Eco-Floristic Survey of Asansol Industrial Belt, West-Bengal with Reference to their Economic and Medicinal Value

Anindita Mandal and Sudhendu Mandal

UGC-DRS Department of Botany, Visva-Bharati University, Santiniketan-731235, India

*Corresponding author

A B S T R A C T

Eco-Floristic Survey of the plants growing in the Asansol Industrial Belt of West-Bengal is compiled indicating habit, habitat and frequency of occurrence to detect the nature of flora of this locality. A total of 156 plant species of which 54 Dicot families containing 128 genera and 143 species and 10 Monocot families containing 13 genera and 13 species were recorded. The floristic composition of this locality is of mixed type with dominance of the family Asteraceae. Investigated taxa have been arranged alphabetically on the basis of available local names, family, occurrence in the field and their economic and medicinal values. The paper also deals with the observations of some exotic plants with high medicinal values and are naturalized in this industrial belt. Plants like Acacia nilotica, Anagallis arvensis, Grewia asiatica, Hemigraphis hirta, Hyptis suaveolens, Lantana camara, Mikania sandens, Parthenium hysterophorous, Tamarindus indica, Tephrosia purpurea, Terminalia arjuna, etc. are recorded throughout the investigated area.

Introduction

Asansol in Burdwan district is an industrial belt surrounded by various types of industries and coal mines. Eco-floristic survey helps to correlate interaction between plants of environment of a bio-zone concerned. The concerned locality is famous for its huge automobile engineering industry and world famous steel plant IISCO. The local flora therefore is influenced by the surrounding industries. The industries have a direct impact on the floristic composition of the locality in revealing the economical as well as medicinally important plants.

The present investigation provides significant information regarding the medicinal plants, economically important plants and some exotic plants of this locality which are new to the existing inventory of Indian medicinal plants (Tables 1 & 2). There is a global resurgence of interest in herbal medicine for the treatment of various ailments. Herbal medicines are also the treatment options which are available and affordable to the rural populace as about 80% of the world population depending on traditional medicines for their primary healthcare needs. It is estimated that only about 30,000 botanical species have been documented for their medicinal properties (Jain, 1963; Kayode and Kayode, 2008;
Lawal et al., 2013; Mandal, 1988, 1994; Olatunji et al., 2014; Sen et al., 1992).

Geography & Climate

Asansol industrial belt is a quiet large area of Burdwan district surrounded by various other Industrial areas like Durgapur, Burnpur & the coal belt of Jharkhand. The river Damodar is passing through the industrial belt and one tributary of Damodar called Nunia is passing through the heart of the Asansol city. The soil type of the city is fertile and mainly black.

The climate is dry and the presence of seasonal changes is clearly expressed. Summer ranges from mid-February to June and monsoon starts from the end of the June to September while winter begins from October and extend up to February. April is the hottest month with maximum temperature of 46°C sometimes the temperature reaches up to 50°C. January is the coldest month of the year if temperature ranging from 10.5°C to 11°C. average maximum rainfall ranges from 293.6mm to 316.6mm.

Materials and Methods

The present investigation is based on the results of extensive fields’ studies about the flora of Asansol industrial belts. Fields studies were carried out for last two years (July 2009 to June 2011) covering interior pockets of the locality with a view to find out the nature of flora, their medicinal and economic value in respects of the life style pattern and need of the local people. Appropriate medical terms were judiciously used for precision. The collected species are enumerated in alphabetical succession of the Plant names. The medicinal uses have been recorded on the basis of empirical and authoritative approaches with local medicine man and other tribal guru. The field study also includes the exotic plants specimens which are naturalized in this industrial belt. Field observations like habit, habitat, frequency, available local name, uses, etc. have been thoroughly noted.

| Season   | Months                  |
|----------|-------------------------|
| Summer   | March to June           |
| Monsoon  | End of June to September|
| Winter   | October to February     |

Coldest Month: January, Temp: 10.5°C-11°C
Hottest Month: April, Temp: 46°C(Max)
Maximum Rainfall: 293.6 mm to 316.6 mm
Humidity: 78% average

Field study was carried out in some tribal areas of Asansol which provides an inventory of Ethno-Medicinal plant
resources. The data on ethno medicinal uses of plants were collected directly from tribal medicine expert persons (tribe) and other knowledgeable persons of the concerned areas.

The collected plant specimens have been preserved as herbarium specimens and kept in the Visva-Bharati Herbarium (VBH) of the Department of Botany, Santiniketan for future references.

Results and Discussion

During the course of study a total number of 156 species of angiosperms were recorded out of which there are 54 Dicot families containing 128 genera and 143 species and 10 monocot families containing 13 genera and 13 species. The plant names were arranged in alphabetical order of name of the plant specimens in the Table 1 & 2.

Table 1 Statistical data of the investigated taxa

|                          | Dicotyledons | Monocotyledons | Total |
|--------------------------|--------------|----------------|-------|
| Families                 | 54           | 10             | 64    |
| Genera                   | 128          | 13             | 141   |
| Species                  | 143          | 13             | 156   |

Table 2 List of collected plants from Asansol Industrial Belt

| SL NO | NAME & FAMILY | FLOWERING PERIOD & HABIT | MEDICINAL USE                                                                 |
|-------|---------------|--------------------------|------------------------------------------------------------------------------|
| 1     | Abutilon indicum Malvaceae | Oct-Dec, US             | Cough rheumatism, snake bite, boils, ulcers etc.                             |
| 2     | Acacia nilotica (L.) Wild.ex Delile Fabaceae | June-Aug, T          | Astringent, demulcent, cough, bronchitis, diarrhoea, dysentery, burning sensation, stomach problems, piles etc. |
| 3     | Acacia auriculiformis A.Cunn.ex Benth. Fabaceae | June-Aug, T          | A decoction of the root is used to treat aches and pains and sore eyes; an infusion of the bark treated rheumatism. |
| 4     | Acalypha indica L. Euphorbiaceae | Jun-Nov, H   | Emetic, laxative, used in bronchitis, asthma, pneumonia,                      |
| 5     | Achyranthes aspera L. Amaranthaceae | Aug-May, H        | Purgative, diuretic, astringent, emetic, colic, used in skin eruption, dropsy.    |
| 6     | Justicia adhatoda L. Acanthaceae | Feb-March, S     | Cough and cold, chronic bronchitis, rheumatism.                                |
| 7     | Aegel marmelos (L.) Correa Rutaceae | May-June, T      | Chronic diarrhea, dysentery, astringent, digestive, ant diuretic, laxative, anthelmintic, antipyretic, tonic carminative. |
| 8     | Aerva lanata (L.) Juss. Amaranthaceae | Sep-April, H    | Diuretic, relieve skin discomforts, relieve digestive discomfort.              |
| 9     | Ageratam conyzoides L. Asteraceae | Whole year, H    | Useful in cuts, sores, diarrhea, dysentery, colic, rheumatism, fever. The essential oil is anthelmintic. |
| No. | Species Name | Family | Season | Usefulness |
|-----|--------------|--------|--------|------------|
| 10  | Albizia lebbeck (L.) Benth. | Fabaceae | Apr-May, T | Useful in piles, diarrhea, night blindness |
| 11  | Aloe vera (L.) Burm. f. | Xanthorrhoeaceae | Sep-Dec, S | In eye-disease, spleen enlargement, skin problems, liver complaints, vomiting, bronchitis, biliousness, asthma, jaundice, ulcers, anti-wrinkle. |
| 12  | Alstonia scholaris L.R.Br. | Apocynaceae | Aug – Nov, T | Diarrhoea, malaria, febrifuge, ant choleric, used for beriberi and bowel complaints. |
| 13  | Alternanthera sessilis (L.) R.Br. ex Dc. | Amaranthaceae | Oct-Nov, H | Snakebites, treatment of stomach ache, used as abortifacient and febrifuge. |
| 14  | Amaranthus caudatus L. | Amaranthaceae | May-Nov, H | Diuretic, blood purifier, piles |
| 15  | Amaranthus spinosus L. | Amaranthaceae | Aug-Nov, H | Astringent, diaphoretic, diuretic, emollient, febrifuge, internal bleeding, diarrhea, excessive menstruation, snare bite. |
| 16  | Amaranthus tricolor L. | Amaranthaceae | Nov-May, H | Astringent, menorrhagia, diarrhoea, ulcer. |
| 17  | Anagallis arvensis L. | Primulaceae | Jan-March, H | Gout, cerebral affections, hydrophobia, epilepsy, leprosy, diaphoretic, diuretic. |
| 18  | Andrographis paniculata (Burm.f.) Wall. | Acanthaceae | April-June, H | Anti-hepatotoxic, antibiotic, anti-malarial, antipyretic, anti-thrombogenic, anti-inflammatory, anti-snake venom, |
| 19  | Anisomeles indica (L.) Kuntze | Lamiaceae | Oct-March, S | Analgesic, anti-hyperalgesic, anti-inflammatory, carminative, astringent, used in eczema snakebites, rheumatism, cold, fevers, abdominal pain. |
| 20  | Annona reticulate L. | Annonaceae | Jan-March, July-Oct | Vermifuge, used on boils abscesses, ulcers, diarrhoea, dysentery, as astringent, in gums to relieve toothache. |
| 21  | Annona squamosa L. | Annonaceae | April-June, T | Abortifacient, insecticide. |
| 22  | Neolamarckia cadamba (Roxb.) Bosser | Rubiaceae | Nov-Apr, T | Bark as tonic, antidote in snake bite |
| 23  | Antigonon leptopus Hook. & Arn. | Polygonaceae | Jun-Jul, Oct-Nov, Climbing shrub | Cough, throat constriction. |
| 24  | Areca catechu L. | Areceae | Feb-March, T | Sprains, bruises, contusions, tapeworm infestation, vomiting and diarrhea, headaches, abortifacient, fever and rheumatism |
| 25  | Argemone Mexicana L. | Papaveraceae | Mar-June, H | Diuretic, purgative, destroys worms, leprosy, skin-diseases, inflammations and bilious fevers. |
| 26  | Artemisia princeps Pamp. | Asteraceae | July-Nov, S | Anthelmintic, antispasmodic, stomachic, in the treatment of nervous and spasmodic affections, in asthma and in diseases of the brain, antiseptic and tonic. |
| 27  | Asteracantha longifolia (Linn.) Nees. | Acanthaceae | Dec-June, S | For treatment of rheumatism, urinary tract infection, inflammation, jaundice, hepatic obstruction, pain, etc. |
| 28  | Azadirachta indica Juss | Meliaceae | April-June, T | Antiseptic, skin diseases, ulcers, eczema, rheumatism, astringent, stimulant, antiseptic, in boils, ulcers, eczema, rheumatism, skin diseases. |
| 29  | Bacopa monnieri (L.) Wett. | Throughout the year, H | Laxative, useful in bad ulcers, tumors, enlargement of spleen, indigestion, leprosy, inflammations, anemia, biliousness, |
| **31** Barleria prionitis L. Acanthaceae | April-May, T | Useful in burns, dental caries, inflammation, ascites, edema, wounds, cracking heel, whooping cough and useful as diaphoretic and expectorant. |
| **32** Basella alba L. Basellaceae | Nov-Feb, H | Applied in burning sensation, hemorrhages, skin diseases, sexual weakness, ulcer and as a laxative in children and pregnant women. |
| **33** Bauhinia purpurea L. Fabaceae | Sep-Dec, T | Cough, bleeding piles, haematuria, sore throat, enorrhagia. |
| **34** Bauhinia variegate L. Fabaceae | Feb-May, T | Used as antidote to snake poison, anti-inflammatory, antipyretic, astringent and tonic, for strains, ulcers, skin disease. |
| **35** Blumea lacera L. Asteraceae | Mar- April, T | For treatment of rheumatism, urinary tract infection, inflammation, jaundice, hepatic obstruction, pain, etc. |
| **36** Boerhaavia repens L. Nyctaginaceae | Mar-April, T | Fever, constipation, leucorrhoea, lumbar pain, skin diseases, cardiac disorders, urinary infection, anemia, dyspepsia, constipation, jaundice, diabetes, rheumatism, skin diseases. |
| **37** Bombax ceiba L. Bombacaceae | Feb-April, T | Stimulant, tonic, impotency, emetic, aphrodisiac, demulcent. |
| **38** Borassus flabellifer L. Arecaceae | Feb-Apr, T | Cooling, restorative, diuretic, stimulant, in burning sensation, inflammation, constipation, intestinal worm, skin diseases. |
| **39** Butea monosperma (Lamk.) Taub Fabaceae | Feb- May, T | Astringent, anti-diarrheal, anti-dysenteric and as a febrifuge. |
| **40** Caesalpinia pulcherrima (L.) Sw. Fabaceae | Mar-Aug, S | Cure fever, sores, bad cough, breathing difficulty, chest pain, to induce abortion in the first trimester of pregnancy. |
| **41** Calotropis procera (Ait.) Ait. F Apocynaceae | May- Jul, S | Useful in rheumatism, emetic, expectorant, digestive, emetic, useful in spleen problems, epilepsy, dyspepsia, asthma, rheumatism. |
| **42** Capparis spinosa L. Capparidaceae | Mar- April, T | Astringent, in dropsy, gouty, rheumatic affections, stimulating. |
| **43** Canna indica L. Cannaceae | Feb- March, T | Demulcent, diaphoretic, diuretic, antipyretic, in gastrointestinal disorders, acute jaundice, cancer, convulsion, delirium, hematuria, pimples, syphilis etc. |
| **44** Carica papaya L. Caricaceae | Feb-July, S | In high blood pressure, digestive problems, intestinal worms, in warts, corns, sinuses, and chronic forms of scaly eczema, cutaneous tubercles, and other hardness of the skin. |
| **45** Cassia fistula L. Fabaceae | Jun-Aug, T | Laxative, purgative, malaria, gout, dysentery, rheumatism, diuretic. |
| **46** Senna sophera (Linn.) Roxb Fabaceae | June-Nov, H | Febrifuge, diuretic, purgative, in acute bronchitis, diabetes. |
| **47** Senna alata (L.) Roxb. Fabaceae | Jan-May, S | Antiseptic, laxative, in edema, hepatitis, dermatomyositis, tinea imbricata, ringworm, scabies |
| **48** Senna tora (L.) Roxb. Fabaceae | Whole year, T | Laxative, antiperiodic, liver tonic, ophthalmic, cardio tonic, expectorant, ringworm, bronchitis, cardiac disorders. |
| **49** Cassytha filiformis L. Lauraceae | Apr-July, Creeper | Tonic, alternative, bilious, affections, dysentery, insecticide. |
| **50** Catharanthus roseus (L.) G.Don | Apr-May, T | Anticancer, anti-diabetic, hypotensive. |
| Apocynaceae | 51 | Centella asiatica (L.)Urb Apioaceae | Mar –July, T | Skin diseases, nervous problems, and tonic. |
| --- | --- | --- | --- | --- |
| 52 | Chenopodium album Chenopodiaceae | June-Sept, H | Anthelmintic, anti -rheumatic, mildly laxative useful in rheumatism, freckles, sun burn etc. |
| 53 | Cleome viscosa L. Capparaceae | Sep-Dec, S | Antihelmintic, carminative, diaphoretic, rubefacient, wounds and ulcers. |
| 54 | Clerodendrum inerme (L.) Gaertn. Verbenaceae | Nov-Jan, S | Rheumatism, Alterative, rheumatism, febrifuge. |
| 55 | Clerodendrum indicum (L.)Ktze. Verbenaceae | Whole year, S | Useful in rheumatism, asthma, cough, rheumatism, applied to herpetic eruptions. |
| 56 | Clerodendrum viscosum Vent. Verbenaceae | Feb-July, S | Tonic, vermifuge, antiperiodic, in malaria |
| 57 | Coccinia grandis (L.)Voigt Cucurbitaceae | Whole year (Aug-Nov), H | Ant- diabetic, skin diseases |
| 58 | Colocasia esculenta (L.)Schott Araceae | May - Sep, H | Stimulant, rubefacient, stop bleeding on insect bites . |
| 59 | Commelina benghalensis L. Commelinaceae | July – Jan, H | In treatment of leprosy, and nervous system related disorders, emollient, demulcent, laxative. |
| 60 | Corchorus olitorius Malvaceae | Mar-July, H | Demulcent, diuretic, febrifuge, tonic used in treatment of chronic cystitis, gonorrhea and dysuria. |
| 61 | Cheilocostus speciosus (J.Konig) C.Specht Costaceae | June – Dec, H | Astringent, cooling, aphrodisiac, purgative, anthelmintic, depurative, febrifuge, expectorant tonic, constipation, leprosy, skin diseases, asthma, bronchitis, and anaemia. |
| 62 | Crinum asiaticum L. Amaryllidaceae | Oct- Feb, S | Useful to treat inflamed joints and sprains, for earache, in rheumatism, emetic. |
| 63 | Curcuma longa Linn. Zingiberaceae | July- Oct, H | Gastrointestinal upset ,arthritic pain, anti-inflammatory, osteoarthritis, atherosclerosis, cancer, liver problems and for the treatment of skin diseases and wound healing, reduce inflammation and fight certain infections. |
| 64 | Cynodon dactylon (L.) Pers. Poaceae | Sept-Oct, US | Alterative, anabolic, antiseptic, astringent, demulcent, depurative, diuretic, emollient, sudorific, diuretic in the treatment of dropsy and secondary syphilis. |
| 65 | Cyperus rotundus L. Cyperaceae | Whole year, H | Analgesic, antibacterial, anti -biotic, aromatic, antispasmodic, astringent, carminative, contraceptive, diaphoretic, diuretic, sedative, stimulant, stomachic. |
| 66 | Datura metel L. Solanaceae | Aug-Nov, US | Ear pain, diarrhoea, dysentery,check sweating,early graying of hair, dandruff, hair falling, rheumatic swelling. |
| 67 | Dentella repens (L.) Forst Rubiaceae | Whole plant | Antiscorbutic, in sores. |
| 68 | Desmodium gangeticum (L.) DC. Fabaceae | Aug-Dec, H | Tonic, diuretic, astringent, chronic fever, cough. |
| No. | Species Name                                      | Season          | Common Uses                                                                 |
|-----|--------------------------------------------------|-----------------|-----------------------------------------------------------------------------|
| 69  | Diospyros malabarica (Desr.) Kostel              | Mar-May         | Astringent, diarrhea, intermittent fever                                       |
| 70  | Eclipta prostrate (L.) L. (Asteraceae)           | July-Sep        | Tonic, deobstruent, emetic, purgative, antiseptic, hairvitalizer, in hepatic and spleen enlargements. |
| 71  | Phyllanthus emblica L. (Phyllanthaceae)          | Apr-Jul         | Carminative, diuretic, aphrodisiac, laxative, in anaemia, jaundice, haemorrhage, diabetes, asthma and bronchitis, cures insomnia, hair tonic. |
| 72  | Eleusine indica (L.) Gaertn.                     | Throughout the year | Depurative, diuretic, febrifuge, laxative and sudorific, used in the treatment of liver complaints. |
| 73  | Elephantopus scaber L. (Asteraceae)              | July-Aug        | Cardiac tonic, febrifuge, dysentery, swelling or pain in stomach, vomiting, ulcer, eczema. |
| 74  | Eurydra fluctuans Lour. (Asteraceae)             | Nov-Dec         | Laxative, antibilious, demulcent, in skin and nervous affections.           |
| 74  | Eupatorium purpureum L. (Asteraceae)             | July-Sept       | Stimulant, tonic diaphoretic, haemostatic, jaundice.                         |
| 75  | Eucalyptus globulus (Myrtaceae)                  | Jan-Aug         | Antiseptic, slightly anesthetic, anti-bacterial, useful in burns, sores, ulcers, scrapes, boils, and wounds rheumatism. |
| 76  | Euphorbia hirta L. (Euphorbiaceae)               | Through out the year | In bowel complaint, stimulant, laxative, bronchial affections.              |
| 77  | Evolvulus nummularius (L.) L. (Convolvulaceae)   | Oct-Jan         | Cough and cold, venereal diseases, anti-amnesic, anti stress antimicrobial and gastro protective. |
| 78  | Flacourtia indica (Burm. f.) Merr. (Salicaceae)  | Sep-Dec         | Astringent, diuretic, in jaundice, rheumatism, eczema, enlarged spleen.    |
| 79  | Grewia asiatica L. (Malvaceae)                   | March-June      | Used as astringent, stomachic, cooling agent, fruits used in thirst, burning, inflammations, heart, blood disorders, fever, diarrhones, throat trouble, rheumatism. |
| 80  | Heliotropium indicum L. (Boraginaeae)            | July-Dec        | Diuretic, sores, ulcers, fevers, skin complaints, Cayman head lice, insect bites. |
| 81  | Hemidesmus indicus (L.) Aiton (Asclepiadaceae)   | Oct-Dec, Twining | Alternative, diaphoretic, diuretic, blood purifier, appetizer, leucorrhoea, syphilis. |
| 82  | Hemigraphis hirta (Acanthaceae)                  | H              |                                                                             |
| 83  | Hibiscus rosa-sinensis L. (Malvaceae)            | Throughout the year | Emollient, demulcent, hair-vitalizer, in cough, fever.                      |
| 84  | Holarrhena pubescens (Bu ch. - Ham.) (Apocynaceae) | Feb-Jul        | Astringent, anthelminic, stomachic, tonic, febrifuge, in dropsy, dysentery, diarrhoea. |
| 85  | Hyptis suaveolens (L.) Poit (Lamiaceae)          | Oct-Jan         | Antibacterial, antifungal, carminative, stimulant, infusion is used in catarrhal condition, diabetes, cancer. |
| 87  | Ipomoea aquatica Forssk. (Convolvulaceae)       | Oct-Feb         | Emetic, purgative, antidote to opium.                                      |
| 88  | Jatropha gossypifolia L. (Euphorbiaceae)         | H, Aug-Feb      | Piles, emetic, boils, carbuncles, eczema, herpes, fistula and ulcers.       |
| No. | Plant Common Name | Family | Season | Use |
|-----|-------------------|--------|--------|-----|
| 89  | Kyllinga triceps  | Cyperaceae | Throughout year, H | Decoction useful in diabetes, liver disorder. |
| 90  | Lagerstroemia speciosa (L.) Pers. | Lythraceae | June-Sep, T | Purgative, astringent, stimulant, febrifuge, in aphthae of mouth. |
| 91  | Lantana camara L. | Verbenaceae | Throughout year, H | Diaphoretic, tonic, carminative, antispasmodic, rheumatism, malaria, gonorrhoea, measles, chicken pox. |
| 92  | Leucas aspera | Lamiaceae | Jul-Mar, S | Antipyretic, insecticide, psoriasis, scabies. |
| 93  | Leucas cephalotes | Lamiaceae | Jul-Sep, S | Antiperiodic, styptic, malarial fever, urinary complaints, nosebleeding, Snake bite. |
| 94  | Lawsonia inermis | Lythraceae | Throughout year, S | Skin boils and burns, rheumatism, inflammatory swellings, bruises and leprosy, leucorrhoea, liver disorders. |
| 95  | Lindenberga indica | Scrophulariaceae | H, Sept to January | Juice useful in chronic bronchitis, skin eruptions |
| 96  | Madhuca longifolia (Koenig.) | Sapotaceae | Feb-Apr, T | Tonic, appetizer, demulcent, stimulant, galactagogue, in coughs, piles, rheumatism |
| 97  | Malvastrum coromandelianum(L.) Garke. | Malvaceae | Throughout year, H | Emollient, resolvent, diaphoretic, in sores, wounds. |
| 98  | Mangifera indica L. | Anacardiaceae | Nov-Mar, T | Diuretic, astringent, in rheumatism, scabies, dysentery, scalds and burns, in asthma and cough, asthma, bleeding piles. |
| 99  | Martynia annua L. | Martyniaceae | Aug-Nov, H | Epilepsy, sore throat, alexiteric. |
| 100 | Melia azedarach L. | Meliaceae | Mar-Dec, T | Deobstruent, antilithic, diuretic, rheumatism. |
| 101 | Mimosa pudica L. | Fabaceae | Sep-Nov, S | Antiesptic, alternative, blood-purifier, carminative, piles, fistula. |
| 102 | Moringa oleifera Lamk. | Fabaceae | Jan-Jun, T | Antitumor, antipyretic, antiepileptic, anti-inflammatory, antiulcer, antispasmodic, antihypertensive, cholesterol lowering, antioxidant, antidiabetic, diuretic. |
| 103 | Murraya koenigii (L.) Speng. | Rutaceae | Feb-May, S | Tonic, stomachic, stimulant, antidiarrhoeal, febrifuge. |
| 104 | Nelumbo nucifera Gaertn. | Nelumbonaceae | May-Nov, Aquatic H | Cardiotonic, febrifuge, hypotensive. |
| 105 | Nerium indicum Mill. | Apocynaceae | Apr-Jun, S | Oil prepared from root bark is used in skin diseases and leprosy |
| 106 | Nicotiana tabacum L. | Solanaceae | H, March – November | Antispasmodic, diuretic, emetic, expectorant, sedative, salivagogue, treatment of rheumatic swelling, skin diseases and stings. |
| 107 | Nyctanthes arbor-tristis L. | Nyctanthaceae | Aug-Nov, T | Cholagogue, rheumatism, obstinate sciatica, fever. |
| 108 | Nymphula pubescens Wild. | Nymphaeaceae | July-October, aquatic | Demulcent, astringent, cardiotonic, piles. |
| No. | Species                     | Family       | Season      | Uses                                                                 |
|-----|----------------------------|--------------|-------------|----------------------------------------------------------------------|
| 109 | Ochna obtuse DC            | Ochnaceae    | Feb–Jul, S  | Digestive tonic, menstrual disorders, asthma, emollient, cataplasm.  |
| 110 | Ocimum americanum L.       | Lamiaceae    | July-Dec, S | Parasitical skin diseases.                                            |
| 111 | Ocimum basilicum L.        | Lamiaceae    | Aug-Mar, S  | Carminative, diuretic, stimulant, demulcent, diarrhea, dysentery.    |
| 112 | Ocimum sanctum L.          | Lamiaceae    | Sep-Dec, S  | Carminative, diaphoretic, cough, toothache, convulsions, cramps, fevers and cholera, reduce stress. |
| 113 | Oldenlandia corymbosa L.   | Rubiaceae    | June-Oct, T | Nervous depression, jaundice, liver trouble.                         |
| 114 | Opuntia dillenii Cactaceae | Cactaceae    | May-Jun, S  | Plant pacifies vitiated pita over perspiration, burning sensations, asthma, whooping cough, conjunctivitis, boils, ulcers, edema, leucorrhea and menorrhagia. |
| 115 | Oxalis corniculata L.      | Oxalidaceae  | Oct-May, H  | Scurvey, cooling, antiscorbutic                                       |
| 116 | Pouzolzia indica L. Urticae| Urticaceae   | Jul-Sep, H  | In syphilis, gonorrhoea.                                              |
| 117 | Peperomia pellucida Kunth  | Piperaceae   | June-Aug, H | Flu, diuretic, hypertension, diarrhoea, cough, elder convulsions.     |
| 118 | Peristrophe bicalyculata Acanthaceae | Nov-Aug, H | Antidote for snake bite, swelling                                   |
| 119 | Phyla nodiflora (L.)Greene| Verbenaceae  | Aug-Jan, S  | Febrifuge, diuretic, in indigestion.                                  |
| 120 | Phyllanthes fraternus Webster Euphorbiaceae | Dec-May, S | Diuretic, stomachic, genitor urinary disorders, jaundice, dysentery, oedematous swellings, ulcers. |
| 121 | Physalis minima L. Solanaceae | April–Jan, H | Appetizing, tonic, diuretic, laxative, useful in inflammations, enlargement of the spleen and abdominal troubles, the juice of leaf is a remedy against earache. |
| 122 | Pisidium guajava L. Myrtaceae | Throughout year, T | Problems of teeth, swelling of gum                                 |
| 123 | Pistia stratiotes Araceae  | Aquatic H    | May–October |                                                                       |
| 124 | Plumbago zeylanica L. Plumbaginaceae | Aug-Nov, H | Rheumatic joints, leprosy, paralytic limbs, piles, diarrhoea, skin disease. |
| 125 | Persicaria hydropiper (L.) Delabre Polygonaceae | May–Sep, H | Acrid juice of plant is used in diuretic cases, uterine disorder. |
| 126 | Rauwolfia serpentine (L.) Benth. ex Kurtz Apocynaceae | Mar-May, S | Sedative, beneficial in treating insanity, useful in treating hysteria, regulates high blood pressure. |
| 127 | Ricinus communis L. Euphorbiaceae | Throughout year, S | Inflammation, fever, bronchitis, elephantiasis, cough, laxative, antidandruff, useful in eczema and dermatitis. |
| 128 | Ruellia tuberosa L. Acanthaceae | June-Nov, S | In ear ache, gonorrhoea.                                             |
| 129 | Saraca asoca (Roxb.) De Wilde Fabaceae | Nov-April, H | Refrigrant, astringent, demulcent, emollient, anthelmintic, menorrhagia, dysentery. |
| No. | Species Name | Scientific Name | Family | Season | Medical Uses |
|-----|--------------|----------------|--------|--------|--------------|
| 129 | Scoparia dulcis | Scoparia dulcis L. | Scrophulariaceae | Throughout the year, S | Emetic, anti diabetic. |
| 130 | Sesbania sesban | Sesbania sesban (L.) | Fabaceae | Sept-Nov, S | Fever, pulmonary TB, inflammation of the mucous membranes of the eyes, kidney infection, gonorrhea. |
| 131 | Sida acuta | Sida acuta Burm. f. | Malvaceae | S | Tonic, astringent, cooling, febrifuge, in nervous and urinary diseases |
| 132 | Sida cordifolia | Sida cordifolia L. | Malvaceae | S | Aphrodisiac, febrifuge, in facial paralysis, sciatica, frequent micturition, gonorrhea, colic, tetanus. |
| 133 | Sida rhombifolia | Sida rhombifolia L. | Malvaceae | Sep-Feb, S | Demulcent, emollient, rheumatism, pulmonary tuberculosis. |
| 134 | Solanum nigrum | Solanum nigrum L. | Solanaceae | Sep-Feb, H | Diuretic, laxative, bleeding piles, paralysis, insanity, diarrhea, useful in urinary problems, inflammations. |
| 135 | Solanum torvum | Solanum torvum Sw. | Solanaceae | S | Antiperiodic, antiphlogistic, diaphoretic, diuretic, emollient, febrifuge, narcotic, purgative, sedative. |
| 136 | Solanum xanthocarpum | Solanum xanthocarpum | Solanaceae | H | Expectorant, carminative, diuretic, in cough, asthma, chest pain, vomiting dropsy, rheumatism. |
| 137 | Sphaeranthus indicus | Sphaeranthus indicus L. | Asteraceae | Nov-May, S | Antihelmintic, cooling, diuretic, alternative, tonic, deobstruent. |
| 138 | Spondias pinnata | Spondias pinnata (L. f.) Kurz | Anacardiaceae | Jan-Aug, T | Colds, skin diseases, gum infection, dysentery. |
| 139 | Stellaria media | Stellaria media (L.) Vill. | Caryophyllaceae | May-Oct, US | Astringent, Carminative, depurative; Diuretic, expectorant; Galactogogue, Kidney; Laxative; Ophthalmic; Poultice; Refrigerant; Vulnerary. |
| 140 | Tamarindus indica | Tamarindus indica L. | Fabaceae | Feb-June, T | Cardiac - and blood-sugar reducing, cathartic, astringent, febrifuge, antiseptic, refrigerant, seed extract possesses anti-snake venom properties. |
| 141 | Tecoma stans | Tecoma stans (L.) Juss. ex Kunth | Bignoniacaeae | April-Jul, T | Diuretic, vermifuge, tonic, remedy for snake bite, rat bites, scorpion sting etc. |
| 142 | Tectona grandis | Tectona grandis L.F. | Verbenaceae | July-Dec, T | Diuretic, stomachic, vermifuge, astringent, swelling, dyspepsia, swollen eyelids, scabies. |
| 143 | Tephrosia purpurea | Tephrosia purpurea (L.) Pers. | Fabaceae | Sept-Feb, S | Tonic, laxative, blood purifier, dyspepsia, chronic diarrhoea, Snakebite, Wound, Ulcer, Sexual diseases |
| 144 | Thevetia peruviana | Thevetia peruviana | Apocynaceae | Throughout year, T | Skin diseases, itching, rheumatism |
| 145 | Tragia involucrata | Tragia involucrata L. | Euphorbiaceae | Throughout year | Diaphoretic, alternative, leg and arm pain, leprosy. |
| 146 | Tridax procumbens | Tridax procumbens L. | Asteraceae | Throughout year, US | Anti septic, skin diseases. |
| 147 | Triumfetta rhomboidea | Triumfetta rhomboidea Jacq. | Tiliaceae | Sept-Nov, S | Demulcent, astringent, diuretic, in facilitating child birth, diarrhea, dysentery. |
| 148 | Vallisneria spiralis | Vallisneria spiralis L. | Hydrocharitaceae | H | Stomachic, used in leucorrhoea, giddiness, morbid thrust, rheumatism. |
| 149 | Vernonia cinerea | Vernonia cinerea L. | Asteraceae | Aquatic herb, October - March | Antibacterial, antitumor, astringent, expectorant, febrifuge, sedative, tonic, vermifuge, useful in gastrointestinal upset, arthritic pain. |
The main object of this investigation was to find out the uses made of the plants by the local inhabitants as medicines for the specific diseases that cure. So, it may be concluded that present investigation may throw some lights on the floristic composition of the locality and may help the inhabitants as well as other scientists or botanists or other interested persons for the general idea about the eco-floristic composition and diversified use of the available medicinally and economically important plants.

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