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## RESEARCH ARTICLE

### STUDY OF DIVERSITY OF THE DICOTYLEDONOUS MEDICINAL PLANTS OF THE DISTRICT OF BURDWAN, WEST BENGAL

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#### ABSTRACT

This paper deals with the diversity of the dicotyledonous medicinal plants of the district of Burdwan in West Bengal. One hundred forty one dicotyledonous plants from sixty three different families of the class Magnoliopsida (*sensu* Takhtajan, 2009) have been investigated. Their families, vernacular names, flowering times, useful parts and common medicinal uses have been discussed here.

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#### INTRODUCTION

Plants add beauty to the earth's surface and contribute a great deal to man's pleasure. Fields and forests provide retreats where millions of people can enjoy peace and contentment. Plants are the ornaments of our gardens. In addition to that, they provide important medicines to cure our diseases and also to relieve our pains. The fertile land of the district of Burdwan – sustains a vast assemblage of plants upon which the inhabitants of the district are directly or indirectly dependent. There are many plants in the district which have been traditionally used as medicine by the local inhabitants of the district as well as by the tribal people of the locality. Though some authors (Edgeworth, 1849; Hooker, 1907; Bhattacharyya, 1974, 1985) have worked on the plants of the Burdwan district in isolated manner – a systematic account on the diversity of the medicinal plants of the Burdwan district has long been overdue. Therefore, the present investigation had been undertaken to study the diversity of the medicinal plants of the district of Burdwan. The present attempt will be of some help in the conservation of these plants and also in their proper exploitation for the welfare of the human beings.

#### MATERIALS AND METHODS

Some plant pockets of the district of Burdwan were randomly selected for our investigations. Frequent field-trips were under taken in different seasons for the collection of the voucher specimens and also to record important data. After collecting the plant specimens from the field, voucher herbarium materials were prepared. But for the sake of identification of the plant materials, the authors had to look for the flowering stages of the specimens all round the year. Plant identifications were done by consulting different floras (Hajra, 1997; Panigrahi and Murti, 1989; Prain, 1903 and 1963) and also by personal interactions with some of the specialists in the area of Plant

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Taxonomy and Biosystematics. Correct names and author citations are checked for each of the enlisted plants from Mabberley's Plant Book (Mabberley, 2008). Interaction with the local people was instrumental in bringing out the medicinal uses of these plants. Later, standard literatures and recent works of some botanists of India (Paria, 2005; Trivedi and Sharma, 2004) were consulted for cross-verification of the accumulated data from the native people. Finally, a list of one hundred forty one plants has been prepared for the present purpose.

#### RESULTS AND DISCUSSION

The scientific names, vernacular names, families, flowering times, useful parts and the basic medicinal uses of one hundred forty one medicinal plants of the Burdwan district are enlisted in the Appendix - I. Different parts of different plants are traditionally being used as medicine in the district by the native people. Active principles of the plant drugs are commonly more concentrated in the storage organs (Kochhar, 2001). In the 'Materia Medica' – roots, seeds, barks and leaves of medicinal plants are more represented as the useful parts than their flowers. Our observation is of no difference. Now, on the basis of our findings (as reflected in the Appendix -1), the five most dominant dicot families (*sensu* Takhtajan, 2009) of the Burdwan district - having medicinally important plant species, are serially arranged as follows (vide, Figure - 1):

**FABACEAE:** With thirteen plant species

[i.e., *Abrus precatorius* L., *Alysicarpus vaginalis* (L.) DC, *Atylosia scarabaeoides* (L.) Benth., *Butea monosperma* (Lamk.) Taub., *Clitoria ternatea* L., *Dalbergia lanceolaria*, *Dalbergia sissoo* Roxb., *Desmodium gangeticum* (L.) DC., *Desmodium pulchellum* (L.) Benth., *Desmodium triflorum* (L.) DC., *Sesbania sesban* (L.) Merr., *Uraria picta* (Jacq.) Desv. ex DC., *Zornia gibbosa* Span.].

**ASTERACEAE:** With nine plant species

[i.e., *Ageratum conyzoides* L., *Eclipta prostrata* (L.) L., *Elephantopus scaber* L., *Emilia sonchifolia* (L.) DC., *Grangea maderaspatana* (L.) Poir., *Guizotia abyssinica* (L.f.) Cass., *Siegesbeckia orientalis* L., *Tridax procumbens* L., *Vernonia cinerea* (L.) Less.].

**APOCYNACEAE** (*sensu* Takhtajan, 1998):

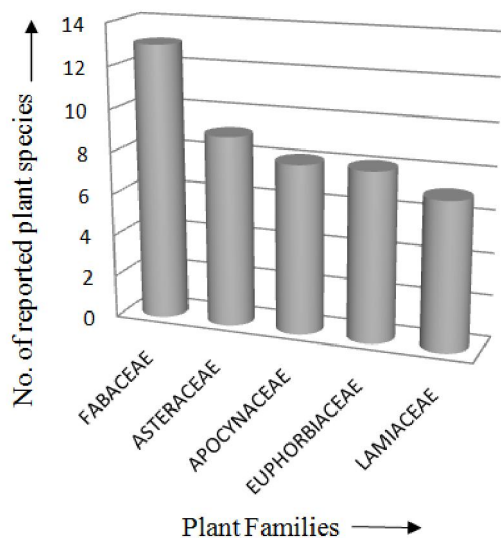
With eight plant species [i.e., *Adhatoda vasica*, *Holarrhena pubescens* (Buch.-Ham.)Wall. ex G.Don, *Nerium indicum* Mill., *Ichnocarpus frutescens* (L.) R. Br., *Calotropis gigantea* (L.) R. Br., *Cryptolepis buchananii* R. & S., *Hemidesmus indicus* (L.) R. Br., *Gymnema sylvestre* (Retz.) Schult.].

**EUPHORBIACEAE:** With eight plant species

[i.e., *Euphorbia neriifolia*, *Euphorbia thymifolia* L., *Jatropha curcas* L., *Jatropha gossypifolia* L., *Phyllanthus urinaria* L., *Ricinus communis* L., *Sebastiania chamaelea* Muell.-Arg., *Tragia involucrata* L.].

**LAMIACEAE:** With seven plant species

[i.e., *Hyptis suaveolens* (L.) Poit., *Leonotis nepetifolia* (L.) R. Br., *Leucas aspera*, *Ocimum americanum* L., *Ocimum basilicum* L., *Pogostemon benghalense* (Burm.f.) Kuntze, *Salvia plebeia* R. Br.].



**Figure 1.** Graphical representation of the five most dominant plant families as reported in the text



(a)



(b)



(c)



(d)



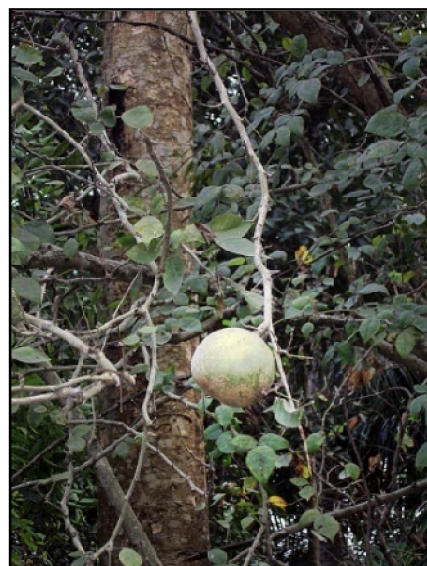
(e)



(h)



(f)



(i)



(g)

**Figure 2. Some common medicinal plants of Burdwan:**

- (a) *Butea monosperma* (Lamk.) Taub.,
- (b) *Desmodium pulchellum* (L.) Benth.,
- (c) *Trichosanthes cucumerina* L.,
- (d) *Sida cordifolia* L.,
- (e) *Solanum nigrum* L.,
- (f) *Nerium indicum* Mill.,
- (g) *Phyllanthus urinaria* L.,
- (h) *Diospyros malabarica* (Desr.) Kostel.,
- (i) *Aegle marmelos* (L.) Corrêa ex Roxb.

#### Conclusion

The diversity of the medicinal plant species that has been noted in the Burdwan district, in general, reflected the richness of its flora. Now, the wild medicinal plants enumerated in the text might have been classified on the basis of the diseases for which they are used (Trivedi *et al.*, 2004). Thus, it can be inferred that various types of plants used to treat a particular type of disease may possess similar chemical constituents or bioactive principles. In India, the ayurvedic system of

medicine has been in use for over three thousand years. Charaka and Susruta, two of the earliest Indian authors, had sufficient knowledge of the properties of the Indian medicinal plants. But with the development of the synthetic drugs, plant products lost their significance. In the last few decades, however, there has been probably more interest in drugs obtained from vegetable sources than in any time of history because of the success with the antibiotics and other plant drugs from some angiosperms such as *Rauwolfia*, *Podophyllum*, *Aloe* etc. (Kochhar, 2001). But, the "fundamental process" of plant-plant replacements among the plant communities produce every community-level terrestrial plant pattern (Myer, 2012) as plants respond to mechanisms and tolerances which work both in spaces inside plants and in those spaces outside plants that influence them and/or they may be able to influence. This might have led to complete extinction of many traditional medicinal plants. Thankfully, deep association with the natives' worship practices and their traditional rituals - some of these important medicinal plants have found an elbow room for their survival in the district even at this age of 'greed of the rich and need of the poor' (vide, Figure - 2)! Finally, it can be said that this concise list will provide basic data for further studies aimed at conservation and cultivation of medicinal plants, along with informations regarding the traditional medicines which, in turn, may aid in detailed planning regarding the holistic economic welfare of the local inhabitants of the district of Burdwan.

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## APPENDIX - 1

Sl. No.	Name of the Plant	Vernacular Name	Family	Flowering time	Parts used	Medicinal use
1.	<i>Abrus precatorius</i> L.	Kuch	Fabaceae	August-September	Roots, leaves, fruits	Cough, sore throat, rheumatism, eye disease, leucoderma, asthma and fever
2.	<i>Acacia nilotica</i> (L.) Willd. ex Delile	Babul	Mimosaceae	August-April	Bark, leaves, gum	Astringent, demulcent, diarrhoea, dysentery
3.	<i>Achyranthes aspera</i> L.	Apang	Amaranthaceae	October-January	Whole plant, root, seeds	Purgative, diuretic, stops bleeding after abortion, dropsy, piles, boils, hydrophobia
4.	<i>Adhatoda vasica</i> Nees.	Vasak	Apocynaceae		Whole plant, leaves	Bronchodilatory, expectorant, dyspnoea
5.	<i>Aegle marmelos</i> (L.) Corrêa ex Roxb.	Bel	Rutaceae	May-August	Fruits	Laxative, diuretic.
6.	<i>Aerva lanata</i> (L.) Juss.	Chaldhowa	Amaranthaceae	September-April	Whole plant, root	Anthelmintic, diuretic, demulcent
7.	<i>Ageratum conyzoides</i> L.	Oouchunti	Asteraceae	Throughout the year	Root, leaves	Styptic; cuts, sores; used as a nervine tonic.
8.	<i>Albizia lebbek</i> (L.) Benth.	Siris	Mimosaceae	April-June	Leaves, bark, root-bark, seeds	Astringent, piles, gum trouble, diarrhoea, night blindness
9.	<i>Alysicarpus vaginalis</i> (L.) DC	...	Fabaceae	September-April	Root	Cough
10.	<i>Amaranthus caudatus</i> L.	Ramdana	Amaranthaceae	Winter season	Whole plant	Diuretic, blood purifier; piles
11.	<i>Amaranthus spinosus</i> L.	Kantanotey	Amaranthaceae	Throughout the year	Root, leaves	Laxative, menorrhagia, gonorrhoea, colic, abscesses, night blindness
12.	<i>Amaranthus tricolor</i> L.	Laal shaak	Amaranthaceae	November-May	Whole plant	Astringent, menorrhagia, diarrhoea, ulcer.
13.	<i>Ammannia baccifera</i> L.	Daadmaari	Lythraceae	July-December	Acrid leaves	Skin affections.
14.	<i>Anagallis arvensis</i> L.	...	Primulaceae	January-March	Whole plant	Gout, cerebral affections, hydrophobia, leprosy, epilepsy.
15.	<i>Andrographis paniculata</i> (Burm. f.) Wall.	Kalmegh	Acanthaceae	April-June	Whole plant	Fever, general debility, dysentery, dyspepsia, whooping cough
16.	<i>Annona squamosa</i> L.	Ata	Annonaceae	May-January	Root, leaves, fruits, seed	Insecticide, abortifacient.
17.	<i>Atylosia scarabaeoides</i> (L.) Benth.	Bankulata	Fabaceae	August-February	Whole plant	Diarrhoea in cattle.
18.	<i>Azadirachta indica</i> Juss.	Nim	Meliaceae	March-July	Young branches, bark, leaves	Cough, asthma, piles, tumours, biliousness, skin diseases, pox, jaundice, blood purifier, toothache
19.	<i>Bacopa monnieri</i> (L.) Wettst.	Brahmi shak	Scrophulariaceae	Throughout the year	Whole plant	Astringent, laxative, carminative, leucoderma, Intellect promoting, emmenagogue, spermatorrhoea
20.	<i>Barleria cristata</i> L.	Swetjhanti	Acanthaceae	September-February	Root, leaves	Cough, swellings.
21.	<i>Barleria prionitis</i> L.	Peetjhanti	Acanthaceae	September-February	Leaves, bark	Catarrhal affections, cough, anasarea, toothache.
22.	<i>Barleria strigosa</i> Willd.	Neeljhanti	Acanthaceae	October-February	Root	Spasmodic cough.
23.	<i>Biophytum sensitivum</i> (L.) Dc.	....	Oxalidaceae	June-September	Root, leaves, seeds	Diuretic, wounds, gonorrhoea.
24.	<i>Bombax ceiba</i> L.	Simul	Bombacaceae	February-April	Root, bark, gum	Stimulant, tonic, impotency, emetic, aphrodisiac, demulcent.
25.	<i>Butea monosperma</i> (Lamk.) Taub.	Palash	Fabaceae	March-October	Seeds	Diarrhoea, dysentery, bleeding piles.

26.	<i>Calotropis gigantea</i> (L.) R. Br.	Akand	Apocynaceae	Throughout the year	Bark, leaves, roots	Dysentery, elephantiasis, leucorrhoea, earache.
27.	<i>Canscora decussata</i> (Roxb.) R. & S.	....	Gentianaceae	July-October	Whole plant	Laxative, alterative, nerve tonic.
28.	<i>Cardiospermum helicacabum</i> L.	Shibjhul	Sapindaceae	April-January	Root, leaves	Diuretic, laxative; rheumatism, nervous diseases, rubefacient.
29.	<i>Cassia absus</i>	Ban kulathi	Caesalpiniaceae	September-December	Leaves, seed	Astringent, cathartic, cough, skin affections.
30.	<i>Cassytha filiformis</i> L.	Aakashbel	Lauraceae	March-September	Whole plant	Tonic, alterative, bilious affections, dysentery, insecticide.
31.	<i>Cayratia trifolia</i> (L.) Domin.	Amal lata	Vitaceae	August-November	Root, leaves	Astringent, boils, yoke-sore on neck of bullocks.
32.	<i>Celosia argentea</i> L.	Morog phool	Amaranthaceae	August-December	Seeds	Aphrodisiac, blood diseases, diarrhoea, mouth sores.
33.	<i>Centella asiatica</i> (L.) Urb.	Thankuni	Apiaceae	September-March	Leaves	Fatigue, indigestion, constipation, loss of memory, irregular menstruation, dysentery, jaundice, fever, ulcer.
34.	<i>Cissampelos paerira</i> L. var. <i>hirsuta</i> (DC.) Forman	Akanadi	Menispermaceae	June-January	Root	Diuretic, antiperiodic and purgative.
35.	<i>Cleome viscosa</i> L.	Hurhuria	Capparaceae	May-January	Seeds	Condiment, carminative and anthelmintic.
36.	<i>Clerodendrum viscosum</i> Vent.	Bhant/Ghentu	Verbenaceae	February-July	Root, leaves	Antiperiodic, vermifuge, febrifuge, tonic.
37.	<i>Clitoria ternatea</i> L.	Aparajita	Fabaceae		Root, seed	Purgative, aperient, diuretic, laxative.
38.	<i>Coccinia grandis</i> (L.) J. Voigt	Kundri / Telakuch	Cucurbitaceae	Throughout the year	Roots, stems and leaves	Vomiting, cough, skin diseases, diabetes.
39.	<i>Cryptolepis buchananii</i> R. & S.	Kankrashringi	Apocynaceae	May-February	Leaves	Toxic, rickets in children, rheumatism.
40.	<i>Dalbergia lanceolaria</i> L.f.	....	Fabaceae	September-January	Bark, seed	Intermittent fever, dyspepsia, seed-oil in rheumatic affection
41.	<i>Dalbergia sissoo</i> Roxb. ex DC.	Sissoo	Fabaceae	April-June	Root, leaves	Bitter, stimulant; gonorrhoea, astringent.
42.	<i>Datura metel</i> L.	Dhutura	Solanaceae	August-November	Leaves	Narcotic, antispasmodic.
43.	<i>Dendrophthoe falcata</i> (L.f.) Ettingsh.	Banda	Loranthaceae		Bark	Astringent, narcotic; wounds, menstrual disorders.
44.	<i>Desmodium gangeticum</i> (L.) DC.	Salpani	Fabaceae	May-January	Root	Astringent, diuretic, biliousness, asthma, cough, diarrhoea.
45.	<i>Desmodium pulchellum</i> (L.) Benth.	....	Fabaceae	September-February	Bark, flowers	Haemorrhage, diarrhoea, eye diseases.
46.	<i>Desmodium triflorum</i> (L.) DC.	....	Fabaceae	August-January	Leaves	Galactagogue, diarrhoea, dysentery, wounds.
47.	<i>Diospyros malabarica</i> (Desr.) Kostel.	Gab	Ebenaceae	March-May	Stem-bark, fruits, seeds	Astringent; diarrhoea, dysentery, intermittent fever.
48.	<i>Dodonaea viscosa</i> Jacq.	....	Sapindaceae	October-January	Bark, leaves	Astringent, febrifuge, sudorific, gout, rheumatism, wounds, swellings.
49.	<i>Eclipta prostrata</i> (L.) L.	Kesuti / Kesari	Asteraceae	Throughout the year	Leaves	Hair tonic.
50.	<i>Elephantopus scaber</i> L.	Samdulun	Asteraceae	September-March	Whole plant, root, leaves	Astringent, cardiac tonic, alterative, dysuria, diarrhoea, dysentery.
51.	<i>Emilia sonchifolia</i> (L.) DC.	Sadi-modi	Asteraceae	August-May	Whole plant	Febrifuge, eye inflammation, night blindness, sores, diarrhoea.
52.	<i>Euphorbia nerifolia</i>	Mansa-sij	Euphorbiaceae	January-June	Root, juice	Purgative, rubefacient, expectorant, antiseptic.
53.	<i>Euphorbia thymifolia</i> L.	Swet-kerui	Euphorbiaceae	Throughout the year	Leaves, seed, juice	Aromatic, astringent, stimulant, laxative, bowel complaint, ring worm.
54.	<i>Evolvulus alsinoides</i> (L.) L.	....	Convolvulaceae	July-December	Whole plant	Bitter tonic, febrifuge, vermifuge, dysentery.
55.	<i>Ficus benghalensis</i> L.	Bot	Urticaceae	Throughout the year	Bark, seed, juice	Rheumatism, lumbago, tonic, astringent, dysentery, diarrhoea.
56.	<i>Ficus hispida</i> L.f.	Dumur	Urticaceae		Bark, fruits, seeds	Galactagogue, purgative, emetic.

57.	<i>Ficus racemosa</i> L.	Gular	Urticaceae	Throughout the year	Bark, root, fruits	Astringent, dysentery, bilious affections, stomachic, piles.
58.	<i>Flacourtia indica</i> (Burm. f.) Merr.	Bainchi	Flacourtiaceae	February-May	Gum, fruit	Jaundice, enlarged spleen.
59.	<i>Garuga pinnata</i> Roxb.	Jum / Nil Bhadi	Burseraceae		Stem, leaves, fruits	Stomachic, asthma, eye trouble.
60.	<i>Glinus lotoides</i> L.	Gandhi-buuti	Molluginaceae	May-April	Whole plant	Purgative, diarrhoea, bilious attack.
61.	<i>Grangea maderaspatana</i> (L.) Poir.	Namuti	Asteraceae	October-March	Leaves	Stomachic, antiseptic, earache, menstrual disorder .
62.	<i>Guizotia abyssinica</i> (L.f.) Cass.	Surguja	Asteraceae	December-March	Seed	Oil in rheumatism.
63.	<i>Gymnema sylvestre</i> (Retz.) R.Br. ex Schult.	Gurmara	Apocynaceae	April-May	Roots, leaves, fruits	Diabetes, enlargement of the liver and spleen, malarial fever, diuretic, cardiac stimulant
64.	<i>Helicteres isora</i> L.	Atmora	Sterculiaceae	May-November	Leaves, roots, fruits	Antiseptic, diabetes, body pain, scabies, fever, intestinal worms.
65.	<i>Heliotropium indicum</i> L.	Hatisunr	Boraginaceae	September-March	Leaves	Diuretic; boils, ulcers.
66.	<i>Heliotropium strigosum</i> Willd.	....	Boraginaceae	August-June	Whole plant	Laxative, diuretic; gum trouble, boils, sore eyes.
67.	<i>Hemidesmus indicus</i> (L.) R. Br.	Ananta mal	Apocynaceae	August-November	Dried roots	Constitutional debility and kidney troubles, diarrhoea, dyspepsia, fever, leucorrhoea, rheumatism, skin diseases, syphilis, kidney stone, piles, ulcer.
68.	<i>Holarrhena pubescens</i> (Buch.-Ham.)Wall. ex G.Don = <i>H. antidysenterica</i> (Roth.) Dc	Kurchi	Apocynaceae	April-July	Roots, bark, seeds	Diarrhoea, blood dysentery, piles, fever, acute rheumatism, astringent, febrifuge, diabetes, intestinal worms, dropsy
69.	<i>Hygrophila schulli</i> M.R. et S.M. Almeida	Kulekhara	Acanthaceae	September-June	Whole plant	Swelling, anaemia, kidney stone, gonorrhoea, spermatorrhoea
70.	<i>Hyptis suaveolens</i> (L.) Poit.	Ganga tulsi	Lamiaceae	October-January	Whole plant	Stimulant, carminative, sudorific, lactagogue, parasitical cutaneous diseases.
71.	<i>Ichnocarpus frutescens</i> (L.) R. Br.	Dudhi lata	Apocynaceae	September-December	Root, leaves	Alterative, tonic.
72.	<i>Ipomoea aquatica</i> Forssk.	Kalmisak	Convolvulaceae	October-February	Whole plant, juice	Emetic, purgative, antidote to opium and arsenical poison.
73.	<i>Ipomoea pes-tigridis</i> L.	Languli lata	Convolvulaceae	August-December	Root	Purgative, antidote to dog-bite, boils.
74.	<i>Jatropha curcus</i> L.	Bag-bherenda	Euphorbiaceae	July-January	Leaves, fruits, seeds	Chronic dysentery, urinary discharges, abdominal complaints, biliousness, tumour.
75.	<i>Jatropha gossypifolia</i> L.	Lal-bherenda	Euphorbiaceae	April-September	Leaves, bark, seed	Emmenagogue, emetic; boils, carbuncles, eczema; seed causes insanity.
76.	<i>Lannea coromandelica</i> (Houtt.) Merrile	Jhingna	Anacardiaceae	March-June	Bark, leaves	Astringent, swellings, boils, ulcers.
77.	<i>Leonotis nepetifolia</i> (L.) R. Br.	Hejurchi	Lamiaceae	October-January	Leaves, seeds	Skin affections, rheumatism.
78.	<i>Leucas aspera</i> Link	Chhota hal-kusa	Lamiaceae	August-October	Whole plant	Antipyretic, insecticide, psoriasis, scabies.
79.	<i>Linum usitatissimum</i> L.	Tisi	Malpighiaceae		Flowers, seeds	Demulcent, emollient, laxative, antilipidemic, bronchitis and cough, oil used in burns, skin injuries and sores
80.	<i>Madhuca longifolia</i> (Koen.) Macb. var. <i>latifolia</i> (Roxb.) Chevalier	Mahua	Sapotaceae	February-June	Bark, flower, seed-oil and gum	Stimulant, demulcent, laxative, anthelmintic, galactogenic, emetic, astringent, emollient, antirheumatic
81.	<i>Malvastrum coromandelianum</i> (L.) Garcke	....	Malvaceae	July-November	Whole plant, flowers	Diaphoretic, sores, wounds.
82.	<i>Mangifera indica</i> L.	Aam	Anacardiaceae	February-March	Leaves, bark, fruit	Burns and scales, checks hair loss, gastric ulcers, blood dysentery, nasal bleeding.
83.	<i>Martynia annua</i> L.	Baghnokh	Pedaliaceae	August-November	Juice, leaves, fruit	Epilepsy, sore throat, alexiteric.
84.	<i>Melastoma malabathricum</i> L.	Futki	Melastomaceae	Throughout the year	Bark, leaves, flowers	Astringent, in leucorrhoea, diarrhoea, dysentery.
85.	<i>Melia azedarach</i> L.	Mahanim	Meliaceae	March-December	Root-bark, flowers, fruit, seed, leaves	Deobstruent, alexipharmic, antilithic, diuretic, rheumatism, leprosy.

86.	<i>Mirabilis jalapa</i> L.	Krishno-keli	Nyctaginaceae	Throughout 8th year	Root, leaves	Aphrodisiac, purgative, maturant, boils.
87.	<i>Mollugo pentaphylla</i> L.	Khetpapara	Molluginaceae	August-November	Whole plant	Stomachic, aperiant, antiseptic, emmenagogue, antiperiodic.
88.	<i>Momordica charantia</i> L.	Karela/Uchchhe	Cucurbitaceae	May-October	Fruits	Stomachic, laxative, antibilious, emetic, anthelmintic, antidiabetic
89.	<i>Momordica dioica</i> Roxb. ex Willd.	Kakrol	Cucurbitaceae	June-October	Tuber	Bleeding of piles.
90.	<i>Moringa oleifera</i> Lamk.	Sajina	Moringaceae	January-April	Whole plant	Cardiac and circulatory stimulant, antipyretic, anthelmintic, diuretic.
91.	<i>Nelumbo nucifera</i> Gaertn.	Padma	Nelumbonaceae	May-November	Flowers, carpels, rhizomes	Cardiac poison.
92.	<i>Nerium indicum</i> Mill.	Karabi	Apocynaceae	April-June	Root	Resolvent, attenuant.
93.	<i>Nyctanthes arbor-tristis</i> L.	Seoli	Oleaceae	September-December	Leaves	Cholagogue, laxative, sciatica, fever, rheumatism.
94.	<i>Nymphaea pubescens</i> Willd.	Lal shaluk	Nymphaeaceae	July-October	Root, flowers	Demulscent, astringent, cardio-tonic, piles.
95.	<i>Ochna obtusata</i> DC.	....	Ochnaceae	February-July	Root, bark	Digestive, tonic, menstrual disorders, asthma, emollient cataplasm.
96.	<i>Ocimum americanum</i> L.	Bantulasi	Lamiaceae	July-December	Leaves	Parasitical skin diseases.
97.	<i>Ocimum basilicum</i> L.	Ram-tulsi	Lamiaceae	August-March	Root, leaves	Carminative, diuretic, stimulant, demulcent, diarrhoea, dysentery.
98.	<i>Olex scandens</i> Roxb.	Koko-aru	Olacaceae		Bark	Anaemia.
99.	<i>Oldenlandia corymbosa</i> L.	Khetpapara	Rubiaceae	June-October	Whole plant	Remittent fever, nervous depression, jaundice, liver trouble.
100.	<i>Operculina turpethum</i> (L.) S. Manso	Dudh kalmi	Convolvulaceae	March-December	Root	Purgative.
101.	<i>Oxalis corniculata</i> L.	Amrul	Oxalidaceae	October-May	Whole plant	Scurvy, cooling, refrigerant, antiscorbutic.
102.	<i>Passiflora foetida</i> L.	....	Passifloraceae	August-December	Leaves, fruits	Biliousness, asthma, emetic.
103.	<i>Phyllanthus urinaria</i> L.	Hazar mani	Euphorbiaceae	July-January	Whole plant	Diuretic, gonorrhoea, fish poison.
104.	<i>Plumbago zeylanica</i> L.	Swet cheta	Plumbaginaceae	July-December	Root-bark	Rheumatic joints, leprosy, paralytic limbs, piles, diarrhoea and skin diseases.
105.	<i>Pogostemon benghalense</i> (Burm.f.) Kuntze	Ishwar jata	Lamiaceae	January-April	Leaves, root	Styptic, haemorrhage, antidote to scorpion-sting.
106.	<i>Polycarpaea corymbosa</i> (L.) Lamk.	September-December	Caryophyllaceae		Whole plant	Boil, swellings, jaundice, bites from animals.
107.	<i>Polygala arvensis</i> Willd.	Meradu	Polygalaceae	August-September	Leaves, root	Asthma, fever, dizziness.
108.	<i>Polygala crotalariaoides</i> Buch.-Ham. ex DC.	Neelkantha	Polygalaceae	April-October	Whole plant, root	Cough, pulmonary catarrhal affections, snake bite.
109.	<i>Polygonum barbatum</i> L.	Bekh-unjubaz	Polygonaceae	September-April	Root, seed	Colic; astringent, cooling.
110.	<i>Polygonum plebejum</i> R.Br.	....	Polygonaceae	January-April	Whole plant, root	Bowel complaint.
111.	<i>Psidium guajava</i> L.	Piyara	Myrtaceae	Throughout the year	Leaves, flower, fruit	Antidiarrhoeal, used for dysentery, antidiabetes, anthelmintic
112.	<i>Ricinus communis</i> L.	Rerhi	Euphorbiaceae	January-June	Roots, leaves, seeds	Dysentery, scanty urination, skin disease, sciatica, night blindness, rheumatism, boils, flatulence, intestinal worm, cough.
113.	<i>Rorippa indica</i> (L.) Hiern	....	Brassicaceae	July-December	Whole plant	Diuretic, stimulant, antiscorbutic.
114.	<i>Salvia plebeia</i> R.Br.	Bhuin tulsi	Lamiaceae	February-April	Seeds	Diarrhoea, gonorrhoea, menorrhagia, hemorrhoids.
115.	<i>Schleichera oleosa</i> (Lour.) Oken.	Kusum	Sapindaceae	March	Bark, seed	Skin troubles, rheumatism.



116.	<i>Sebastiania chamaelea</i> Muell.-Arg.	....	Euphorbiaceae	July-November	Juice	Astringent, tonic, demulcent.
117.	<i>Sesbania sesban</i> (L.) Merr.	Jayanti	Fabaceae	August-December	Bark, seed	Astringent, diarrhoea, menstrual disorders.
118.	<i>Shorea robusta</i> C.F. Gaertn.	Sal	Dipterocarpaceae	February-April	Resin	Astringent, dysentery, gonorrhoea.
119.	<i>Sida cordifolia</i> L.	Berela	Malvaceae	August-December	Leaves, roots	Demulcent, febrifuge, dysentery, astringent, diuretic, tonic.
120.	<i>Sida rhombifolia</i> L.	Lal berela	Malvaceae	August-December	Root, leaves	Swellings, rheumatism, demulcent.
121.	<i>Sida spinosa</i>	Ban-methi	Malvaceae		Root, bark, leaves	Tonic, diaphoretic, fever, gonorrhoea, demulcent.
122.	<i>Siegesbeckia orientalis</i> L.	....	Asteraceae	November-January	Whole plant	Depurative, tonic, ulcers,
123.	<i>Solanum ferox</i> L. = <i>S. indicum</i> L. nom. rej.	Ram-begun	Solanaceae	August-December	Roots, leaves, fruits, seeds	Toothache, fever, leucoderma, vomiting, chronic asthma, diarrhea, enlarged bile, menstrual pain
124.	<i>Solanum nigrum</i> L.	Gurkhi	Solanaceae	Throughout the year	Whole plant	Asthma, bronchitis, rheumatism, general debility, dysentery.
125.	<i>Spondias pinnata</i> (L.f.) Kurz	Amra	Anacardiaceae	January-August	Bark, fruit	Antiscorbutic, astringent, dysentery, rheumatism.
126.	<i>Symplocos racemosa</i> Roxb.	Lodh	Symplocaceae	October-May	Bark	Cooling, astringent, bowel complaints, eye trouble.
127.	<i>Syzygium cumini</i> (L.) Skeels	Jam	Myrtaceae	April-July	Bark, leaves, fruit, seed	Stomachic, carminative, diuretic, antidiarrhoeal, hypoglycaemic, antibacterial, antidyenteric.
128.	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wt. & Arn.	Arjun	Combretaceae	May-April	Bark, leaves, fruit,	Styptic, antidyenteric, febrifuge, cirrhosis of liver, symptomatic hypertension, asthma, earache, sores and ulcers.
129.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Bahera	Combretaceae	April	Ripe fruits	Astringent, purgative.
130.	<i>Terminalia chebula</i> Retz.	Haritaki	Combretaceae	April-May	Fruits	Laxative, stomachic, tonic.
131.	<i>Thespesia lampas</i> (Cav.) Dalz. ex Dalz. & Gibs.	Ban-kapas	Malvaceae	July-December	Root, fruit	Gonorrhoea.
132.	<i>Tragia involucrata</i> L.	Bichati	Euphorbiaceae	All seasons	Root	Diaphoretic, alterative.
133.	<i>Trema orientalis</i> (L.) Bl.	Chikun	Urticaceae	All seasons	Whole plant	Epilepsy.
134.	<i>Trichosanthes cucumerina</i> L.	Ban-chichinga	Cucurbitaceae	June-October	Whole plant, leaves	Bitter laxative, emetic, cathartic.
135.	<i>Tridax procumbens</i> L.	Targanda	Asteraceae	Throughout the year	Leaves	Antiseptic, hair-tonic.
136.	<i>Uria picta</i> (Jacq.) Desv. ex DC.	Sankar-jata	Fabaceae	August-October	Whole plant	Antidote to snake-bite.
137.	<i>Ventilago denticulata</i> Willd.	Raktapita	Rhamnaceae	August-September	Juice	Malarial fever.
138.	<i>Vernonia cinerea</i> (L.) Less.	Kalao-jhira	Asteraceae	July-March	Whole plant, seeds	Diaphoretic, anthelmintic, abortifacient, dysentery.
139.	<i>Woodfordia fruticosa</i> (L.) Kurz	Dhowa	Lythraceae	January-May	Leaves, flowers, fruits	Astringent, dysentery, liver trouble.
140.	<i>Xeromophis uliginosa</i> (Retz.) Mahes.	Mainphal	Rubiaceae	March-July	Fruits	Dysentery, diarrhoea.
141.	<i>Zornia gibbosa</i> Span.	....	Fabaceae	July-December	Root	Induces sleep in children

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