

# Archichlamydae and Sympetalae Flora of Arghakhanchi District, Western Nepal

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**Abstract:** This paper aims to explore distribution pattern of Archichlamydae and Sympetalae flora used for different purposes and conservation aspect. We compiled information on 61 species of Archichlamydae and 34 species of Sympetalae. Among the archichlamydae, the dominant families are Leguminosae, Utricaceae, Euphorbiaceae, Moraceae and Rosaceae. Among Sympetalae, the dominant families are Labiate and Compositae. The most common species are *Castanopsis indica*, *Castanopsis tribuloids*, *Girardiana diversifolia*, *Listea monopetala*, *Cinnamomum tamala*, *Berberis aristata*, *Schima wallichii*, *Rubus elipticus*, *Pyrus pashia*, *Bauhinia vahlii*, *Phyllanthus emblica*, *Zanthoxylum armatum*, *Xylosma controversum*, *Diospyros malabarica*, *Syzygium cumini*, *Terminalia chebula*, *Terminalia bellirica*, *Semecarpus anacardium*. Out of 95 species more than 25 species are of medicinal value of which *Valeriana jatamansi*, *Cinnamomum tamala* are threatened due to trade, habitat degradation and over use.

**Keywords:** Archichlamydae, Sympetalae, Arghakhanchi, Medicinal value, species use.

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## 1. INTRODUCTION

Plants are regarded as the important component of natural resources on which people and animals are dependent. A sound knowledge on floristic composition of particular area is essential to understand the resources, their uses and conservation. Such knowledge is also important to formulate environmental policies for sustainable development of any country.

Nepal, a small Himalayan country with 147,181 sq. km and lying between 26°22'N to 30°27'N latitudes and 80°04'E to 88°12'E longitudes, is well known as nature's paradise for its rich biodiversity. It is transition mountainous area in between Indo-Gigantic plain in the south and the Tibetan plateau on the north (Rajbhandari, 2001). Nepal is endowed with tropical to alpine vegetation due to great geographic diversity along with climatic variation.

Nepal lies in intervening zone of different phytogeographical and zoogeographical zones. Broadly, Nepal lies at the junction of two major phytogeographical divisions of the world, the Holarctic kingdom in the North and the Paleotropical kingdom in the South. Moreover, in terms of the regional phytogeographical demarcation Nepal is situated on the cross-road of many floristic regions such as Sino-Japanese floristic region in east, Indo-Turannian floristic region in North – West, Central Asiatic floristic region in the north, South-East Asian Malaysian floristic region in the south and Sudano-Zambian floristic region in South-West. Nepal's position in the central sector of the Himalayas is that of transitional zone of interpretation between the two differing environment in the Eastern Himalayas and Western Himalayas (Shrestha and Joshi, 1996). In the six phytogeographical provinces of the country, scientists have identified 118 ecosystems, 75 types of vegetation and 35 types of forest representing more than 6500 species of flowering plants (Dobermez, 1972; Stainton, 1997) of the total estimated 6500 species of flowering plants, about 4% are endemic to the country and 30% are endemic to Himalayas. Although Nepal shares 0.09% of world's total land by area, its share in world's total flowering plant species is more than 2%. This country occupies the 10<sup>th</sup> position on richness of flowering plant diversity in Asia (Press et al, 2000).

Vegetation of Nepal has been studied by many workers and they have classified the vegetation into various phytogeographical divisions (Stearn, 1992), divided Nepal into three regions-western (Kumaon frontier to 83°E), central (83°E to 86°30'E) and eastern (86°30'E to Sikkim frontier). Stainton (1992) divided Nepal into terai-bhavar-dun valleys and outer foothill, midland areas, Humla-Jumla area in the north-west, drier river valleys, inner valleys, trans-Himalayan arid zone. Chaudhary (1998) has recognized five vegetation zones viz. tropical zone (upto 1000m altitude), subtropical zone (1000-2000m altitude), temperate zone (2000-3000m altitude), sub alpine zone (3000-4000m altitude), alpine and nival zone (above 4000m altitude).

Botanical exploration in Nepal began after the collection of Buchanan-Hamilton (1802-1803). Nathaniel Wallich (1820-1821) collected plants from Nepal and recorded these in Tentament Florae Nepalensis (1826). D. Don (1825) published Prodrumous Florae Nepalensis on the basis of Buchanan- Hamilton collections. Hooker (1858) recorded his collection in Himalayan Journal Volume I and II (1854) and Flora of British India Volume I-VIII (1972-1997). Burkill (1910) also made a valuable contribution.

British museum compiled a most valuable contribution- An enumeration of Flowering Plants of Nepal in three volumes (Hara et al, 1978, 1979, 1982). Stainton explored the different parts of Nepal several times and published Forest of Nepal (1972). Kyoto University (1952-1953) organized expedition to central Nepal in Fauna and flora of Nepal Himalaya (Kihara, 1955). Tokyo University (1960-1970) explored the eastern Nepal, Sikkim and Bhutan to investigate the botanical relationship between eastern Himalaya and Japan. J. Banerji (1948) collected plants form Tamor Valley. M.L. Banerji (1953, 1955, 1956, and 1958) explored different part of eastern Nepal and C. R. Rao (1967) published Plant Collection in Eastern Nepal. More than 200 new species have been described during this period (DPR, 1976). Siwakoti and Verma (1995a, 1996b) enumerated plant species of eastern Nepal. Press et al (2000) published Annotated Checklist of the Flowering Plants. Panthi and Chaudhary (2002) reported 501 angiosperm plant species form Arghakhanchi district and its adjoining area.

#### Study area:



Figure: Arghakhanchi District

Arghakhanchi district lies in foothill of Mahabharat range with high potentiality of medicinal plants prevailing in high concentration in north facing slopes and along streams. More than 500 species of flowering plants have been reported from this district (Panthi and Chaudhary, 2002). It is situated between 27°45'-28°06'N and 82°45'-83°23'E with an area of 1200 sq. km and lies at the elevation from 305m to 2515m. The major area of this district is mid mountain and foothills with 69.1% of the area under slopes above 30 degrees. The average maximum temperature is 24°C and the minimum 14.5°C and it receives 850mm average annual rainfall. Forest covers 73,134 ha.(???)

## 2. MATERIALS AND METHODS

The identification of plant is one of the important functions of taxonomy. Since, the activity of plant identification and nomenclature is carried out with the help of herbaria and taxonomic literature, information in respect to these is essential. Herbaria technique includes collection, drying, poisoning, mounting stretching, labeling and depositing.

Identification of collected plant species were done mainly using relevant literatures such as Hooker(1883-1897), Collett (1971), Duthe (1960), Lawrence (1965), HMG(1976, 1986), Polunin and Stainton (1997) Noltie (1994, 2000, 2002). For the arrangement of families of described genera and species the modified Engler system of Melchior (1904) has been followed as in the flora of Bhutan and some modification as given by Hutchinson (1959).

## 3. RESULT AND DISCUSSION

The present floristic work deals with 95 plant species belonging to 82 genera and 45 families. Among them 60 species under 50 genera and 30 families belonging to archichlamydeae and 35 species under 32 genera and 15 families belong to sympetalae. The arrangement of families of described genera and species are based on Engler system of Melchior (1964).

Out of 95 species, 48 species are trees, 26 species are shrubs, 16 species are herbs, and 2 species are under shrubs a species of climber, parasite and woody climber each. So, in this area trees are dominant in comparison to shrubs, herbs and climbers.

The ratio of families to genera is 1:1.82, genus to species is 1:1.15 and families to species are 1:2.11. Among the archichlamydae, the dominant families are Fagaceae (8 species), Utricaceae (7 species), Euphorbiaceae (5 species), Moraceae and Rosaceae (4 species each). The families with 3 species are Combretaceae and Fagaceae. The families with 2 species are Lauraceae, Berberidaceae, Anacardiaceae, Tiliaceae and Ulmaceae. The monospecific family's Myricaceae, Cannabaceae, Santalaceae, Loranthaceae, Amaranthaceae, Sauraceae, Theaceae, Saxifragaceae, Hydrangeaceae, Rutaceae, Sapindaceae, Rhamnaceae, Malvaceae, Flacourtiaceae, Bixaceae, Lythraceae, Myrtaceae, Melastomataceae.

**Table 1: Families represented species, uses, distribution, habit, local name and flowering and fruiting season of taxa Archychlamydae**

S N	Families	Botanical Name	Habit	Local Name	Flowering Fruiting Period	Distribution	Uses
1	Myricaceae	<i>Myrica esculenta</i> L. Buch.ex D.Don.	Tree	Kafal	May- Oct.	Nepal (1200-2300m), Himalaya (Kasmir to Bhutan), India, Myanmar, east of west and south China and south Malaysia	Medicine
2	Fagaceae	<i>Castanopsis indica</i> (Roxb.).Miq.	Tree	Katus, Dharna	April- Sep.	Nepal (Central-East, 1200-2900m), Himalaya (Nepal to Arunachal Pradesh), Northeast India, Myanmar, west China, Indo-China.	Fodder, timber
3		<i>Castanopsis tribuloides</i> (Sm.).A.DC.	Tree	Masure Katus	April- Sep.	Nepal (West-Central-East, 450-2300m), Himalaya (UtterPradesh to Arunachal Pradesh) Northeast India (Megalaya), Myanmar, China(Yunan), Indo-China.	Fodder, timber
4		<i>Quercus incana</i> Roxb.	Tree	Bhanj	May- Oct.	Nepal (West-Central-East, 460-2600m), Himalaya (Uttar Pradesh to Arunachal Pradesh), Myanmar, Indo-China.	Fodder, timber

5	Ulmaceae	<i>Trema cannabina</i> Lour.	Tree	Khaski	May-Sep.	Nepal (Central East, 350-2000m), Himalaya (Nepal), India, South China, Malaysia.	Timber
6		<i>Trema orientalis</i> (L.) Blume.	Tree	Khari	May-Oct.	Nepal, Tropical Africa, Himalaya (Uttar Pradesh to Bhutan), India, Sri Lanka, Indo-China, West-South China.	Timber, firewood
7	Moraceae	<i>Ficus subincisa</i> Buch.-Ham.ex Sm.	Tree	Bidino	April-Aug.	Nepal (West-Central-East, 300-1800m), Himalaya (Kashmir to Arunachal Pradesh), Northern Myanmar, China (Yunnan), Indo-China.	Fodder
8		<i>Ficus semicordata</i> Buch.-Ham.ex Sm.	Tree	Khanayo	April-Aug.	Nepal (West-Central-East, 200-1700m), Himalaya (Nepal, Arunachal Pradesh), India, Myanmar, South China, Indo-China, Malaysia.	Fodder
9		<i>Ficus lacor</i> Buch.-Ham.	Tree	Seto Kabra	May-Oct.	Nepal (West-Central-East, 500m) Himalaya (Uttar Pradesh to Bhutan), India, Myanmar, Indo-China.	Medicine
10	Cannabaceae	<i>Cannabis sativa</i> L.	Herb	Ganja	Jun-July	Nepal (West-Central-East, 200-315m), Temperate and tropical region of Central China.	Fiber, oil, medicine
11	Urticaeae	<i>Urtica dioica</i> L.	Herb	Sisno	July-Sep.	Nepal (West-Central, 3000-4500m). Europe, North America, West Siberia, Central Asia, Himalaya, West China.	Vegetable
.		<i>Girardinia diversifolia</i> (Link) Friis	Shrub	Jangali Sisno	May-Nov.	Nepal (West-Central, East, 1700-3000m), Himalaya (Punjab to Bhutan), India, Sri Lanka, Myanmar, East to Central China, Malaysia.	Fiber
13		<i>Elatostema subincisum</i> Wedd.	Herb		May-Oct.	Nepal (East, 2500-3000m), Himalaya (Nepal, Sikkim).	-
14		<i>Maoutia puya</i> (Hook.) Wedd.	Shrub	Tusare	May-Oct.	Nepal (Central East, 900-1100m), Himalaya (Uttar Pradesh to Bhutan), North East India (Meghalaya), Myanmar, Indo-China, South-West China.	Fodder
15		<i>Boehmeria regulosa</i> Weed.	Tree	Geethi	May-July	Nepal (1451m), India, China.	Timber
16		<i>Boehmeria platyphylla</i> D. Don.	Shrub	Khasreti	May-Oct.	Nepal (Central-East, 1500-2500m), Himalaya (Nepal, Bhutan), China	Fodder
17		<i>Ficus auriculata</i> Lour.	Tree	Vutuk, Nevaro	April-Aug.	Nepal (Central 250-1700m), Himalaya (North Pakistan to North Myanmar), North east India, South China, Indo-China.	Fodder, firewood
18	Santalaceae	<i>Osyris wightiana</i> Wall.ex. Wight	Shrub	Nundhiki	May-Nov.	Nepal (Central-east, 1000-2600m), Himalaya (Himanchal Pradesh to Bhuta), Myanmar, India, Sri-Lanka, West China, Indo-China.	Medicine
19	Loranthaceae	<i>Dendrophthoe falcata</i> (L.f.) Etting.	Parasite	Ainjeru	May-Oct.	Nepal (West-Central-East, 150-900m), Himalaya (Uttar Pradesh to Bhutan), India, Sri-Lanka, Thailand, Indo-China, Australia.	Medicine
20	Amaranthaceae	<i>Deeringia amarantoides</i> (Lam) Merr.	Shrub	Bakrisag	Aug-Dec.	Nepal (West-Central-East, 600-1500m), Himalaya, India to China, Malaysia, Australia	
21	Lauraceae	<i>Listea monopetala</i> (Roxb.) Pers.	Tree	Kutmero	Jun-Dec.	Nepal, Central-Eastern Himalaya (Uttar Pradesh to Sikkim), Bangladesh, Myanmar (Yennan).	Fodder, medicine
22		<i>Cinnamomum tamala</i> (Buch.-Ham) Nees & Eberm.	Tree	Sinkauli	May-Aug.	Nepal (West-Central-East, 450-2000m), Himalaya (Kashmir to Bhutan), North East India (Assam, Meghalaya).	Medicine

23	Berberidaceae	<i>Mahonia napaulensis</i> DC.	Shrub	Jamane mandro	May-July	Nepal (West-Central-East, 2000-2900m), Himalaya (Nepal to Bhutan), North east India.	Medicine
24		<i>Barberis aristata</i> var. <i>floribunda</i> (G.Don) Hook.f. & Thomson	Shrub	Chutro	May - July	Nepal (West, 2000-3500m), not reported to that altitude Press et al, 2000	Fruits edible, Medicine
25	Saurauraceae	<i>Saurauria nepaulensis</i> DC.	Tree		May-Oct.	Nepal (West-Central-East, 750-2100m), Himalaya (Uttar Pradesh to Aurunachal Pradesh), North east India, North Myanmar, Thailand, Indo-China, West China.	Timber
26	Theaceae	<i>Schima wallichii</i> (DC.) Korth.	Tree	Chilaune	May-July	Nepal (Central-East, 900-2100m), Himalaya (Nepal to Bhutan, North East India, West China.	Medicine, Timber
27	Saxifragaceae	<i>Bergenia ciliata</i> (Haw.) Sternb.	Herb	Pakhav ed	May-Oct.	Nepal (West-Central, 900-1700m), Himalaya (Kashmir to Nepal), Bhutan.	Medicine
28	Hydrangeaceae	<i>Dichroa febrifuga</i> Lour.	Shrub	Basak	May-Oct.	Nepal (Central-East, 900-2400m), Himalaya (Nepal to Bhutan), India, Myanmar, East to Central China, Taiwan, Malaysia.	Medicine
29	Rosaceae	<i>Rubus ellipticus</i> Sm.	Shrub	Ainselu	May-Dec	Nepal (West-Central-East, 1700-2300m), Himalaya (Swat to Bhutan), North east India, Sri-Lanka, Myanmar, East to West China, Philippines ,not reported from that altitude by Press et al.	Medicine, Fruits edible
30		<i>Eriobotrya dubia</i> (Lindl.) Decne.	Tree	Jure Kafal	May-Aug.	Nepal (1500-2000m), Himalaya (Uttar Pradesh to Bhutan).	Fruits edible
31		<i>Pyrus pashia</i> Buch.-Ham.ex D.Don	Tree	Mayal	April-June	Nepal (West-Central-East, 700-2600m), Himalaya (Kashmir to Bhutan), North East India, Myanmar, North China.	Fruits edible
32		<i>Prunus domestica</i> Ehrn.	Tree		May-Oct.	Nepal (East,1800m), South West Europe, Central Asia.	Fruits edible
33	Fagaceae	<i>Acacia catechu</i> (L.f.) Willd.	Tree	Khair	March-July	Nepal (West-Central-East, 200-1400m), Bhutan, Myanmar, India, Thailand, South China.	Timber, Kattha extraction, Medicine
34		<i>Cassia sophera</i> L.	Shrub		June-May	Nepal (Central- East, 750-1000m), cultivated or naturalied in Africa, West Asia, Himalaya, India, South East Asia, China, Malayasia, Australia.	Medicine
35		<i>Betua minor</i> Buch.-Ham.ex Baker	Shrub	Bhojetro		Nepal (West-Central-East, 300-2000m), North East India.	
36		<i>Dalbergia volubilis</i> Roxb.	Tree	Payala	May-July	Nepal (Central, 300-350m), Himalaya (Nepal, Sikkim), East India, Sri-Lanka,Myanmar.	Timber
37		<i>Albizia procera</i> (Roxb.)Benth.	Tree	Seto Siris	May-July	Nepal (Central-East, 300-1100m), Himalaya, India, Myanmar.	Medicine
38		<i>Bauhinia malabarica</i> Roxb.	Tree		May-Oct.	Nepal (West-Central-East, 200-650m), Tropical Himalaya (Kashmir to Sikkim), India, South east Asia, Malaysia, cultivated in tropics.	
39		<i>Bauhinia vahlii</i> Wight & Arn.	Tree	Bhorla	April-May	Nepal (West-Central-East, 200-1300m), Tropical Himalaya (Kashmir to Sikkim), India.	Timber
40		<i>Bauhinia purpuria</i> L.	Tree	Tanki	Sep-March	Nepal (West-Central-East, 300-1600m), Tropical Himalaya (Kashmir to Bhutan), India, West-South China, South-East Asia.	Medicine
41	Euphorbiaceae	<i>Euphorbia hirta</i> L.	Herb	Dudhe Jhar	Jan-Dec	Nepal (West-Central-East, 150-1500m), Pantropical.	Medicine

42		<i>Mallotus philippensis</i> (Lam.) Mull. Arg.	Tree	Rohini	Jan.-March	Nepal (West-East,150-1800m), Himalaya (Uttar Pradesh to Bhutan), India, Sri-Lanka, Indo-China, China, Malaysia, Australia.	Medicine, Timber
43		<i>Bridella retusa</i> (L.) Spreng.	Tree	Gaayo	April-Oct.	Nepal (West- Central, 150- 1200m), India, Sri-Lanka, Myanmar, Indo-China, Malay Peninsula, Sumatra.	Timber
44		<i>Antidesma acidum</i> Retz.	Tree	Archalo	May-Oct.	Nepal ( Central-East, 150-1200m), Himalaya (Nepal to Bhutan), India, Myanmar, South China, Indo-China, Java.	Timber
45		<i>Phyllanthus emblica</i> L.	Tree	Amala	Aug.-Feb.	Nepal (West-Central-East, 150-1400m), Himalaya (Uttar Pradesh to Bhutan), North East India, North Myanmar, South China. Indo-China, Malaysia.	Medicine, fruits edible
46	Rutaceae	<i>Zanthoxylum aramatum</i> DC.	Tree	Timur	Feb.-Aug.	Nepal (West-Central-East,1100-2500m), Himalaya(Kashmir to Bhutan), North India, East China, Taiwan, Philippines.	medicine
47	Anacardiaceae	<i>Rhus javinaca</i> Miller	Tree	Bhakiamilo	Feb.-Sep.	Nepal (West-Central-East, 1300-2400m), Himalaya (Kashmir to Bhutan), India, Sri-Lanka, Myanmar, East China, Korea, Japan.	Medicine, fruits edible
48		<i>Semecarpus anacardium</i> L.f.	Tree	Valayo	May-Oct.	Nepal (West-Central-East, 150-1200m), Himalaya (Sermore to Sikkim), India, Myanmar, Malaysia, North Australia.	Medicine
49	Sapindaceae	<i>Schleiehera oleosa</i> (Lour.) Oken	Tree		May-Oct.	Nepal (West-Central-East, 200-300m), Tropical Himalaya (Punjab to Nepal), India, Sri-Lanka, Myanmar, Thailand, Indo China, Malaysia.	Medicine
50	Rhamnaceae	<i>Zizyphus mauritiana</i> Lam.	Shrub	Bayar	July-Nov.	Nepal (West- Central -East, 200-1200m), Tropical Asia, Austrilia.	Medicine, fruit edible
51	Tiliaceae	<i>Grewia optiva</i> J.R. Drumm ex Burret.	Tree	Chefla	Jan-June	Nepal (West-Central-East, 150-1800m), Himalaya (Kashmir to Nepal).	Timber
52		<i>Grewia sp.</i> L.	Shrub		May-Oct.	Western Nepal.	-
53	Malvaceae	<i>Urena lobata</i> L.	Herb		June-Dec.	Nepal (West-Central-East, 200-1300m), Pantropical.	Medicine
54	Falcourtiaceae	<i>Xylosma contoversum</i> Clos.	Tree	Raju	Jan-July	Nepal (Central, 1300-1700m), North East India, West China.	Medicine
55	Bixaceae	<i>Bixa orellana</i> L.	Shrub	Sindure	May-Oct.	Nepal, Bhutan (not reported in press et al,2000)	-
56	Lythraceae	<i>Woodfordia fruticosa</i> (L.) Kurz.	Shrub	Dhayero	June-Dec.	Nepal (West-Central-East, 200-1800m), Africa, West Asia, Subtropical Himalaya, India, Sri-Lanka, Myanmar, East China.	Medicine
57	Myrtaceae	<i>Syzygium cumini</i> (L.) Skeels	Tree	Jamun	Feb.-Aug.	Nepal (West-Central-East, 300-1200m), subtropical Himalaya, India, Sri-Lanka, Malaysia, Australia.	Medicine, fruits edible
58	Melastomataceae	<i>Melastoma normale</i> D.Don	Herb	Lalangeri chulesi	May-Oct.	Nepal (West-Central,East, 900-1800m), Himalaya (Nepal to Bhutan), North East India, Thailand, Indo-China, China, Malaysia, Molluccas, New Caledonia.	-
59	Combretaceae	<i>Terminalia alata</i> Heyne ex Roth	Tree		Feb.-Oct.	Nepal (West-Central- East, 200-1400m), Himalaya, India, Sri-Lanka, Myanmar, Thailand, Indo-China.	Timber
60		<i>Terminalia bellirica</i> (Gaertn ) Roxb.	Tree	Barro	May-Oct.	Nepal (Central-East, 300-1100m), India, Sri- Lanka, Myanmar, Thailand, Indo-China, Malaysia.	Medicine
61		<i>Terminalia chebula</i> Retz.	Tree	Harro	Feb.-Aug.	Nepal (Central East,150-1100m), India, Sri-Lanka, Myanmar.	Medicine, timber

**Table 2: Families represented species, uses, distribution, habit, local name and flowering and fruiting season of taxa Sympetalae**

SN	Families	Botanical Name	Local Name	Habit	Flowering-Fruiting Period	Distribution	Uses
1	Ericaceae	<i>Lyonia ovalifolia</i> (Wall.) Drude	Angeri	Tree	May-Oct.	Nepal (West-Central-East, 1300-3300m), Himalaya (Punjab to Bhutan), North East India, Myanmar, China, Malay peninsula.	Medicine
2		<i>Rhododendron campanulatum</i> D.Don.	Nilo simal	Tree	Feb-Oct.	Nepal (West-Central-East, 2800-4400m), Himalaya (Kashmir to Nepal), North East India.	Medicine, ornamental
3	Myrsinaceae	<i>Myrsine semiserrata</i> Wall.				Nepal (West-Central-East, 1200-2700m), Himalaya (Pakistan to Arunachal Pradesh), North East India, North Myanmar, West and Central China.	
4		<i>Maesa chisia</i> Buch.-Ham. ex D.Don.	Bilaunae			Nepal (West-Central-East, 1200-2600m), Himalaya (Nepal to Bhutan), North East India, North Myanmar.	Medicine
5	Sapotaceae	<i>Aesandra butyraceae</i> (Roxb.) H.J.Lam.	Chiuri	Tree	Feb.-July	Nepal (Central-East, 200-1500m), subtropical Himalaya (Utter Pradesh to Arunachal Pradesh).	Medicine, fruits edible
6	Ebenaceae	<i>Dispyros malabarica</i> (Desr.) Kostel.	Teeju, Kaltu	Tree	Feb.-June	Nepal (West, 500-1500m), India, Sri-Lanka, Malaysia.	Edible
7	Olaceae	<i>Jasminum nepalense</i> Spreng.	Phulee	Shrub	May-Oct.	Nepal (West-Central, 800-2500m), Himalaya (Utter Pradesh to Bhutan), North East India, North Myanmar.	
8		<i>Fraxinus floribunda</i> Wall.	Lankuri	Tree	May-Oct.	Nepal (Central-East, 1200-2000m), Himalaya (Punjab to Bhutan), North East India, East-West China).	Medicine
9	Apocynaceae	<i>Tabernaemontana divericata</i> (L.) R. Br. ex Roem. & Schult.	Tagar	Shrub	May-Oct.	Nepal (Central-East, 250-1200m), Native of tropical Asia, cultivated throughout tropics.	
10		<i>Carissa caranda</i> L.	Goring he kanda	Tree	May-Oct.	Nepal (Central, 100-700m), widely cultivated throughout India and southern Bhutan, Sri-Lanka, Myanmar, Malaysia.	
11	Rubiaceae	<i>Luculia gratissima</i> (Wall.) Sweet	Dawari	Shrub	March-Oct.	Nepal (West-Central-West, 1000-2100m), Himalaya (Nepal to Assam), China, Indo-China.	
12		<i>Wendlandia appendiculata</i> Wall ex Cowan		Tree	May-Oct.	Nepal (Central,???)	
13	Verbenaceae	<i>Vitex nugundo</i> L.	Simali	Shrub	June-Dec.	Nepal (West-Central-East, 100-1200m), Himalaya (Nepal to Bhutan), Afghanistan, India, Sri-Lanka, China, Myanmar, Indo-China, Malaysia.	Medicine, hedge plant
14		<i>Holmskioldia sanguinea</i> Retz.	Aputo	Woody climber	May-Oct.	Nepal (West-Central-East, 300-1500m), Himalaya (Utter Pradesh to Bhutan), India.	-
15	Lamiaceae	<i>Colquhounia coccinea</i> Wall.		Shrub	Feb.-Aug.	Nepal (West-Central-East, 1200-2400m), Himalaya (Utter Pradesh to Bhutan), South West China.	-
16		<i>Elsholtzia blanda</i> (Benth.) Benth.	Mjery pati	Herb	Feb.-Oct.	Nepal (West-Central-East, 300-2000m), Himalaya (Nepal to Bhutan), North-East India, Bangladesh, China, Myanmar, Indo-China, Malaysia.	Edible
17		<i>Colebrookea oppositifolia</i> Sm.	Dhurure	Shrub	Jan-May	Nepal (West-Central-East, 250-1700m), Punjab, Himalaya (Kashmir to Bhutan), India, Myanmar, China, Indo-China.	Medicine
18		<i>Hyptis suaveolens</i> (L.) Poit.	Mermera	Herb	May-Aug.	Nepal (Central-East, 150-1000m), Native of Central America, widely cultivated in Asia.	-

19		<i>Anisomeles indica</i> (L.) Kuntze	Selam	Herb	Aug.-Jan.	Nepal (West-Central-East, 200-2400m), Himalaya (Utter Pradesh to Sikkim), India, Sri-Lanka, China, Malaysia.	Medicine
20	Solanaceae	<i>Solanum surattense</i> Burm f.	Kantakari	Unders hrub	May-Aug.	Nepal (West-Central-East, 300-900m), Himalaya, North India, China, South East Asia, Malaysia, Australia.	Medicine, soap making
21		<i>Solanum aculeatissimum</i> Jacq.	Kalchudo	Unders hrub	Aug.-May.	Nepal (West-Central-East, 1600m), Himalaya, North India, Australia, Tropical and South-North America, introduced into old world tropics and naturalised.	Medicine
22	Acanthaceae	<i>Strobilanthes atroupupureus</i> Nees.	Aankhle	Herb	Feb.-July	Nepal (West-Central-East, 2700-3500m), Himalaya (Kashmir to Bhutan).	-
23		<i>Barleria cristata</i> L.		Herb	Oct.-Feb.	Nepal (West-Central- East, 200-2000m), India, Myanmar, Indo-China, South China, Philippines, Burma.	Medicine
24		<i>Thunbergia coccinea</i> Wall.ex D.Don		Climber	May-Oct.	Nepal (West-Central-East, 300-2000m), Himalaya (Utter Pradesh to Bhutan), North India, Myanmar, Indo-China, West China.	-
25	Caprifoliaceae	<i>Lonicera sp.</i> L.		Herb	May-Oct.	Central Nepal	-
26		<i>Lonicera glabrata</i> L. Wall.		Shrub	May-Oct.	Nepal (Central-East, 1900-2300m), Himalaya (Nepal to Bhutan), North East India, Myanmar, West China.	-
27		<i>Lonicera acuminata</i> Wall.		Shrub	May-Oct.	Nepal( Central-East, 2100-3200m), Himalaya ( Nepal to Bhutan), North East India, Myanmar, West China, Taiwan, Malaysia.	-
28	Valerianaceae	<i>Valeriana jatamansi</i> Jones	Jatamasi	Herb	Feb.-Nov.	Nepal (West-Central-East, 1500-3300m), Afganistan, Himalaya (Kashmir to Bhutan), North East India, Myanmar, West-Cental China.	Medicine
29	Compositae	<i>Senecio sp.</i>		Shrub	May-Oct.	Western Nepal	-
30		<i>Inula cappa</i> (Buch-Ham.ex. D.Don) DC.	Kanpate	Shrub	May-Oct.	Nepal (West-Central-East, 150-2500m), Himalaya (Utter Pradesh to Bhutan), North East India to China, Thailand, Java.	-
31		<i>Bidens pilosa</i> var. <i>minor</i> (Blume) Sherff.		Herb		Nepal (West-Central-East, 700-2100m), Pantropical.	Kuro
32		<i>Spilanthes paniculata</i> Wall.ex. Dc.	Marati	Herb	May-July	Nepal (West-Central, 1100m),Nepal, India,Myanmar,Thailand, Indo-China, China, Malaysia. (Occurrence in Central Nepal requires conformation Press et al, 2000)	-
33	Cordiaceae	<i>Ehretia laevis</i> Roxb.	Marati	Tree	Feb-Aug.	Nepal (West-Central-East, 150-1100m), subtropical Himalaya (Kashmir to Sikkim), India, Myanmar, Thailand, Info-China, China.	-
34		<i>Cordia dichotoma</i> J.R. Forst.		Tree	Feb.-Aug.	Nepal (Central- Eastern,200-1400m), West Asia, subtropical Himalaya, India, Sri-Lanka, East China and Japan, Australia, sometimes cultivated.	-

Among Sympetalae, the dominant families are Lamiaceae (5 species), Compositae (4 species). The families with 3 species are Acanthaceae, Caprifoliaceae. The families with 2 families are Ericaceae, Myrsinaceae, Oleaceae, Apocynaceae, Rubiaceae, Verbenaceae, Solanaceae, Cordiaceae. The monospecies families are Sapotaceae, Ebebaseae, Valerianaceae.

The most common species are *Myrica esculenta*, *Ficus lacor*, *Cannabis sativa*, *Urtica dioica*, *Osyris wightiana*, *Dendrophthoe falcata*, *Listea monopetala*, *Cinnamomum tamala*, *Mahonia nepaulensis*, *Barberis aristata*, *Schima wallichii*, *Bergenia ciliate*, *Dichroa febrifuga*, *Rubus ellipticus*, *Acacia catechu*, *Cassia sophera*, *Dalbergia volubilis*, *Albizia procera*, *Bauhinia vahlii*, *Bauhinia purpuria*, *Mallotus philippensis*, *Phyllanthus emblica*, *Zanthoxylum armatum*, *Rhus javanica*, *Semecarpus anacardium*, *Schleiehera oleosa*, *Zizyphus mauritiana*, *Urnea lobata*, *Xylosma controversum*, *Woodfordia fruticosa*, *Syzygium cumini*, *Terminalia chebula*, *Terminalia bellirica*, *Lyonia ovalifolia*, *Rhodendron campanulatum*, *Maesa chisia*, *Aesandra butyraceae*, *Fraxinus floribunda*, *Vitex negundo*, *Colebrookea oppositifolia*,



*Anisomeles indica*, *Solanum surrattense*, *Solanaceae aculeatissimum*, *Baleria cristata* and *Valeriana jatamansii*. Out of 95 species 45 species are of medicinal value of which *Valeriana jatamansi*, *Cinnamomum tamala* are threatened due to trade, habitat degradation and over use.

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