

# Phytodiversity (Angiosperms and Gymnosperms) in Mandal-Chopta Forest of Garhwal Himalaya, Uttarakhand, India

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**Abstract:** The present study was undertaken in biodiversity rich moist temperate Mandal-Chopta forest of Garhwal Himalaya, Uttarakhand, India to enumerate the Phytodiversity of the area. We recorded a total of 338 species (334 Angiosperms and 4 Gymnosperms) belonging to 93 families (91 Angiosperms and 2 Gymnosperms) and 249 genera (246 Angiosperms and 3 Gymnosperms). The Dicotyledon and Monocotyledon were represented by a total of 81 and 10 families, respectively. Of the 93 families recorded, 38 were represented by single species, 16 by two species, 13 by three species and 26 with more than 3 species. Asteraceae was the dominant family with 30 species, followed by Rosaceae (24) and Lamiaceae (23). Out of 338 species recorded at the study site 178, 75, 46, 26, 10 and 3 were herbs, shrubs, trees, climbers, grasses and sedges respectively. 84.62 % species had common occurrence whereas, only 15.38 % species had uncommon occurrence. [Nature and Science 2010;8(1):1-17]. (ISSN: 1545-0740).

**Key words:** habitat; vernacular name; floristic composition; life forms; altitudinal distribution

## 1. Introduction

The knowledge of the floristic composition of a plant community is a prerequisite to understand the overall structure and function of any ecosystem. Vegetation is the most precious gift, nature has provided to us, as it is meeting all kinds of essential requirements of the humans in the form of food, fodder, fuel, medicine, timber, resins, and oil, etc. Garhwal Himalaya has been a centre of floristic as well as ecological studies from past hundred of years. The first authentic attempt to collect the plants from Garhwal Himalaya was made by an English officer Thomas Hardwicke in 1796. He collected large number of plants from Alaknanda Valley (Burkill, 1965). The study on the North Western Himalaya got acceleration after the establishment of Botanical Garden at Saharanpur by Hastings and Forest Research Institute. Duthie (1906) revised and supplemented the catalogue of the plants of Garhwal based on the collections made by Strachey and Winterbottom during the years 1846-1849.

Hooker published one of the classical works on Indian flora as the 'Flora of British India' in seven volumes during 1872-1897. The work was based on the collections made during 1848-1851 by several workers and Hooker's collectors also included plants from some remote localities of Garhwal. After establishment of Northern Circle of Botanical Survey of India at Dehradun in 1956, there has been a spurt of botanical explorations in Northwest and West Himalaya and several plant collectors at this regional center collected

plants from remote localities of Garhwal. During the last three decades, botanical explorations in Garhwal intensified further and plant collections were made from remotest parts of the area. Rau (1975) published "High Altitude Flowering Plants of West Himalaya" and Naithani (1984; 1985) on the basis of his own collections and herbarium study during 1976-1983, published "Flora of Chamoli" enumerating 1934 species. More recently Uniyal et al. (2007) published Flowering Plants of Uttarakhand (A Checklist), enumerating 4700 species. A large number of plant species of Garhwal have been illustrated by Polunin and Stainton (1984) in their "Flowers of the Himalaya". Dang (1993) in Flowers of West Himalaya has also illustrated several plant species. Some illustrations of Himalayan plants have appeared in Collett (1921). The Indian Red Data Book (Nayar and Sastry, 1990) has listed 619 species of vascular plants as threatened in Indian territories and out of them 137 species belongs to the Himalayan region. Notable plant exploration from Garhwal Himalaya was mainly conducted by (Adhikari, 2003; Rawat et al., 2001; Samant and Joshi, 2003; Rana, 2007). Gaur et al. (1993), Hajra and Rao (1990), Kanjilal (1928), Raizada (1976), Raizada and Saxena (1978), Rao (1961), Rao and Hussain (1993), Rawat (1994), Saini and Singh (1990), Semwal (1984), Semwal et al. (1981), Sharma (1992), Singh and Kachroo (1976), Smith (1994), Stainton (1988), Uniyal (1989) and others contributed to the floristic of Garhwal Himalaya. Recently study on Forest composition,

diversity and socio-economic status in the study area has been done by Sharma and Gairola, 2007, Gairola et al. 2009, Sharma et al., 2009a, b and c.

The Indian Himalayan Region (IHR) is considered as the repository of biological and cultural diversity and supports about 18,440 species of plant, includes 1748 species of medicinal plants and 675 species of wild edibles (Negi and Gaur, 1994). The representative biodiversity rich areas of the IHR have been protected through a Protected Area Network (PAN). At present there are 5 biosphere reserves, 28 national parks, and 98 wildlife sanctuaries in IHR covering 51,899.238 km<sup>2</sup> (Mathur et al., 2000). These protected areas are distributed in tropical, temperate, and alpine ecosystems. The following study was conducted in one of the protected areas, Kedarnath Wildlife Sanctuary, which falls in Western Himalayan Uttarakhand State of India to enumerate the wealth of higher plants (Angiosperms and Gymnosperms).

## 2. Materials and methods

### 2.1. Study Site

The present study was conducted in Mandal-Chopta forest which comes under district Chamoli Garhwal in Uttarakhand state of India (Figure 1). It is located

between 30° 27.560' N latitude and 79° 15.234' E longitude and covers an altitudinal range between 1500 m asl and 3000 m asl. The climate of the study area is typical moist temperate type, which receives moderate to high snowfall from December to February. Meteorological details (1998-2007) of the study area are given in Figure 2. Mean annual maximum temperature was recorded as 16.41 ± 3.60 °C, whereas mean annual minimum temperature as 6.14 ± 1.98 °C. Mean annual rainfall was recorded as 2044.47 ± 476.01 mm. Mean Relative humidity round the year ranged from 15 % to 86 %. The rainy season accounts for about three-quarters of the annual rainfall. At the study site, the year is represented by three main seasons; the cool and relatively dry winter (December to March); the warm and dry summer (mid-April to June); and a warm and wet period (July to mid-September) called as the monsoon or rainy season. Apart from these main seasons, the transitional periods interconnecting rainy and winter, and winter and summer referred to as autumn (October to November) and spring (February to March) are also observed. Geologically, the rocks in the study sites are complex mixture of mainly sedimentary, low grade metamorphosed with sequence capped by crystalline nappe.

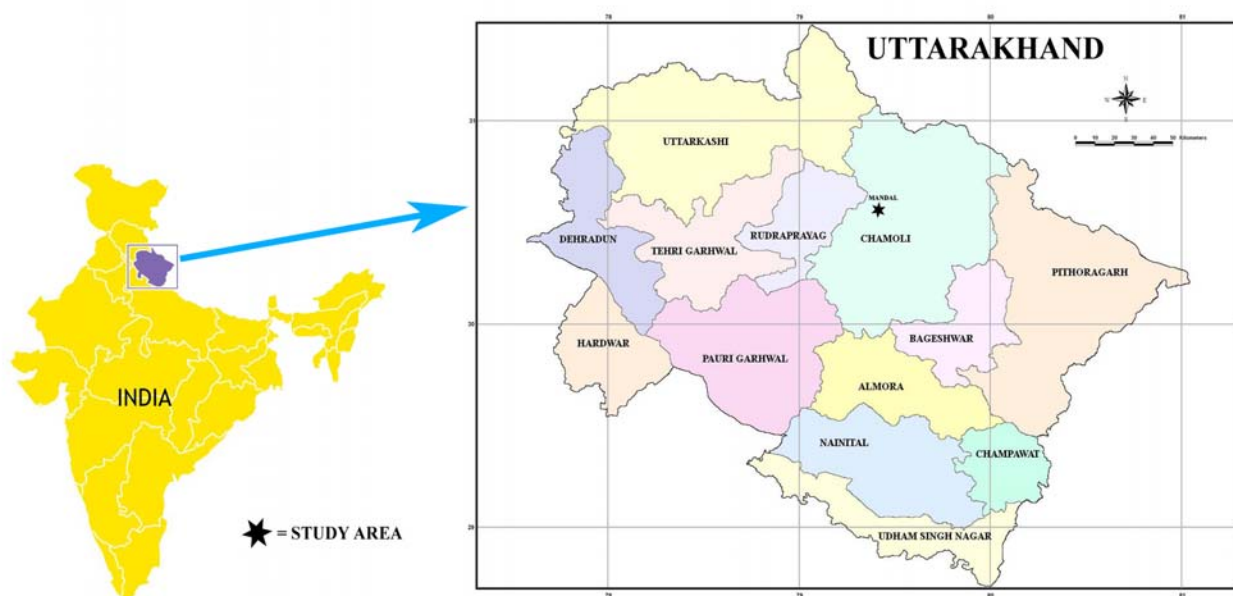


Figure 1. Map of the study area.

### 2.2. Data Collection

Extensive field surveys were conducted in the Mandal-Chopta forest area from May 2006 to April

2009 in different seasons (rainy, winter and summer) to assess the diversity of higher plants (Gymnosperms and Angiosperms). The specimens of each species were

collected and identified with the help of floras (Naithani, 1984; 1985; Gaur, 1999) and existing Herbariums of Botany Department HNB Garhwal University (GUH), Forest Research Institute (DD) and Botanical Survey of India, Northern Circle (BSD). After identification, the plants were arranged according to Bentham and

Hooker's system of classification (1883). Taxonomical categories-genera and species within the family are treated alphabetically and species are described with usual citation. Additional information about vernacular names, habitat, life form, altitudinal range and occurrence were collected for each species.

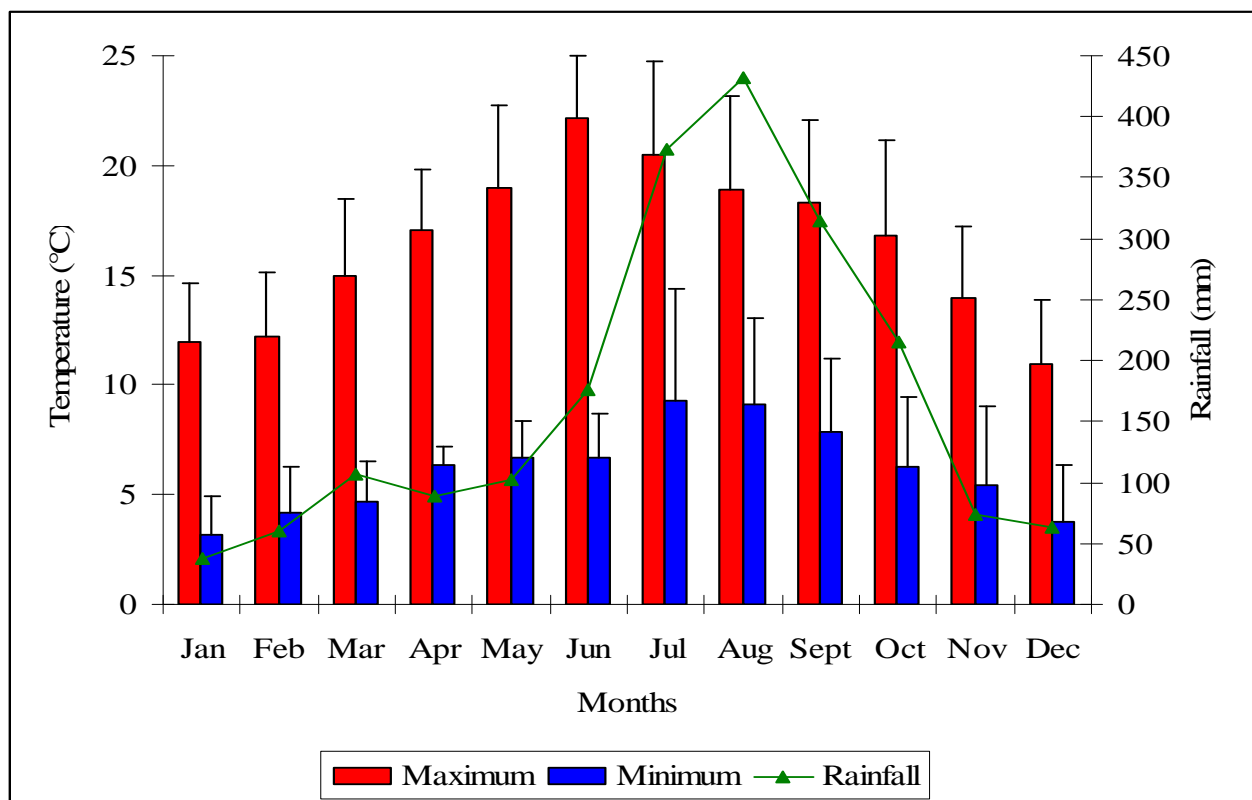


Figure 2. Meteorological details (1998-2007) of the study site.

### 3. Results and Discussion

The results of the study are placed in the Table 1.

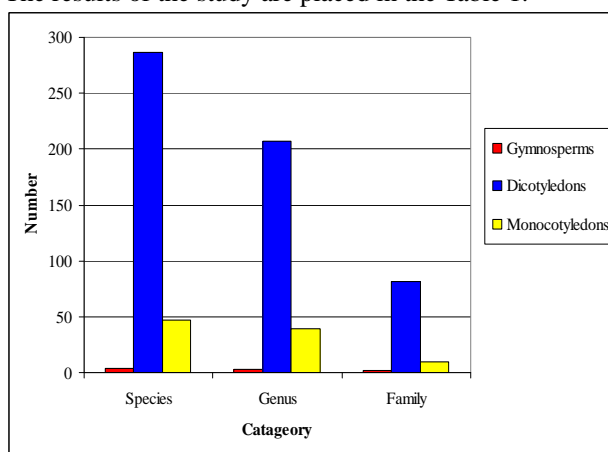


Figure 3. Distribution of different groups according to taxonomic categories.

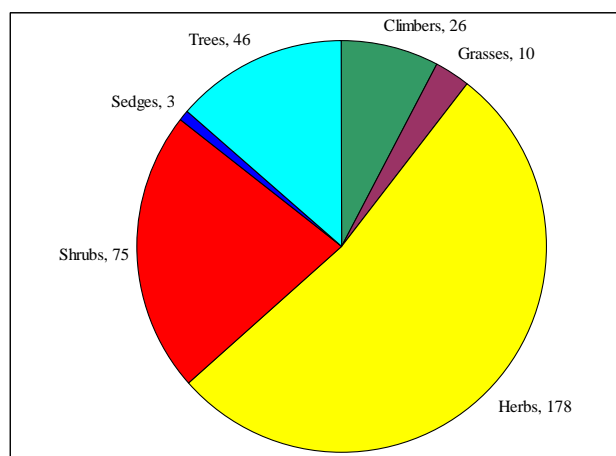


Figure 4. Share of different life forms in total diversity of higher plants in the study site.





Figure 5. Some of the forest types of the Mandal-Chopta area.



The present article records a total of 338 species (334 Angiosperms and 4 Gymnosperms) belonging to 93 families (91 Angiosperms and 2 Gymnosperms) and 249 general (246 Angiosperms and 3 Gymnosperms). The Dicotyledon and Monocotyledon were represented by a total of 81 and 10 families, respectively (Figure 3). Of the 93 families, 38 were represented by single species, 16 by two species, 13 by three species and 26 with more than 3 species. Asteraceae was the dominant family with 30 species, followed by Rosaceae (24), Lamiaceae (23), Orchidaceae (17), Urticaceae (10), Polygonaceae (10), Poaceae (10), Ranunculaceae (9), Fabaceae (9), Gentianaceae (7), Euphorbiaceae (7), Apiaceae (7), Rubiaceae (6), Araceae (6), Acanthaceae (6), Solanaceae (5), Scrophulariaceae (5), Primulaceae (5), Caryophyllaceae (5), Violaceae (4), Moraceae (4), Liliaceae (4), Lauraceae (4), Ericaceae (4), Brassicaceae (4), Asclepiadaceae (4). Maximum numbers of species (5) were recorded for *Rubus* and *Polygonum*, followed by *Viola* and *Ficus* with 4 species each. Genuses with only 3 species were *Anaphalis*, *Berberis*, *Clematis*, *Cotoneaster*, *Desmodium*, *Elsholtzia*, *Gentiana*, *Geranium*, *Hypericum*, *Plantago*, *Quercus*, *Senecio*, *Solanum* and *Swertia*.

Out of 338 species recorded in the study area 178, 75, 46, 26, 10 and 3 were herbs, shrubs, trees, climbers, grasses and sedges respectively (Figure 4). 84.62 % species had common occurrence whereas, only 15.38 % species had uncommon occurrence. In the study area the ratios of Family: Genus, Genus: Species and Family: Species were recorded as 0.373, 0.737 and

0.275 respectively. Most of the plant species recorded in the study site are highly medicinal in nature and are used to cure variety of ailments by the local 'Vaid's' or medicine men.

Various kinds of forest types having different composition of tree species harboring diverse flora were observed in the study site (Figure 5). Only four tree species belonging to two families' viz., Cupressaceae (*Cupressus torulosa*) and Pinaceae (*Abies pindrow*, *A. spectabilis* and *Pinus roxburghii*) were recorded for Gymnosperms. *P. roxburghii* was the dominant tree species at lower altitudes (between 1500 m a.s.l. and 1700 m a.s.l.) forming mixed patches with broad leaved tree species like *Lyonia ovalifolia*, *Rhododendron arboreum*, *Quercus leucotrichophora*, etc. It covered a large area as a pure patch (density greater than 80 %), where plant species diversity was very low. At higher altitudes (Above 2400 m a.s.l.) *A. pindrow* formed pure as well as mixed patches with other broad leaved tree species like *Q. semecarpifolia*, *Q. floribunda*, *R. arboreum*, etc. Between 2700-3000 m a.s.l., 2550-2650 m a.s.l., 2650-2550 m a.s.l., 2400-2500 m a.s.l., 1600-1700 m a.s.l. and 1550-1650 m a.s.l. pure patches of *Q. semecarpifolia*, *Q. floribunda*, *A. acuminatum*, *Aesculus indica*, *Q. leucotrichophora* and *Alnus nepalensis*, respectively were found to be growing. At middle altitudes mixed broad leaved forests having various compositions of *R. arboreum*, *Quercus* spp., *Daphniphyllum himalense*, *Carpinus viminea*, etc were recorded, which had highest species diversity.

Table 1. Checklist of plant wealth (Angiosperms and Gymnosperms) of Mandal-Chopta Forest area of Garhwal Himalaya, Uttarakhand, India

S.No.	Family/ Species	VN	LF	Altitude	Oc	Habitat
<b>Acanthaceae</b>						
1.	<i>Barleria cristata</i> L.	Saundi, Kala-bansa	H	1500-1800	C	SM, OS
2.	<i>Justicia procumbens</i> L.	-	H	1500-1550	C	SM, WS, CF
3.	<i>Justicia pubigera</i> (Nees) C.B. Clarke	-	S	1600-1800	C	SM, WS, CF
4.	<i>Peristrophe paniculata</i> (Forsk.) Brumitt	Kaknadi	H	1500-1700	C	SM, RS, WP, CF
5.	<i>Pteracanthus alatus</i> (Clarke) Bremekamp	Jaunya, Pathora	H	1500-1800	C	SM, WS
6.	<i>Strobilanthes atropurpureus</i> Nees	Kangdai, Totna	H	1500-2000	C	SM, WS
<b>Aceraceae</b>						
7.	<i>Acer acuminatum</i> Wall. ex D.Don	Rath-Kanchula	T	2000-2900	C	SM
8.	<i>Acer caesium</i> Wall. ex Brandis	Kanjula	T	2000-2900	UC	SM
<b>Actinidiaceae</b>						
9.	<i>Actinidia callosa</i> Lindl.	-	CI	1500-1600	UC	SM
<b>Amaranthaceae</b>						

10.	<i>Achyranthes bidentata</i> Blume	Chicheree, Latjira	S	1500-2500	C	SM, WS, RS, WP
11.	<i>Cyathula tomentosa</i> (Roth) Moq.	Lichkura, Silla	S	1500-2200	C	WP, WS, BO, RS
<b>Apiaceae</b>						
12.	<i>Bupleurum falcatum</i> L.	Jangli-jeera	H	1500-2500	C	SM, WS, WP
13.	<i>Bupleurum hamiltonii</i> Balak.	Jangli-jeera	H	3000	UC	SM, WS, WP
14.	<i>Centella asiatica</i> (L.) Urban	Brahmi-buti	H	1500-2200	UC	WC, SM, WS, RS
15.	<i>Pimpinella acuminata</i> (Edgew.) Cl.	Raulee	H	1800-2700	C	SM, WS, RS, WP, CF
16.	<i>Pimpinella diversifolia</i> DC.	Terai, Phoree	H	1500-2500	C	SM, WS, RS, WP, CF
17.	<i>Sanicula elata</i> Buch.-Ham. ex D.Don	Sinkla	H	2000-3000	C	SM, UF
18.	<i>Selinum striatum</i> (DC.) Clarke	-	H	1500-2700	C	SM, UF, OS
<b>Apocynaceae</b>						
19.	<i>Trachospermum lucidum</i> (D.Don)	Dudhi-bel	C	1500-2000	C	SM, OS
<b>Aquifoliaceae</b>						
20.	<i>Ilex dipyrena</i> Wall.	Kandara, Kanel	T	1500-2500	UC	SM, WS, UF
<b>Araceae</b>						
21.	<i>Acorus calamus</i> L.	Bach, Baodh	H	1500-1550	UC	WC
22.	<i>Arisaema flavum</i> (Forsk.) Schott	Meen	H	1500-2500	C	SM, UF
23.	<i>Arisaema jacquemontii</i> Blume	Khaprya, Saperi-Mausi	H	1500-2700	C	SM, WP, UF, WS
24.	<i>Gonatanthus pumilus</i> (D.Don) Engl. & Krause	Ban-pindalu	H	1650	UC	BO, WC, UF, SM
25.	<i>Remusatia hookeriana</i> Schott	-	H	1500-2500	UC	BO, WC, UF, SM
26.	<i>Remusatia vivipara</i> (Roxb.) Schott	-	H	1500-1600	UC	BO, WC, UF, SM
<b>Araliaceae</b>						
27.	<i>Hedera nepalensis</i> K.Koch	Laguli, Mithiari	Cl	1500-2500	C	EP, UF, SM, WS, RS
<b>Asclepiadaceae</b>						
28.	<i>Cryptolepis buchananii</i> Roem. & Schult.	Dudhi-Bel, Meda-singhi	Cl	1500-1600	C	EP, WS, UF
29.	<i>Hoya longifolia</i> Wall. ex Wight	-	S	1500-1700	C	SM, EP, UF
30.	<i>Marsdenia roylei</i> Wight & Arn.	-	S	1500-2500	UC	WS, OS, WC
31.	<i>Periploca calophylla</i> (Wight) Falconer	-	Cl	1500-1700	C	WS, UF, RS
<b>Asteraceae</b>						
32.	<i>Adenocaulon himalaicum</i> Edgew.	-	H	2000-2700	C	UF, SM, WC
33.	<i>Ageratum conyzoides</i> L.	Gundrya, Semandulw	H	1500-1800	C	WP, RS, WS, CF, SM
34.	<i>Ageratum houstonianum</i> Miller	-	H	1500-1700	C	WP, RS, WS, CF, SM
35.	<i>Ainsliaea aptera</i> DC.	Kauru, Khad-Jari	H	1700-2700	C	SM, UF, BO
36.	<i>Ainsliaea latifolia</i> (D.Don)	Kauru	H	1700-3000	C	SM, UF, BO
37.	<i>Anaphalis adnata</i> Wall. ex DC.	Bugla	H	1500-3000	C	OP, WS, UF, SM
38.	<i>Anaphalis contorta</i> (D.Don) Hook.f.	Bugla, Buglya	H	1500-2000	C	OP, WS, UF, SM
39.	<i>Anaphalis triplinervis</i> (Sm.) Cl.	Bugla, Buglya	H	1500-3000	C	OP, WS, UF, SM
40.	<i>Artemisia nilagirica</i> (Cl.) Pamp.	Kunzu, Kunjaa	S	1500-3000	C	WS, OS, CF
41.	<i>Artemisia roxburghiana</i> Wall. ex Besser	Kunjaa, Chamur	H	1500-2700	C	OS, CF
42.	<i>Bidens pilosa</i> L.	Kumur, Kumra	H	1500-2200	C	RS, WS, CF, WP
43.	<i>Carpesium nepalense</i> Less.	-	H	1500-2500	C	OS, RS
44.	<i>Cirsium verutum</i> (D.Don) Sprengel	Kardra, Kandaya	H	1500-2000	C	UF, OS, RS, WS, WC
45.	<i>Cirsium wallichii</i> DC.	Kandeiya, Kandra, Bungsee	H	1500-2500	C	UF, OS, RS, WS, WC

46.	<i>Conyza japonica</i> (Thunb.) Lessing ex DC.	-	H	1500-2200	C	OS, WS, WP, RS
47.	<i>Conyza stricta</i> Willd.	-	H	1500-2500	C	OS, CF, WP
48.	<i>Crassocephalum crepidioides</i> (Benth.) S. Moore	-	H	1500-1700	C	SM, RS, WS, CF
49.	<i>Dichrocephala integrifolia</i> (L.f.) Kuntze	-	H	1700-2000	C	SM, CF, WP
50.	<i>Erigeron multiradiatus</i> (Lindl. ex DC.) Cl.	-	H	1500-2500	C	OS, UF, RS, BO
51.	<i>Eupatorium adenophorum</i> Sprengel	Kharna, Bakura	S	1500-2300	C	CF, RS, WP, WS, SM, US, BO, WC
52.	<i>Gerbera gossypina</i> (Royle) Beauv.	Kapasi	H	1500-2500	C	SM, BO
53.	<i>Gnaphalium affine</i> D.Don	-	H	1500-2000	C	RS, WS, OS
54.	<i>Inula cappa</i> (Buch.-Ham. ex D.Don) DC.	Athhu, Tamagari	S	1500-2500	UC	OS, RS, WS, UF
55.	<i>Inula cuspidata</i> (DC.) Cl.	Jhuri, Pushkar	S	1500-2500	UC	OS, RS, WS, UF
56.	<i>Senecio kunthianus</i> Wall. ex DC.	-	H	1500-2700	C	WS, OS, CF, UF
57.	<i>Senecio laetus</i> Edgew.	-	H	1500-2000	C	WS, OS, CF, UF
58.	<i>Senecio nudicaulis</i> Buch.-Ham. ex D.Don	Neelkanthi, Ratpati, Kakrata	H	1500-1700	C	OS, CF
59.	<i>Solidago virgaurea</i> L.	Pinja-phool, Sonali	H	2200-3000	C	WS, SM, CF
60.	<i>Sonchus brachyotus</i> DC.	Pili dudhi	H	1500-2500	C	WP, RS, CF
61.	<i>Taraxacum officinale</i> Weber	Kan-fulya, Karatu, Dudhee	H	1500-2500	C	OS, WP, RS, WS, SM, WC, BO, CF
<b>Balsaminaceae</b>						
62.	<i>Impatiens scabrida</i> DC.	Ban-til, Tillua	H	1500-3000	C	RS, UF, SM
63.	<i>Impatiens sulcata</i> Wall.	Chaul, Kwai	H	1700-2500	C	WC, SM, WS
<b>Berberidaceae</b>						
64.	<i>Berberis aristata</i> DC.	Kingore, Kasmor	S	1500-2000	C	WS, RS, BO, CF
65.	<i>Berberis asiatica</i> Roxb. ex DC.	Kingor, Kilmora	S	1500-2200	C	WS, RS, DS, OS, CF
66.	<i>Berberis lycium</i> Royle	Kingor, Rasaut	S	1500-1700	UC	WS, RS
<b>Betulaceae</b>						
67.	<i>Alnus nepalensis</i> D.Don	Utis	T	1500-1800	C	BO, RS, WC, WS
68.	<i>Betula alnoides</i> Buch.-Ham. ex D.Don	Saur	T	1500-2400	C	BO, RS, WC, WS
<b>Bombacaceae</b>						
69.	<i>Bombax ceiba</i> L.	Semal	T	1500-1600	UC	WS, RS, CF
<b>Boraginaceae</b>						
70.	<i>Cynoglossum zeylanicum</i> (Vahl ex Hornem.) Thunb. ex Lehmann	Andhahuli	H	1500-2400	C	RS, WS, CF
<b>Brassicaceae</b>						
71.	<i>Arabis amplexicaulis</i> Edgew.	Ban Sarsaun	H	1500-2500	C	RS, OS, CF
72.	<i>Cardamine flexuosa</i> Wither.	-	H	1500-2500	C	SM, CF
73.	<i>Nasturtium officinale</i> R.Br.	-	H	1500-2000	C	WC, SM
74.	<i>Rorippa montana</i> (Hook.f. & Thomson) Small	-	H	1500-3000	C	SM, CF, WC
<b>Buxaceae</b>						
75.	<i>Buxus wallichiana</i> Baillon	Papri	T	1500-2700	C	UF, RS, WS, BO, SM
76.	<i>Sarcococca saligna</i> (D.Don) Muell.-Arg.	Paliyala, Geru,	S	1500-1550	C	WS, UF, CF, BO
<b>Caesalpiniaceae</b>						
77.	<i>Bauhinia vahlii</i> Wight & Arn.	Malu	Cl	1500-1550	C	SM, BO, WC, OS, WS, RS, CF
78.	<i>Bauhinia variegata</i> L.	Guiral, Kuiral	T	1500-1800	UC	WP, RS, WS

79.	<i>Caesalpinia decapetala</i> (Roth) Alston	Kingari, Kunju	S	1500-1550	C	WS, CF, BO
<b>Campanulaceae</b>						
80.	<i>Campanula pallida</i> Wall.	-	H	1500-2200	C	RS, WS, CF
<b>Caprifoliaceae</b>						
81.	<i>Lonicera quinquelocularis</i> Hardw.	Taknoi, Bad-kukura, Chamaksin	S	1500-1700	C	RS, WS, CF, OS
82.	<i>Viburnum cylindricum</i> Buch.-Ham. ex D.Don	Tita, Lampatiya	S	1500-2800	C	UF, WS, BO
83.	<i>Viburnum mullaha</i> Buch.-Ham. ex D.Don	Maleo, Lat-titmolya, Richhoi	S	1500-3000	UC	UF, WS, BO
<b>Caryophyllaceae</b>						
84.	<i>Arenaria neelgherrensis</i> Wt. Et Arn.	-	H	1500-2500	C	OS, WS CF
85.	<i>Arenaria orbiculata</i> Royle ex Edgew. & Hook.f.	-	H	1600-3000	C	OS, WS CF
86.	<i>Cerastium glomeratum</i> Thuillier	-	H	1500-3000	C	CF, WS, RS, UF, SM
87.	<i>Silene indica</i> Roxb. ex Otth	-	H	1500-2500	UC	OS, W, CF
88.	<i>Stellaria media</i> (L.) Vill.	Badyalu	H	1500-3000	C	WC, CF, WS
<b>Celastraceae</b>						
89.	<i>Euonymus tingens</i> Wall.	Konk, Kumkum	T	1500-2700	UC	CF, WS, UF
<b>Commelinaceae</b>						
90.	<i>Murdannia nudiflora</i> (L.) Brenan	Kansura	H	1500	C	CF, WS, RS, UF
<b>Convolvulaceae</b>						
91.	<i>Ipomoea nil</i> (L.) Roth.	Kaludanu	Cl	1500-2500	C	WS, RS, CF, BO
<b>Cornaceae</b>						
92.	<i>Swida oblonga</i> (Wall.) Sojak	Katkanai	T	1500-3000	UC	WS, UF, WC, SM
<b>Corylaceae</b>						
93.	<i>Carpinus viminea</i> Lindl	Chamkharik	T	1500-2000	C	UF, RS, SM
94.	<i>Corylus jacquemontii</i> Decne.	Kabasi	T	2200-2800	UC	SM, BO
<b>Crassulaceae</b>						
95.	<i>Sedum oreades</i> (Decne.) Hamet	-	H	1600-3000	C	WS, CF, UF, SM
<b>Cucurbitaceae</b>						
96.	<i>Trichosanthes tricuspidata</i> Lour.	Ilaru	Cl	1500-1550	C	CF, WS, RS, BO, DS
<b>Cupressaceae</b>						
97.	<i>Cupressus torulosa</i> D.Don	Surai	T	1700-2200	UC	OS, BO, RS, WS
<b>Cyperaceae</b>						
98.	<i>Carex cruciata</i> Wahlenb.	-	SE	2000-2500	C	OS, WS
99.	<i>Carex wallichiana</i> Spreng.	-	SE	2100	C	OS, WS
100.	<i>Fimbristylis narayanii</i> C.E.C. Fisch.	-	SE	1600	C	US, RS, SM, WS
<b>Daphniphyllaceae</b>						
101.	<i>Daphniphyllum himalayense</i> (Benth.) Muell.-Arg.	Ratniyalu	T	1700-2500	C	UF, SM, RS
<b>Dioscoreaceae</b>						
102.	<i>Dioscorea melanophyma</i> Prain & Burkill	Mangaii	H	1500-3000	UC	UF, WS, CF
<b>Ebenaceae</b>						
103.	<i>Diospyrus montana</i> Roxb.	Pinna	T	1500-1550	UC	RS, SM, UF
<b>Elaeagnaceae</b>						
104.	<i>Elaeagnus parvifolia</i> Wall. ex Royle	Giwain	S	1500-2200	C	SM, RS, WP, CF
<b>Ericaceae</b>						



105.	<i>Gaultheria nummularioides</i> D.Don	Bhwinla	H	1600-2700	C	RS, UF, BO, OS
106.	<i>Lyonia ovalifolia</i> (Wall.) Drude	Anyar	T	1500-2500	C	SM, OS, WS, CF, RS, UF
107.	<i>Rhododendron arboreum</i> Sm.	Burans	T	1500-2000	C	SM, RS, WP, CF
108.	<i>Rhododendron barbatum</i> Wall. ex G.Don	Byanr	T	1700-2500	C	SM, RS, WP, CF
<b>Eriocaulaceae</b>						
109.	<i>Eriocaulon nepalense</i> Prescott ex Bong.	-	H	1600	UC	CF, WC
<b>Euphorbiaceae</b>						
110.	<i>Acalypha brachystachya</i> Hornem.	-	H	1600-1800	C	RS, WS, CF
111.	<i>Arachne cordifolia</i> (Decne.) Hurusawa	Bhatulya, Bhartoli	S	1500-2000	C	OS, SM, CF
112.	<i>Excoecaria acerifolia</i> F. Didr.	Dudhila, Phutkiya	S	1500-2500	C	SM, RS, WP, CF
113.	<i>Glochidion velutinum</i> Wight	Kath-Maua, Chamri	S	1500-1600	C	UF, WS
114.	<i>Phyllanthus emblica</i> L.	Aonla	S	1500-2000	UC	SM, RS, WP, CF
115.	<i>Phyllanthus urinaria</i> L.	Lalbhuin, Serhi	H	1500-1600	C	RS, CF, OS
116.	<i>Ricinus communis</i> L.	Arandi	S	1500-1600	C	SM, RS, WP, CF
<b>Fabaceae</b>						
117.	<i>Desmodium concinnum</i> DC.	Saakina	S	1500-1600	C	OS, UF
118.	<i>Desmodium elegans</i> DC.	Chamlai	S	1500-1800	C	SM, RS, WP, CF
119.	<i>Desmodium microphyllum</i> (Thunb.) DC.	Sunsuni	H	1500-1700	C	CF, WS, UF
120.	<i>Indigofera dosua</i> Buch.-Ham. ex D.Don	Sakina	S	1600-1800	C	OS, UF
121.	<i>Indigofera heterantha</i> Wall. ex Brandis	Sakina, Kathi, Kathoj	S	1500-1550	C	SM, RS, WP, CF
122.	<i>Lespedeza gerardiana</i> Graham ex Maxim.	Khunja	S	1750-2750	C	OS, UF, SM
123.	<i>Parochetus communis</i> Buch.-Ham. ex D.Don	Tripatri	H	1500-2700	C	WS, UF, OS, SM
124.	<i>Shuteria involucrata</i> (Wall.) Wight & Arn.	-	Cl	1500-2500	UC	OS, WS, CF
125.	<i>Trifolium repens</i> L.	Tipatiya	H	1500-2500	C	OS, WS
<b>Fagaceae</b>						
126.	<i>Quercus floribunda</i> Lindl. ex Rehder	Tilonj, Moru	T	2500-3000	C	SM, WC
127.	<i>Quercus leucotrichophora</i> A. Camus	Banj	T	1500-2200	C	SM, WC
128.	<i>Quercus semecarpifolia</i> Sm.	Kharsu	T	2500-3000	C	SM, WC
<b>Fumariaceae</b>						
129.	<i>Corydalis cornuta</i> Royle	Balsam Jar	H	1500-2700	C	UF, SM, WC
130.	<i>Dicentra macrocapnos</i> Prain	-	H	1500-3000	UC	UF, SM, WC
<b>Gentianaceae</b>						
131.	<i>Gentiana capitata</i> Buch.-Ham. ex D.Don	-	H	1500-3000	C	UF, OS
132.	<i>Gentiana pedicellata</i> (D.Don) Wall.	Chhoti buggi	H	1500-2700	C	UF, OS
133.	<i>Gentiana stipitata</i> Edgew.	-	H	1500-2700	C	UF, OS
134.	<i>Swertia chirayita</i> (Roxb. ex Fleming) Karsten	Chiraita	H	1500-1800	UC	WS, UF, OS
135.	<i>Swertia cordata</i> (G.Don) C.B. Clarke	Chirata	H	1800-2100	UC	WS, UF, OS
136.	<i>Swertia paniculata</i> Wall.	-	H	1500-2000	UC	WS, UF, OS
137.	<i>Tripterospermum volubile</i> (D.Don) Hara	-	H	1800-2400	C	UF, SM, WC
<b>Geraniaceae</b>						
138.	<i>Geranium nepalense</i> Sw.	Phori, Syunli	H	1700-2700	C	OS, UF
139.	<i>Geranium ocellatum</i> Cambess	Kaphlya	H	1500-1500	C	OS, UF, WS, RS
140.	<i>Geranium wallichianum</i> D.Don ex Sw.	Ratanjot	H	1700-3000	C	OS, UF
<b>Gesneriaceae</b>						
141.	<i>Chirita pumila</i> D.Don	-	H	1500-2500	C	UF, OS

142.	<i>Didymocarpus subalternans</i> Wall. ex R.Br.	-	H	1500-3000	UC	UF, OS
<b>Hippocastanaceae</b>						
143.	<i>Aesculus indica</i> (Colebr. ex Camb.) Hook.	Pangar	T	1600-2700	C	SM, RS, WP, CF
<b>Hydrangeaceae</b>						
144.	<i>Deutzia staminea</i> R.Br. ex Wall.	Ghugtai	S	1500-1600	C	UF, OS
145.	<i>Hydrangea anomala</i> D.Don	Kathmora	CI	1800-3000	C	UF, OS
<b>Hypericaceae</b>						
146.	<i>Hypericum elodeoides</i> Choisy	Basanti	S	1500-3000	C	UF, OS
147.	<i>Hypericum oblongifolium</i> Choisy	Chaya, Chitroi	S	1500-1550	C	WS, UF, OS
148.	<i>Hypericum uralum</i> Buch.-Ham. ex D.Don	Bhyoul	S	1500-2700	C	WS, RS, UF, OS
<b>Juglandaceae</b>						
149.	<i>Juglans regia</i> L.	Akhror	T	1700-2200	UC	UF, BO, RS
<b>Lamiaceae</b>						
150.	<i>Ajuga brachystemon</i> Maxim.	Rathpathi	H	1500-2500	C	SM, RS, WP, CF
151.	<i>Ajuga parviflora</i> Benth.	Neelkanthi	H	1500-2700	C	SM, RS, WP, CF
152.	<i>Anisomeles indica</i> (L.) Kuntze	Gobara	H	1500-1700	C	SM, RS, WP, CF
153.	<i>Clinopodium umbrosum</i> (M.Bieb.) Koch.	Birchee	H	1500-2500	C	OS, WS, RS, CF
154.	<i>Colebrookia oppositifolia</i> Sm.	Bindu	S	1500-1400	C	SM, RS, WP, CF
155.	<i>Colquhounia coccinea</i> Wall.	-	S	1500-2200	UC	RS, BO, OS, WS
156.	<i>Craniotome furcata</i> (Link) Kuntze	-	H	1500-2500	C	OS, WS, CF
157.	<i>Elsholtzia flava</i> (Benth.) Benth.	-	S	1500-2000	C	SM, RS, WP, CF
158.	<i>Elsholtzia fruticosa</i> (D.Don) Rehder	Pothi	S	1500-2500	C	SM, RS, WP, CF
159.	<i>Elsholtzia pilosa</i> (Benth.) Benth.	-	S	1500-3000	C	SM, RS, WP, CF
160.	<i>Lamium album</i> L.	Tilka	H	1500-3000	C	SM, RS, WP, CF
161.	<i>Mentha arvensis</i> L.	Paudina	H	1500-1800	C	WS, WC, BO, SM
162.	<i>Micromeria biflora</i> (Buch.-Ham. ex D.Don) Benth.	Ban-ajwain	H	1500-1600	C	OS, SM
163.	<i>Origanum vulgare</i> L.	Bantulsi	H	1500-2200	C	SM, RS, WP, CF
164.	<i>Perilla frutescens</i> (L.) Britton	Bhangjeera	H	1500-2500	C	OS, WS, CF
165.	<i>Plectranthus rugosus</i> Wall.	Kurkha	S	1500-1550	C	SM, RS, WP, CF
166.	<i>Plectranthus striatus</i> Benth.	-	H	1500-3000	C	SM, RS, WP, CF
167.	<i>Prunella vulgaris</i> L.	-	H	1500-2700	C	SM, RS, WP, CF
168.	<i>Salvia nubicola</i> Wall. ex Sweet	Ganya	H	1500-2000	C	WS, OS, CF
169.	<i>Scutellaria scandens</i> Buch.-Ham. ex D.Don	Kutlaphul	H	1500-2000	C	SM, RS, WP, CF
170.	<i>Teucrium quadrifarium</i> Buch.-Ham. ex D.Don	Bilmga	H	1800-2300	C	OS, CF
171.	<i>Teucrium royleanum</i> Wall. ex Benth.	-	H	1650	C	OS, CF
172.	<i>Thymus linearis</i> Benth.	Ban ajwain	H	2000-3000	C	OS, UF, SM
<b>Lauraceae</b>						
173.	<i>Cinnamomum tamala</i> (Buch.-Ham) Nees & Ebermaeir	Dalchini, Tejpat	T	1500-2000	UC	SM, UF
174.	<i>Neolitsea pallens</i> (D.Don) Memiyama & Hara ex Hara	Bilaru	T	1500-1800	C	SM, UF
175.	<i>Persea duthiei</i> (King ex Hook. F.) Kostermans	Kaula Sairi, Bhadrao	T	1500-2000	C	SM, UF
176.	<i>Persea odoratissima</i> (Nees) Kostermans	Kaula, Kaulu	T	1500-2000	C	SM, UF
<b>Liliaceae</b>						
177.	<i>Asparagus adscendens</i> Buch.-Ham. ex Roxb.	Jhirni	S	1500-1550	C	WS, RS, OS
178.	<i>Cardiocrinum giganteum</i> (Wall.) Mak.	Kanphuli	H	1500-2000	UC	SM, WC, UF

179.	<i>Paris polyphylla</i> Sm.	Satwa	H	1600-2000	C	WC, WS, UF
180.	<i>Theropogon pallidus</i> (Kunth) Maxim.	-	H	1500-2000	C	WS, SM
181.	<i>Reinwardtia indica</i> Dum.	Phiyunli	S	1500-1700	C	SM, RS, WP, CF
<b>Lobeliaceae</b>						
182.	<i>Lobelia pyramidalis</i> Wall.	-	H	1500-1800	C	OS, WS
<b>Loranthaceae</b>						
183.	<i>Taxillus vestitus</i> (Wall.) Danser	Banderi, Banj-giwain	S	1500-2500	C	PA
184.	<i>Viscum articulatum</i> Burm.f.	Budu	S	1500-2500	C	PA
185.	<i>Viscum loranthei</i> Elmer	-	S	1600	C	PA
<b>Lythraceae</b>						
186.	<i>Woodfordia fruticosa</i> (L.) Kurz	Dhaua	S	1500-1550	C	SM, RS, WP, CF
<b>Meliaceae</b>						
187.	<i>Toona ciliata</i> Roem.	Toon	T	1500-1550	UC	CF, WS, RS, BO
<b>Menispermaceae</b>						
188.	<i>Cocculus laurifolius</i> DC.	Tilpata	CI	1500-2200	UC	UF, WS
189.	<i>Stephania glabra</i> (Roxb.) Miers	Ghindharu	CI	1500-1550	C	RS, WS, CF
<b>Moraceae</b>						
190.	<i>Ficus auriculata</i> Lour.	Timla	T	1500-1700	C	CF, WS, RS
191.	<i>Ficus hederacea</i> Roxb.	Beduli	CI	1500-2500	C	UF, SM
192.	<i>Ficus sarmentosa</i> Buch.-Ham. ex Sm.	Beduli	CI	1500-2500	C	UF, SM
193.	<i>Ficus subincisa</i> Buch.-Ham.	Chanchari	S	1500-1600	C	WS, OS
<b>Myricaceae</b>						
194.	<i>Myrica esculenta</i> Buch.-Ham. ex D.Don	Kaphal	T	1500-1550	C	SM, UF, WS, BO
<b>Myrsinaceae</b>						
195.	<i>Maesa argentea</i> (Wall.) DC.	Gogsu	S	1500-2200	C	WS, OS
196.	<i>Myrsine africana</i> L.	Chupra, Paharicha	S	1500-1800	C	UF, SM
<b>Oleaceae</b>						
197.	<i>Fraxinus micrantha</i> Lingelsheim	Angu	T	1500-1550	UC	WS, RS
198.	<i>Fraxinus xanthoxyloides</i> (Wall. ex G.Don) DC.	Regchu	T	1500-1550	C	SM, WS
199.	<i>Jasminum officinale</i> L.	Jai, Champa	CI	1500-2200	C	WS, BO
<b>Onagraceae</b>						
200.	<i>Epilobium royleanum</i> Haussk.	Meelu, Bakury	H	1750-3000	C	SM, RS, WP, CF
<b>Orchidaceae</b>						
201.	<i>Bulbophyllum cariniflorum</i> Rechb.f.	-	H	1600	UC	EP, SM
202.	<i>Bulbophyllum umbellatum</i> Lindl.	-	H	1600	UC	EP, SM
203.	<i>Calanthe plantaginea</i> Lindl.	-	H	1500-2200	C	SM, RS, WP, CF
204.	<i>Calanthe tricarinata</i> Lindl.	Kalenth, Syoru	H	2000-2800	C	SM, RS, WP, CF, OS
205.	<i>Cephalanthera longifolia</i> (L.) Fritsch	-	H	1500-3000	C	EP, SM
206.	<i>Coelogyne cristata</i> Lindl.	Gondya	H	1650	C	EP, SM
207.	<i>Cymbidium iridioides</i> D.Don	-	H	1600	C	EP, SM
208.	<i>Dendrobium amoenum</i> Wall. ex Lindl.	-	H	1650	C	EP, SM
209.	<i>Dendrobium normale</i> Falc.	-	H	1600	C	EP, SM
210.	<i>Goodyera repens</i> (L.) R.Br.	-	H	1500	C	SM
211.	<i>Herminium lanceum</i> (Thunb. ex Sw.) Vujik	Jalya	H	1500-2500	C	SM, RS, WP, CF
212.	<i>Malaxis acuminata</i> D.Don	Jeevak	H	1500-2500	UC	SM, RS, WP, CF
213.	<i>Nervillia mackinnonii</i> Duthie Schltr.	-	H	1650	C	MS



214.	<i>Pholidota articulata</i> Lindl.	-	H	1500-1700	C	OS, SM
215.	<i>Spiranthes sinensis</i> (Pers.) Ames	-	H	1500-2800	C	SM, RS, WP, CF
216.	<i>Vanda cristata</i> Lindl.	-	H	1500	C	EP, SM
217.	<i>Zeuxine flava</i> (Wall. ex Lindl.) Trimen	-	H	1650	C	OS
<b>Orobanchaceae</b>						
218.	<i>Aeginetia indica</i> L.	-	H	1500-2000	C	SM, WP, CF
<b>Oxalidaceae</b>						
219.	<i>Oxalis corniculata</i> L.	Chalmori, Bhilmori	H	1500-2200	C	SM, RS, WP, CF
220.	<i>Oxalis dehradunensis</i> Raizada	Khatura	H	1500-2200	C	SM, RS, WP, CF
<b>Pinaceae</b>						
221.	<i>Abies pindrow</i> Royle	Raga	T	2500-3000	C	BO, SM, OS
222.	<i>Abies spectabilis</i> (D.Don)	Morinda, Raga	T	2500-2800	UC	BO, SM, OS
223.	<i>Pinus roxburghii</i> Sarg.	Chir, Kulain	T	1500-1600	C	BO, DS
<b>Piperaceae</b>						
224.	<i>Peperomia heyneana</i> Miq.	-	H	1500-1800	C	EP, SM, RS, WP, CF
225.	<i>Peperomia tetraphylla</i> (Forster f.) Hook. & Arn.	Tirpirya	H	1500-2000	C	EP, SM, RS, WP, CF
226.	<i>Piper mullesua</i> D.Don	Pahari Pipar	S	1500-1600	UC	SM
<b>Plantaginaceae</b>						
227.	<i>Plantago depressa</i> Willd.	Luhurya	H	1500-1550	C	SM, RS, WP, CF
228.	<i>Plantago erosa</i> Wall.	Luhurya, Lahyrya	H	1500-2000	C	SM, RS, WP, CF
229.	<i>Plantago himalaica</i> Pilger	-	H	2800-3000	C	SM, RS, WP, CF
<b>Poaceae</b>						
230.	<i>Arundinella bengalensis</i> (Spreng.) Druce	-	G	1650	C	SM, RS, WP
231.	<i>Arundo donax</i> L.	Tinta, Nar	G	1600-2500	C	SM, RS, WP
232.	<i>Cynodon dactylon</i> (L.) Persoon	Dubla	G	1500-1550	C	SM, RS, WP, CF
233.	<i>Festuca gigantea</i> (L.) Vill.	-	G	2000-3000	C	SM, RS, WP
234.	<i>Garnotia tenella</i> (Arn. ex Miq.) Janowsky	-	G	1600	C	SM, RS, WP
235.	<i>Helictotrichon virescens</i> (Nees ex Steud.) Henr.	-	G	1600	C	SM, RS, WP
236.	<i>Ischaemum rugosum</i> Salisb.	Maronda, Murchi	G	1500	C	SM, RS, WP
237.	<i>Sinarundinaria falcata</i> (Nees) Chao & Renoize	Gad-Ringal	G	1500-2000	C	SM, RS, WP, UF
238.	<i>Thamnocalamus falconeri</i> Hook.f. ex Munro	Dev-Ringal	G	1500-2000	C	SM, RS, WP, UF
239.	<i>Thamnocalamus spathiflora</i> (Trinius) Munro	Tham Ringal	G	1500-2000	C	SM, RS, WP, UF
<b>Polygonaceae</b>						
240.	<i>Fagopyrum dibotrys</i> (D.Don) Hara	Kanjolya	H	1500-2000	C	SM, RS, WP
241.	<i>Persicaria capitata</i> (Buch.-Ham. ex D.Don) H.Gross	Kaflya	H	1500-2000	C	WS, SM, BO
242.	<i>Persicaria hydropiper</i> (L.) Spach	Ameta	H	1500-2200	C	WS, SM, BO
243.	<i>Polygonum capitatum</i> Buch.-Ham. ex D.Don	-	H	1600	C	WS, SM, BO, CF
244.	<i>Polygonum donii</i> Meissn.	-	H	1500-1700	C	WS, SM, BO, CF
245.	<i>Polygonum pterocarpum</i> Wall. ex Meissn.	-	H	1650	C	SM, CF, WS
246.	<i>Polygonum recumbens</i> Royle ex Babcock	Oglya-Jhar	H	1500-2000	C	WC, SM, WS
247.	<i>Polygonum sphaerocephalum</i> Wall.	-	H	1600-3000	C	WC, SM, WS
248.	<i>Rumex hastatus</i> D.Don	Kilmori, Almoru	H	1500-1800	C	RS, WP, CF, DS
249.	<i>Rumex nepalensis</i> Spreng.	Khatur	H	1500-2000	C	WP, RS, CF, WP

<b>Primulaceae</b>						
250.	<i>Anagallis arvensis</i> L.	Jonkmari	H	1500-1800	C	CF, WP, RS
251.	<i>Androsace lanuginosa</i> Wall.	-	H	1700-3000	C	OS, BO, DS
252.	<i>Lysimachia alternifolia</i> Wall.	-	H	1700-2500	C	WP, RS, CF, WS
253.	<i>Lysimachia pyramidalis</i> Wall.	-	H	1500-2700	C	WP, RS, CF, WS
254.	<i>Primula denticulata</i> Sm.	Jalkutra	H	1800-2500	C	SM, WS, MP, BO, WC
<b>Ranunculaceae</b>						
255.	<i>Anemone rivularis</i> Buch.-Ham. ex DC.	Mirchilee, Angeli	H	1500-2500	C	WS, SM, CF
256.	<i>Aquilegia pubiflora</i> Wall. ex Royle	-	H	1700-3000	C	WS, OP
257.	<i>Clematis barbellata</i> Edgew.	Kanrya, Santai	Cl	1500-2000	C	UF
258.	<i>Clematis b Buchananiana</i> DC.	Lagulia	Cl	1500-3000	UC	UF
259.	<i>Clematis montana</i> Buch.-Ham. ex DC.	Kujju	Cl	1500-2500	C	UF, WS
260.	<i>Delphinium denudatum</i> Wall. ex Hook.f.	-	H	1500-2400	C	WS, OS, CF
261.	<i>Ranunculus laetus</i> Wall. ex D.Don	-	H	1500-2500	C	SM, OS, WS, CF
262.	<i>Thalictrum cultratum</i> Wall.	-	H	1500-2500	C	WS, SM, CF
263.	<i>Thalictrum foliolosum</i> DC.	Mamiri	H	1500-2500	C	WS, SM, CF
<b>Rhamnaceae</b>						
264.	<i>Rhamnus virgatus</i> Roxb.	Chodelu	S	1500-2000	C	WS, OS
<b>Rosaceae</b>						
265.	<i>Agrimonia pilosa</i> Ledebour	Lesukuri	H	1500-2800	C	UF, OS, SM
266.	<i>Cotoneaster microphyllus</i> Wall. ex Lindl	Bugarchilla	S	1500-2500	C	BO, OS
267.	<i>Cotoneaster obtusa</i> Wall. ex Lindl.	-	S	1700-2500	UC	BO, OS, SM
268.	<i>Cotoneaster rotundifolia</i> Wall. ex Lindl.	Rainsi, Lenshi	S	1700-3000	C	BO, OS, SM
269.	<i>Duchesnea indica</i> (Andr) Focke	Bhiun-kaphal	H	1500-2000	C	UF, WS
270.	<i>Fragaria indica</i> Andr.	Bhiun-kaphal	H	1500-2000	C	WS, SM, UF, OS
271.	<i>Fragaria nubicola</i> Lindl ex Lacaita	Gand-Kaphal	H	1500-2000	C	WS, SM, UF, OS
272.	<i>Potentilla fulgens</i> Wall. ex Hook.	Bajradanti	H	2500-3000	C	OS, UF, SM
273.	<i>Prinsepia utilis</i> Royle	Bhenkuli	S	1500-1600	C	WS, OS, CF
274.	<i>Prunus cerasoides</i> D.Don	Panyyan	T	1700-2000	C	CF, WS
275.	<i>Prunus venosa</i> Koehne	Gadh-ar, Aria	T	1500-3000	C	SM
276.	<i>Pyracantha crenulata</i> (D.Don) M. Roemer	Ghingaru	S	1500-1700	C	OS, WS
277.	<i>Pyrus pashia</i> Buch. Ham. ex D.Don	Melu	T	1500-1700	C	UF, WS, SM, CF
278.	<i>Rosa brunonii</i> Lindl	Kujju	Cl	1500-2000	C	OS, WS, RS
279.	<i>Rosa sericea</i> Lindl	Dhurkunja	S	2000-2700	C	OS
280.	<i>Rubus ellipticus</i> Sm.	Hinsar, Hisalu	S	1500-2000	C	OS, DS, WS, RS, CF
281.	<i>Rubus foliolosus</i> D.Don	Kala Hissar	S	1500-2000	C	OS, SM, WS, RS, CF
282.	<i>Rubus nepalensis</i> (Hook.f.) Kuntze	Gangoor	Cl	1500-2000	C	SM, WS
283.	<i>Rubus niveus</i> Thunb.	Anchu	S	1500-2000	C	OS, WS
284.	<i>Rubus paniculatus</i> Sm.	Kall-Hinsar	S	1500-2700	C	OS, WS
285.	<i>Sorbaria tomentosa</i> (Lindl) Rehder	Bhiloka	S	1500-1550	C	RS, WS, OS
286.	<i>Sorbus cuspidata</i> (Spach) Hedlund	Mouli	T	1500-1550	C	UF
287.	<i>Spiraea canescens</i> D.Don	Jhar Mairala	S	1600-3000	C	WS, RS, OS
288.	<i>Stranvaesia nussia</i> (Buch.-Ham. ex D.Don) Dcne.	Gadmalu	T	1650	UC	UF
<b>Rubiaceae</b>						
289.	<i>Galium aparine</i> L.	Kuri	H	1500-2500	C	WS, UF, SM

290.	<i>Galium asperifolium</i> Wall.	Leswakuri	H	1500-2500	C	WS, UF, SM
291.	<i>Leptodermis lanceolata</i> Wall.	Padera, Padar	S	1500-1800	C	WS, CF, OP
292.	<i>Randia tetrasperma</i> (Roxb.) Hook.f.	-	S	1500-1600	C	UF, WS, RS
293.	<i>Rubia manjith</i> Roxb. ex Fleming	-	CI	1500-2200	C	UF, WS, RS, CF
294.	<i>Spermadictyon sauveolens</i> Roxb.	Padera	S	1500-1700	C	RS, WS, OP
<b>Rutaceae</b>						
295.	<i>Boenninghausenia albiflora</i> (Hook.) Reichb. ex Meisn	Pishumar	H	1500-2700	C	UF, SM, WC
296.	<i>Zanthoxylum armatum</i> DC.	Timroo	S	1500-1800	UC	WS, RS, SM
<b>Santalaceae</b>						
297.	<i>Osyris wightiana</i> Wall. ex Wight	Bakroliya	S	1500-1600	C	SM, WS
<b>Saururaceae</b>						
298.	<i>Houttuynia cordata</i> Thunb.	Simdalu	H	1600	C	SM, UF
<b>Saxifragaceae</b>						
299.	<i>Bergenia ciliata</i> (Haworth) Sternberg	Silpara	H	1500-2500	C	SM, UF, BO
<b>Scrophulariaceae</b>						
300.	<i>Hemiphragma heterophyllum</i> Wall.	-	H	1700-2800	C	SM, OS, UF
301.	<i>Mazus pumilus</i> (Burm.f.) van Steenis	Mastyar	H	1500-1700	C	SM, OS, UF, WS
302.	<i>Mazus surculosus</i> D.Don	-	H	1500-1700	C	SM, OS, UF, WS
303.	<i>Pedicularis bifida</i> (Buch.-Ham. ex D.Don) Pennell	Kukurjhar	H	1500-2700	C	OS, CF
304.	<i>Scrophularia himalensis</i> Royle	Sikula	H	1700-2500	C	OS, CF, RS, WS
<b>Smilacaceae</b>						
305.	<i>Smilax aspera</i> L.	Kukardara	CI	1500-2000	C	OS, WS, UF
306.	<i>Smilax menispermoidea</i> DC.	-	CI	1600-2000	C	OS, WS, UF
<b>Solanaceae</b>						
307.	<i>Datura stramonium</i> L.	Dhatura	H	1500-1600	C	RS, WS, DS, OS, CF
308.	<i>Nicandra physalodes</i> (L.) Gaertner	Tambukya	H	1500-1600	C	RS, WS, DS, OS, CF
309.	<i>Solanum erianthum</i> D.Don	Akra	S	1500-2000	C	RS, WS
310.	<i>Solanum nigrum</i> L.	Makoi, Kirmoi	H	1500-2000	C	RS, WS
311.	<i>Solanum viarum</i> Dunal	-	S	1600	C	RS, WS, OS
<b>Symplocaceae</b>						
312.	<i>Symplocos paniculata</i> (Thunb.) Miq.	Lodh	T	2000-2500	C	UF, SM
313.	<i>Symplocos ramosissima</i> Wall. ex G.Don	Lodh	T	1700-2700	UC	UF, SM
<b>Taxaceae</b>						
314.	<i>Taxus baccata</i> L.	Thuner	T	2200-2700	UC	UF, BO, SM
<b>Theaceae</b>						
315.	<i>Eurya accuminata</i> DC.	Bakryal, Deura	S	1500-2800	C	UF, SM
<b>Thymelaeaceae</b>						
316.	<i>Daphne papyracea</i> Wall. ex Steudel	Satpura	S	1500-2700	UC	UF, SM, WC
<b>Tiliaceae</b>						
317.	<i>Grewia optiva</i> Drummond ex Burret	Bhimal	T	1500-3000	C	WS, RS, CF
<b>Ulmaceae</b>						
318.	<i>Celtis australis</i> L.	Kharik	T	1500-1700	UC	CF, WS, RS
319.	<i>Ulmus wallichiana</i> Planchon	Mairu	T	1500-2500	UC	UF, SM
<b>Urticaceae</b>						
320.	<i>Boehmeria platyphylla</i> D.Don	Khagsa	S	1500-1700	C	UF, WS, CF



321.	<i>Debregeasia longifolia</i> (Burm.f.) Wedd.	Sausaru, Syanru	S	1500-2000	C	WS, CF, SM
322.	<i>Debregeasia salicifolia</i> (D.Don) Rendle	Syanru	S	1500-2000	C	WS, CF, SM
323.	<i>Elatostema monandrum</i> (Buch.-Ham. ex D.Don)	-	H	1600-2500	C	SM, UF
324.	<i>Girardinia diversifolia</i> (Link) Friis	Bhainsya Kandali	H	1500-2200	C	RS, WS, CF
325.	<i>Pilea umbrosa</i> Wedd.	Chailu	H	1600-3000	C	WS, CF, SM, WC
326.	<i>Pouzolzia hirta</i> (Blume) hosskarl, Cat. Hort. Bogor.	-	H	1500-2000	C	OP, SM
327.	<i>Pouzolzia zeylanica</i> (L.) Bennett & Brown	-	H	1500-1800	C	OP, SM
328.	<i>Urtica ardens</i> Link	-	S	1500-2500	C	OP, WP, WS, RS, SM, WC, CF
329.	<i>Urtica dioica</i> L.	Kandali	S	1500-2500	C	OP, WP, WS, RS, SM, WC, CF
<b>Valerianaceae</b>						
330.	<i>Valeriana hardwickii</i> Wall.	Shammia	H	1500-2200	C	SM, CF
<b>Violaceae</b>						
331.	<i>Viola betonicifolia</i> Sm.	Vanfsa, Phori	H	1700-2500	C	UF, SM
332.	<i>Viola biflora</i> L.	Vanfsa	H	2000-2700	C	UF, SM
333.	<i>Viola canescens</i> Wall.	Vanfsa	H	1500-2000	C	WS, SM, CF
334.	<i>Viola pilosa</i> Blume	Vanfsa	H	1500-2000	C	WS, SM, CF
<b>Vitaceae</b>						
335.	<i>Parthenocissus semicordata</i> (Wall.) Planchon	Laguli	Cl	1500-2800	C	BO, WS
336.	<i>Tetragium serrulatum</i> (Roxb.) Planchon	-	Cl	1500-2700	C	BO, WS
337.	<i>Vitis lanata</i> Roxb.	Puraini	Cl	1500-2500	C	BO, WS, UF
<b>Zingiberaceae</b>						
338.	<i>Hedychium spicatum</i> Buch.-Ham.	Ban-Haldi	H	1500-2500	C	BO, WS, SM WC, UF

**Abbreviations:** BO= Bouldry; C= Common; CF= Cultivated Fields; Cl= Climber; DS= Dry Slopes; EP= Epiphytes; G= Grass; H= Herb; LF= Life Form; Oc= Occurrence; OS= Open Slopes; PA= Parasite; RS= Roadside; S= Shrub; SE= Sedge; SM= Shady Moist; T= Tree; UC= Uncommon; UF= Under Story; VN= Vernacular Name; WC= Water Courses; WP= Waste Places; WS= Wayside.

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