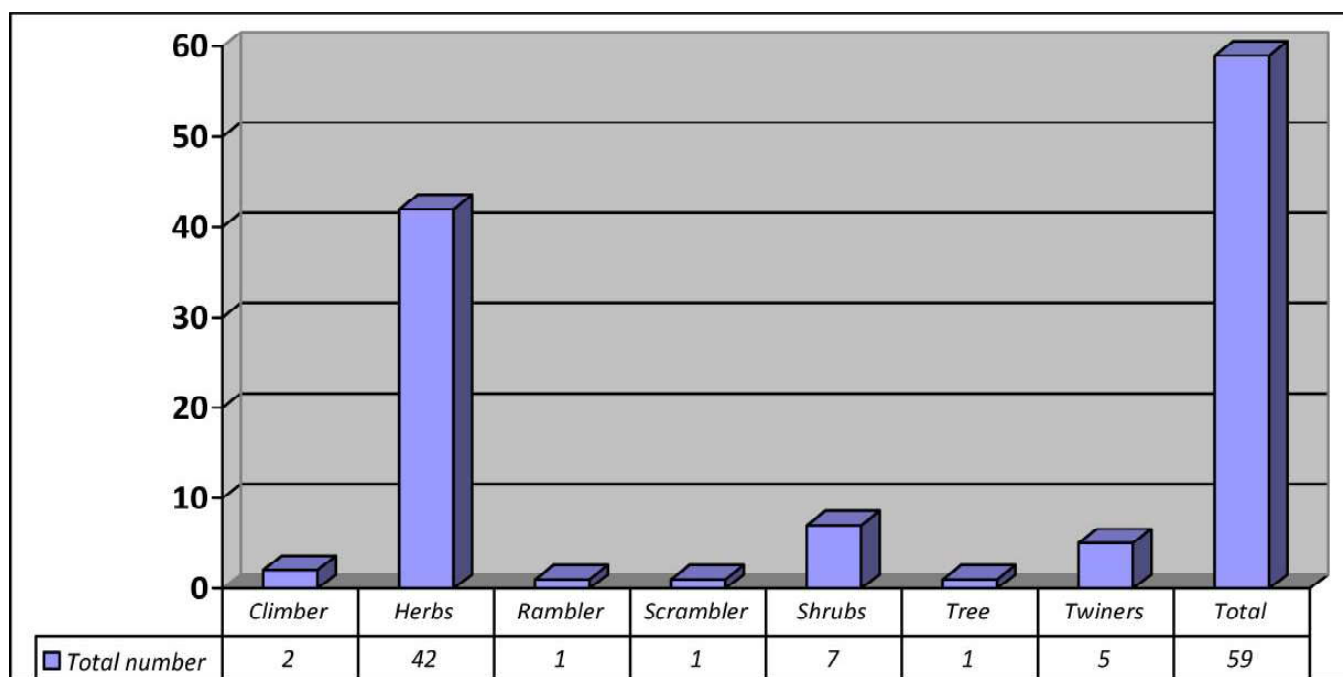
The present investigation has been done based on field survey in different parts of the above-stated three districts in all seasons of the year. Identification of the collected specimens was made with the help of literature<sup>3,5,12</sup>. Field and herbarium methods were followed as recommended<sup>5</sup>. The identified specimens were deposited at the Ramnagar College Herbarium.

For the accepted species names, the website of the Plant List ([www.plantlist.org](http://www.plantlist.org)) was consulted. The list of accepted plant names was arranged alphabetically along with family, local name(s), habit, parts used for treatment of diseases (Tables-1 and 2).

Whole plant or its different parts such as rhizomes, stem, tubers, roots, leaves, flowers, fruits, seeds, corm,

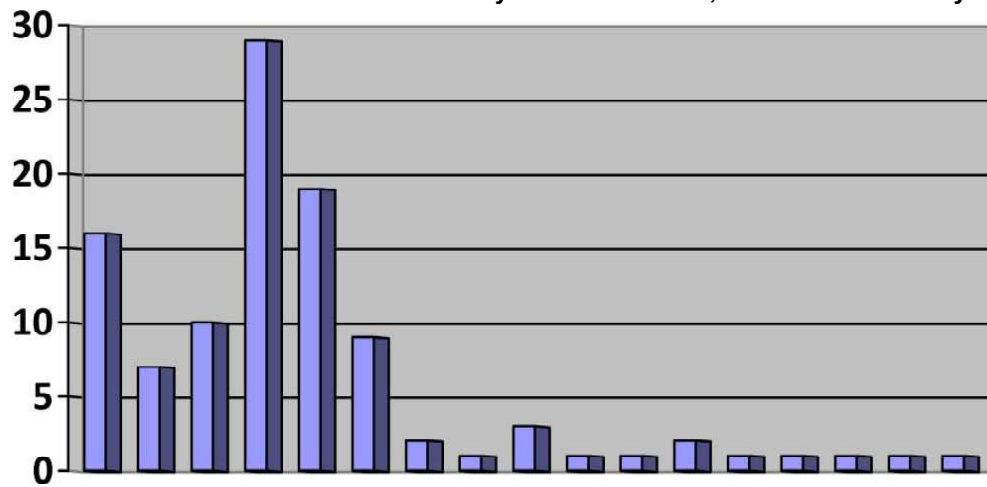
**TABLE-3: Type of plant parts and their numbers**

Parts	Number	Parts	Number
Rhizomes	16	Plant juice	1
Tubers	7	Bulbs	1
Whole plant	10	Stem	2
Roots	29	Root oil	1
Leaves	19	Leaf oil	1
Seeds	9	Flowers	1
Tuberous root	2	Spadices	1
Fruits	1	Stalks	1
Corm	3		



**Fig. 1: Habit groups and their numbers**





	Rhizomes	Tubers	Whole plant	Roots	Leaves	Seeds	Tuberous root	Fruits	Corn	Plant juice	Bulbs	Stem	Root oil	Leaf oil	Flowers	Spadices	Stalks
Number	16	7	10	29	19	9	2	1	3	1	1	2	1	1	1	1	1

Fig. 2: Type of plant parts and their numbers



Plate 1. A



Plate 1. B



Plate 1. C



Plate 1. D



Plate 1. E



Plate 1. F

- Plate 1. A. *Alocasia indica*      Plate 1 B. *Curcuma longa*  
 Plate 1. C. *Desmotachya bipinnata*      Plate 1. D. *Gloriosa superba*  
 Plate 1. E. *Smilax ovalifolia*      Plate 1. F. *Zingiber cassumunar*



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bulbs, leaves/ seed oil, etc. having medicinal uses are recorded (Table 3). Information was collected from the native/ village people including the Santhal tribe, and literature consulted<sup>1-2,7-12,14-24</sup>.

## Results and Discussion

Present investigation reports 59 ethno-medicinal monocot species under 36 genera and 14 families from Purba Medinipur, Paschim Medinipur and Jhargram districts of southern West Bengal. Out of 59 species, 42 species are herbs, 7 species are shrubs, 5 species are twiners, 2 species are climber and 1 species each rambler, scrambler, tree (Tables 1 and 2; Figures 1 and 2). As many as 36 different kinds of diseases and problems can be treated by these plants. The diseases

and problems are: rheumatism and leprosy by 4 species each; skin disease and diuretic by 3 species each; jaundice, asthma, toothache, dysentery, piles, scabies, healing of ulcers, boils, bronchitis and cough by 2 species each; blood pressure, heart complaints, constipation, kidney trouble, dyspepsia, gastritis, eye problem, diabetes, menstrual disorder, alopecia, diarrhoea, leucoderma, antibacterial agent, conjunctivitis, vaginal discharge, dislocation of limbs, vomiting, snakebite, gynecological diseases, expectorant, chronic fever and arthritis by 1 species each. In the current era of most modern as well as telemedicines, the crude extracts of plants still play a useful role in healing various ailments of the under-privileged people particularly in remote areas.

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