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Research Article

An ethnobotanical study of some medicinal plants used by the locals in Kurseong and Mirik area of Darjeeling District, West Bengal

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Abstract: *This study represents a systematic attempt to explore the knowledge of the native people about plants, which they use to cure diseases and it is an attempt towards conserving the local knowledge of people to plants. This paper presents a list and uses of some medicinal plants distributed in the moderate altitude Kurseng and Mirik sub-divisions of Darjeeling district in West Bengal. The list was prepared during an ethno-botanical inspection of the region from December 2021 to January, 2023. This paper provides information about 25 ethno-medicinally useful plants found in this locality. In this paper, family, botanical name, local name, ethnomedicinal uses are given for each plant.*

Keywords: *Ethnobotanical; Medicinal plants; Darjeeling; Knowledgeable informants*

1. Introduction

Plants have endowed with man with all his needs in terms of shelter, clothing, food, flavors and fragrances. Plants have formed the basis of system among traditional medicine which has given rise to some important drugs still in use today. Many ancient nations have awakened to the importance of herbal medicine which brings more cures [1]. The existence and use of plants to treat diseases are as old as man. Man's dependence on plant has in no way decreased, yet there are comprehensive documentations of the plants, exploited for their medicinal uses in some parts of the plants such as leaves, stem and root. The decoctions of these plants are used in the treatment of some diseases such as urinary problems, diabetes, asthma, stroke, stomachache, hypertension, diarrhea and wounds [2]. Even in near past, traditional medicine is still the predominant means of health care in developing countries where about 80% of their total population depends on it for their well-being [3]. Plants are the basis for the development of modern drugs and medicinal plants have been used for many years in daily life to treat disease all over the world [4]. However, the knowledge of medicinal plant is rapidly dwindling due to the influence of Western lifestyle, reducing in number of generations to carry on the use of plant species in traditional medicine which has increased the interest throughout the world [5]. World Health Organization estimates that 70% of populations from many countries are using traditional of folk medicine to cure various ailments.

2. Materials and Method

2.1. Study area

Mirik and Kurseong sub-division of Darjeeling District in the Division of Jalpaiguri West Bengal. This area annually receives a rainfall of 2,650 - 3,000 mm. Temperature of the area is low in January varies from 3.0 ºC to 19.1 ºC. From February an increasing trend of temperature is found up to July and thereafter temperature start to decline. In July temperature varies from 15.6 ºC to 26.9 ºC. The mean relative humidity is found to be low in March (69 %) and high in July-September (88-92%).

2.2. Ethno-botanical Survey

The study was conducted during an ethno-botanical inspection of the region from December 2021 to January, 2023. A total of ten field trips were made for documentation at different villages like Selphu, Bagmara, Kuntitar, Chenga, Soureni, Toryok, Mamring, Pahila Gaon, Sittong, Ambootia etc. During the field interview, the information was noted in the documentation data sheet. All the information regarding plant species, biological forms, habitat, local names and uses was documented. Medicinal information was obtained through informal interviews following semi-structured from knowledgeable person's particularly local baidyo, herbalists and elderly people. Plant specimens were collected with flowers and fruits and processed using standard herbarium techniques [1]. The specimens were identified consulting with the experts, by comparing herbarium specimens and available literatures [7-8].

3. Results and discussion

In the present survey, a total of 25 plant species belonging to 25 different genera and 21 families were recorded (**Table 1**). Plants species studied are belonged to herbs, shrubs, trees and succulents. For each species scientific name, local name, family, habit, mode of uses and part (s) used and status are provided.

Table 1: List of traditional medicinal plants used in the study area

Sl. No.	Scientific Name	Local Name (Nepali)	Local Name (Bangla/Hindi)	Family	Habit	Parts used	Uses	Status
1.	Allium wallichii	Ban Lasun	Bon Rasun	Amaryllidaceae	Perennial flowering herb	Whole plant	Cholera, dysentery, cough and colds, altitude sickness, reduce blood cholesterol	Threatened
2.	Heracleum wallichii	Chimphing	-	Apiaceae	Biennial and perennial herbs	Inflorescence and fruit	Influenza, typhoid, body aches	Common
3.	Panax ginseng	Pachpatay	Ginseng	Araliaceae	Perennial flowering herbaceous plant	Rhizome	Liver cirrhosis, leucorrhoea, gastric ulcer, cough, gastritis, diarrhea, dysentery	Threatened
4.	Aloe vera	Ghew Kumari	Grito Kumari	Asphodelaceae (Liliaceae)	Evergreen, perennial succulent plant	Leaf	Rheumatism, gout, jaundice, liver complaints, indigestion, constipation	Common
5.	Taraxacum officinals	Tukee Phool / Dudhe Jhaar	Pitachumki	Asteraceae	Herbaceous perennial flowering plant	Whole plant	Jaundice, dysentery, urinary troubles, gallbladder complaints, indigestion	Common
6.	Artemisia dubia	Titay pati	Tite pati	Asteraceae	Branched Subshrubs	Leaf and young shoot	Headache, nose bleeding, skin disease, fever, asthma, cardiac troubles	Common

Sl. No.	Scientific Name	Local Name (Nepali)	Local Name (Bangla/Hindi)	Family	Habit	Parts used	Uses	Status
7.	Eupatorium adenophorum	Banmara	Kalo banmara	Asteraceae	Perennial herbaceous flowering ornamental	Whole plant	Typhoid, cough, pharyngitis, asthma, gastritis, atrophy	Common
8.	Mahonia nepalensis	Chutra	Kasmal	Berberidaceae	Evergreen flowering shrub	Berry, root and bark	Dysentery, urinary troubles, cardiac weakness, bronchitis, headache	Threatened
9.	Oroxylum indicum	Tatelo / Sannaa	Sona	Bignoniaceae	Medium sized flowering tree	Bark, Flower and Root	Diabetes, throat and tongue infections, Jaundice, Arthritis	Common
10.	Rhododendron arboretum	Laligurus	Burus	Ericaceae	Evergreen shrub with bright red flower	Corolla	Pneumonia, diarrhoea, dysentery, check typhoid, bone fracture, throat trouble	Common
11	Euphorbia pulcherrima	Lalupatae	Lalpata	Euphorbiaceae	Shrub or small flowering tree	Leaf, flower and latex	Post natal complaints, produced normal stools, skin complaints, cuts, wounds	Common
12.	Mimosa pudica	Buhari jhar / Lajawati	Lajjaboti	Fabaceae (Leguminosae)	creeping annual or perennial flowering plant	Whole plant	Goitre, kidney and bladder stone, leucorrhea, fever, diabetes, rheumatism	Common

Sl. No.	Scientific Name	Local Name (Nepali)	Local Name (Bangla/Hindi)	Family	Habit	Parts used	Uses	Status
13.	Dichroa febrifuga	Basak	-	Hydrangeaceae	Small flowering plant	Root and leaf	Fever	Common
14.	Leucosceptrum canum	Ghurpis / Bhusure	-	Lamiaceae	Flowering shrub	Root and leaf	Epilepsy, wounds	Common
15.	Leonurus sibiricus	Guma	Raktadron	Lamiaceae	Flowering herbaceous plant	Young shoots and roots	Renal disease, infections, eczema, diabetes	Not very common
16.	Oxalis corniculata	Chari Amilo	Amrul	Oxalidaceae	Low growing herbaceous plant	Whole plant	Cough, indigestion, gastric colic, diarrhoea, dysentery, fever, kidney stone	Common weed
17.	Thysanolaena maxima	Kuchoo	Phul Jhanta	Poaceae	Perennial forest grass	Root	Cough, asthma, bronchitis, tuberculosis, contraception	Common
18.	Rumex nepalensis	Halhale sag	Amlya	Polygonaceae	Herbaceous perennial flowering plant	Leaf, young shot and root	Gastric irritations, urinary disturbances, minor burns, scurvy, swelling, skin disease	Common
19.	Aconitum bisma	Bikhma	Bish or Meetha Bish	Ranunculaceae	Perennial bitter herb	Root	Antidote for food poisoning, leprosy, rheumatism, diabetes, neuralgia	Threatened

Sl. No.	Scientific Name	Local Name (Nepali)	Local Name (Bangla/Hindi)	Family	Habit	Parts used	Uses	Status
20.	Bergenia ciliata	Pakhanbet	Patrankur	Saxifragaceae	Perennial herb	Root	Diarrhea, dysentery, menstrual disorder, renal and pulmonary infection	Rare in wild but planted sufficiently
21.	Datura suaveolens	Dhatura	Dhutra	Solanaceae	Semi-woody flowering shrub	Whole plant	Hydrophobia, insanity, convulsion, toothache, gastritis	Common
22.	Taxus baccata	Dhengre Salla	Birmi	Taxaceae	Flowering tree	Leaf, Fruit and Bark	Gastric spasm, cough, fever, epilepsy, diabetes, contraception	Threatened
23.	Schima wallichii	Chilaunae	Mukria sal	Theaceae	Medium to large tree	Bark, leaf and fruit	Gastric flatulence, cuts, ringworms, intestinal worms, sore throat	Common
24.	Tropaeolum majus	Pindalu phool	Halim shak	Tropaeolaceae	Herbaceous flowering plant	Leaf, flower and fruit	Scurvy, pulmonary tuberculosis, constipation, skin psoriasis	Common
25.	Urtica dioica	Sisno	Bichuti paataa	Urticaceae	Herbaceous perennial flowering plant	Whole plant	Dysentery, liver disorder, sciatica, gout, bone fracture, jaundice, piles	Common

Use of plant parts as medicine shows variation. Whole plant, leaves, root, bark, stem, fruits and underground parts are used. Distribution of medicinal plant species in the families shows variation, of Asteraceae represented by 3 species and Lamiaceae represented by 2 species. A single species in each was recorded from 20 families. Medicinal plants are very common in use for cold, cough, asthma and intestinal problem related. These findings of common medicinal plant species in the study 5 are threatened, 1 is not very common and 19 are common in their status of availability.

4. Conclusion

Wild plants were found to be an important source of medicine in the study area. This information was collected mostly from the knowledgeable informants over 50 years old that had been handed down through the ages. These medicines have less side effects as compared to the allopathic medicines and are also eco-friendly. So, there would be a need to conserve this knowledge and distribute it.

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