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# Identification Manual of Commercial Medicinal and Aromatic Plants of Nepal



Nepal Herbs and Herbal Products Association (NEHHPA)  
2017

# PUBLICATION

## Identification Manual of Commercial Medicinal and Aromatic Plants of Nepal

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### Front Cover Pictures (anti-clockwise from top left):

Sunpati (*Rhododendron anthopogon*)

Padamchaal (*Rheum australe*)

Satuwa (*Paris polyphylla*)

Rithha (*Sapindus mukorossi*)

Sarpagandha (*Rauvolfia serpentina*)

Khiraula, Ban Lasun (*Lilium nepalense*)

### Back Cover Picture:

Himalayan Poppy (*Meconopsis horridula*)

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# FOREWORD

Medicinal and Aromatic Plants (MAPs) have been used since ancient times for healthcare and it has been estimated that about 80% population in developing countries still rely on medicinal plants for their healthcare. But with rising global demand, people engaged in collection and trade are getting significant economic returns. Collection and trade of medicinal plants is still the major source of income for majority of Nepalese population residing in rural hilly and mountainous regions. These medicinal plants are transported from source to Tarai and Kathmandu for export in crude form.

In doing so, lots of actors and facilitating and regulating agencies are engaged in trade. It can be understood that traders find it easy to identify MAPs but it may be difficult for regulatory authorities like District Forest Office Personnel, Custom Officers, Plant Quarantine Officers etc to identify these traded medicinal plants. Sensing the importance of reference book that helps to identify the most traded medicinal plants, NEHHPA, with the support of GIZ WTO/EIF-SP published "Nepalka Pramukh Jadibuti Ko Chinari" in August 2012. The book was highly praised from all stakeholders and as a result, NEHHPA reprinted the same book in 2015. This book is the English translated version of Nepalese one to meet the demand of international readers and to international trade. This book will be a useful tool of communication between the national and international traders to explain and identify the products. This book can be used by MAPs traders, manufacturers, producers, government officials working in the district forest office and department of plant resources, international boarder, airport, quarantine office, custom office, researchers, students along with the individual having interest in MAPs, investors etc.

NEHHPA has agreement with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH to carry out the activities of "Implementing the NTIS in the sector of Medicinal and Aromatic Plants (IN-MAPS)" project which is financed by the Enhanced Integrated Framework with additional financial support from the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Government of Nepal. We would like to thank the IN-MAPS project for providing financial and technical support of both Nepali and English version. Similarly, we would like to thank both authors Mr. Khilendra Gurung and Mr. Dipesh Pyakurel for preparing such informative and useful piece of work. We would like to thank Associate Professor Dr. Suresh Kumar Ghimire from Tribhuvan University and Mr. Bhes Raj Oli from BARDAN for editing the book in Nepali version and Mr. Arjun Chapagain for translating the book in English version. We acknowledge Under-secretary Mr. Sagar Kumar Rimal from Ministry of Forest and Soil Conservation (MoFSC). Similarly, we would like to thank Mr. Sudarshan Singh of Mount Design Works, Ms. Kanchan Bhandari IN-MAPS Project coordinator and Mr. Yubraj Subedi NEHHPA secretary for their tireless contribution.

Let's us promote the use of natural herbs and herbal products for healthy living. Let's protect the nature.



---

Mr. Govinda Ghimre  
President  
Nepal Herbs and Herbal Products  
Association



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Mr. Kalyan Gauli  
National Programme Manager  
IN-MAPS Programme  
GIZ

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# Part 1: Introduction





*Areas with availability of high valued medicinal plants*

**Photo:** Khilendra Gurung

# INTRODUCTION

Nepal is rich in floral diversity because of high altitudinal variation, diverse geography and presence of different climatic zones. Nepal's unique position in the center of the Himalaya makes it the assemblage point of six floristic provinces namely Sino-Japanese, Central Asiatic, Irano-Turanean, Sudano-Zambian, Indian and Southeast Asiatic (TISC 2002). It has been estimated that there are more than 7000 species of flowering and about 4000 species of non-flowering plants (MoFSC 2002, MoFSC 2014). Out of the total plants recorded from Nepal, about 1500-1800 species are being used by local communities to treat various ailments, and more than 100 plants/ plant parts are annually traded in and from Nepal as Medicinal and Aromatic Plants. Medicinal plants are defined as plants and mushrooms traded to produce pharmaceuticals, dietary supplement products, natural health products, cosmetics and other personal care products, and culinary products (definition adopted from Medicinal Plants Specialist Group, 2007).

Most of the people residing in hilly and Himalayan regions of Nepal rely on medicinal plants for their livelihood support because of remoteness, inadequate land for agriculture and limited livelihood diversification opportunities. As a result, 10-100% of the population are engaged in collection and trade of MAPs and the trade contribute up to 50% of the total annual family income (Olsen and Larsen 2003). Studies reveal that about 7000 to 27000 tons of medicinal plants are annually collected and traded from Nepal. The total export value is expected to be about US\$ 60 million. Most of the collected medicinal plants are exported to India and China in raw form. But with the expansion of road network and technological advancement in recent years, processing was initiated for some medicinal plants, notably the essential oil yielding plants. In FY 2015/016, 36.8 tons of essential oils worth US\$2.6 million was exported from Nepal (TEPC data) from 21 species of wild and cultivated medicinal and aromatic plants. Thus medicinal plants is becoming the major exporting commodity of Nepal.

The trade is supporting the livelihood of hundreds and thousands of Nepalese communities in one hand but it is also posing threat to their survival. Premature and overharvesting are the major threats for most of high altitude medicinal plants. Medicinal plants of herbs life form are harvested by uprooting the whole plant before seed dispersal. In response to the threat, government of Nepal with its own act/ policy/ legislation and as per the signatory of different conventions, kept the following plants under different categories.

**Table: Protected and Threatened plant species of Nepal**

SN	Plant Species	Family	Nepali Name	Threat Category			
				CAMP	IUCN	CITIES	GoN
1	<i>Abies spectabilis</i> (D. Don) Mirb.	Pinaceae	तालिसपत्र				Ban raw export
2	<i>Acacia catechu</i> (L.F.) Willd.	Leguminosae	खयर		T		
3	<i>Aconitum balangrense</i> Lauener	Ranunculaceae	विष	EN			
4	<i>Aconitum bisma</i> (Buch.-Ham.) Rapaics	Ranunculaceae	विष	DD			
5	<i>Aconitum ferox</i> Wall. ex Serige	Ranunculaceae	सेतो विष	DD	T		
6	<i>Aconitum gammiei</i> Stapf	Ranunculaceae	विष		T		
7	<i>Aconitum laciniatum</i> (Bruhl) Stapf	Ranunculaceae	विष		T		
8	<i>Aconitum spicatum</i> (Bruhl) Stapf	Ranunculaceae	विष	V	T		
9	<i>Allium hysistum</i> Stearn	Liliaceae	जिम्बु	V			
10	<i>Allium przewalskianum</i> Regel	Liliaceae	जिम्बु		V		
11	<i>Alstonia neriifolia</i> D. Don	Apocynaceae		EN	R		
12	<i>Alstonia scholaris</i> (L.) R.Br.	Apocynaceae	छतिवन	V	R		
13	<i>Arisaema costatum</i> (Wall.) Mart. Ex Schott	Araceae	सर्पको मकै	LC			
14	<i>Arnebia benthamii</i> (Wall. ex G. Don) I.M. Johnston	Boraginaceae	महारंगी	V			

15	<i>Asparagus racemosus</i> Willd.	Liliaceae	सतुवा	V			
16	Bark of <i>Juglans regia</i> L.	Juglandaceae	ओखरको बोक्रा				Complete ban
17	<i>Bergenia ciliata</i> (Haw.) Sternb	Saxifragaceae	पाखनवेद		T		
18	<i>Butea monosperma</i> (Lam.) Kuntze	Leguminosae	पलास	V	EN		
19	<i>Cinnamomum glaucescens</i> (Nees) Hand.-Mazz.	Lauraceae	सुगन्धकोकिला				Ban raw export
20	<i>Corydalis megacalyx</i> Loudlow	Papavaraceae	भासाका, भुतके शी	EN			
21	<i>Crateva unilocularis</i> Buch.-Ham.	Capparaceae	सिप्लीकान	EN	R		
22	<i>Crepegia</i> spp.	Apocynaceae				II	
23	<i>Curculigo orchioides</i> Gaertn.	Hypoxidaceae	कालो मुसली	V			
24	<i>Cyathea</i> spp.	Cyatheaceae	रूख उन्चू			II	
25	<i>Cycas</i> spp.	Cycadaceae	कलवल			II	
26	<i>Dactylorhiza hatagirea</i> (D.Don) Soo.	Orchidaceae	पाँचऔल	EN		II	Complete ban
27	<i>Dalbergia latifolia</i> Roxb.	Leguminosae	सतिसाल		V		
28	<i>Delphinium himalayai</i> Munz	Ranunculaceae	अतिस	V			
29	<i>Dioscorea deltoidea</i> Wall.	Dioscoreaceae	भ्याकुर	EN	T	II	
30	<i>Aconitum heterophyllum</i> Wall.	Ranunculaceae	अतिस	V	R		
31	<i>Elaeocarpus sphaericus</i> (Gaertn.) K. Schum.	Elaeocarpaceae	रुद्राक्ष		V		

32	<i>Ephedra intermedia</i> Schrenk & Meyer	Gnetaceae	सोमलता	EN			
33	<i>Ephemerantha macraei</i> (Lindl.) P.F. Hunt & Summerh.	Orchidaceae	जिवन्ती	V			
34	<i>Fritillaria cirrhosa</i> D.Don	Liliaceae	काकोली	V			
35	<i>Gloriosa superba</i> Linn.	Liliaceae	केबरी, अग्नि शिखा	EN			
36	<i>Gnetum montanum</i> Markgr.	Gnetaceae	भोट लहरा			III	
37	<i>Heracleum lallii</i> C.Norman	Umbelliferae		EN			
38	<i>Jurinea dolomiaea</i> Boiss.	Compositae	धुपजडी	NT			
39	Lichen spp.		इयाउ				Ban raw export
40	<i>Lilium nepalense</i> D.Don	Liliaceae	खिरौले	DD			
41	<i>Maharanga bicolor</i> (Wall. ex G.Don) A.DC.	Boraginaceae	महारंगी	DD			
42	<i>Maharanga emodi</i> (Wall.) A.DC.	Boraginaceae	महारंगी	DD	K		
43	<i>Meconopsis dhwojii</i> G. Taylor ex Hay	Papavaraceae		NT			
44	<i>Meconopsis regia</i> G. Taylor	Papavaraceae	क्यासर			III	
45	<i>Michelia champaca</i> Linn.	Magnoliaceae	चौप	CR	EN		
46	<i>Nardostachys grandiflora</i> DC.	Valerianaceae	जटामसी	V	V	II	Ban raw export
47	<i>Neopicrorhiza scrophulariiflora</i> (Pennell) Hong	Scrophulariaceae	कुटकी	V			Conditional harvest
48	<i>Operculina turpethum</i> (L.) S.Manso	Convolvulaceae	निसोथ	EN			

49	Orchid family	Orchidaceae	सुनगभा परिवार			II	
50	<i>Oroxylum indicum</i> (L.) Kurz	Bigoniaceae	टटेले	EN			
51	<i>Otochilus porrectus</i> Lindl.	Orchidaceae		EN		II	
52	<i>Paeonia emodi</i> Wall.	Paeoniaceae	चन्द्र		V		
53	<i>Panax pseudo-ginseng</i> Wall.	Araliaceae	मगन	V			
54	<i>Paphiopedilum insigne</i> (Wall. ex Lindl.) Pfitz.	Orchidaceae				I	
55	<i>Paphiopedilum venustum</i> (Wall. ex Sims) Pfitz.	Orchidaceae				I	
56	<i>Paris polyphylla</i> Smith	Liliaceae	सतुवा	V	V		
57	<i>Piper longum</i> Linn.	Piperaceae	सतुवा	V			
58	<i>Pistacia chinensis</i> Bunge subsp. <i>integerrima</i> (J.L. Stewart) Rech.f.	Anacardiaceae	काकरसिङ्गी			R	
59	<i>Podocarpus neriifolius</i> D. Don	Podocarpaceae	गुन्सी			III	
60	<i>Podophyllum hexandrum</i> Royle	Berberidaceae	लघुपत्र	V	V	II	
61	<i>Pongamia pinnata</i> (L.) Pierre	Leguminosae	कारेगी र कर न्ज	DD	K		
62	<i>Pterocarpus marsupium</i> Roxb	Leguminosae	विजयसाल	CR			
63	<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz	Apocynaceae	सर्पगन्धा, चाँदमरूवा	CR	EN	II	Ban raw export
64	<i>Rheum australe</i> D. Don	Polygonaceae	पदमचाल	V	V		
65	<i>Rheum moorcroftianum</i> Royle	Polygonaceae	पदमचाल	NT			

66	<i>Rheum nobile</i> Hook.f. & Thoms.	Polygonaceae	दुलो पदमचाल	V	R		
67	<i>Rubia manjith</i> Roxb. ex Fleming	Rubiaceae	मजितो	V			
68	<i>Swertia angustifolia</i> Buch.-Ham. ex D.Don	Gentianaceae	भाले चिराइतो	EN			
69	<i>Swertia chirayita</i> (Roxb. ex Fleming) Karsten	Gentianaceae	चिराइतो	V	V		
70	<i>Swertia multicaulis</i> D.Don	Gentianaceae	सर्मागुरु	DD			
71	<i>Talauma hodgsonii</i> Hook. F. & Thomson	Magnoliaceae	वन चाँप			III	
72	<i>Taxus walllichiana</i> Zucc.	Taxaceae	लौठ सल्ला	EN		II	Ban raw export
73	<i>Tetracentron sinense</i> Oliv.	Tetracentraceae				III	
74	<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	गुर्जो	V			
75	<i>Valeriana jatamansii</i> Jones	Valerianaceae	सुगन्धवाल	V			Ban raw export

**CAMP:** Conservation Assessment and Management Plan

**IUCN:** International Union for Nature Conservation-IUCN Red List

**CITIES:** Convention on International Trade in Endangered Species of Wild Fauna and Flora

**GoN:** Government of Nepal

**Complete ban:** Ban for collection, use, trade, transportation and export

**Ban raw export:** Banned for export outside the country without processing

**Conditional harvest:** *Neopicrorhiza scrophulariiflora* has been incorporated in the protection list of GoN category 1. The wild harvest and sale is allowed only after the taxonomic identification and confirmation of the species as *Neopicrorhiza scrophulariiflora* by DPR, and then the final approval of DoF after its inventory and identification of its total natural and harvestable stock in the wild.

**CR = Critically endangered, DD = Data deficient, EN = Endangered, K = Insufficiently Known, NT = Nearly threatened, V = Vulnerable, R = Rare and T = Threatened**

Cultivation and domestication has been initiated for few decades in Nepal. Tejpat, Rittha, Timur, Chiraito and Kurilo are the major domesticated medicinal plants that shares substantial quantity of export from Nepal. Likewise, cultivation of essential oil yielding plants such as Mentha, Chamomile etc has been initiated in lower regions of Nepal. There are still other plants that have tremendous potentiality for income. Herbs and NTFPs Coordination Committee (HNCC) of GoN has compiled a list of 30 species of medicinal plants for research and development.

SN	Botanical Name	Common Name
1	<i>Aconitum heterophyllum</i>	Attis
2	<i>Aconitum spicatum</i>	Bish
3	<i>Acorus calamus</i>	Bojho
4	<i>Asparagus racemosus</i>	Kurilo/ Satavari
5	<i>Azadirachta indica</i>	Neem
6	<i>Bergenia ciliata</i>	Pakhanved
7	<i>Cinnamomum glaucescens</i>	Sugandha kokila
8	<i>Cinnamomum tamala</i>	Tejpat
9	<i>Ophiocordyceps sinensis</i>	Yarsagumba
10	<i>Dactylorhiza hatagirea</i>	Panch aaule
11	<i>Dioscorea deltoidea</i>	Vyakur
12	<i>Gaultheria fragrantissima</i>	Dhasingre, Patpate
13	<i>Juglans regia</i>	Okhar
14	<i>Morchella conica</i>	Guchi Chyau
15	<i>Nardostachys grandiflora</i>	Jatamansi
16	<i>Neopicrorhiza scrophulariiflora</i>	Kutki
17	Lichens	Jhyau
18	<i>Phyllanthus emblica</i>	Amala
19	<i>Piper longum</i>	Pipla
20	<i>Podophyllum hexandrum</i>	Laghu patra
21	<i>Rauwolfia serpentina</i>	Sarpagandha
22	<i>Rheum australe</i>	Padamchal



23	<i>Rubia manjith</i>	Majitho
24	<i>Sapindus mukorossi</i>	Rittha
25	<i>Swertia chirayita</i>	Chiraito, Tite
26	<i>Tagetes minuta</i>	Jangali Sayapatri
27	<i>Taxus wallichiana</i>	Lauth Salla
28	<i>Tinospora sinensis</i>	Gurjo
29	<i>Valeriana jatamansii</i>	Sugandhawal, Samayo
30	<i>Zanthoxylum armatum</i>	Timur

### Objective of this book

There are several reference materials about medicinal plants published by government, individual researchers, non-government organizations etc. Most of these reference material focused on general description of plants with or without pictures. But there are very limited publications that describes the traded part with pictures. Thus to fulfill this gap, the Nepalese version of "**Nepalka pramukh jadibutiharuko chinari**" was published in 2012 and was reprinted in 2016. With high demand from non-Nepalese readers, the book has been translated in English language. Description of few species were added in this English version. This book is expected to be helpful to forest and custom officials in the identification of medicinal plants by viewing the traded part. Likewise this English version will be helpful to scholars, researchers, entrepreneurs, investors and organizations working or interested in medicinal plants sector.

The following section gives detail information on habit, habitat, and description of plant and traded part of 69 medicinal plants, along with pictures.

**Part II:**  
**Introduction of Medicinal and**  
**Aromatic Plants**

# Amala

## English Name:

Emblic Myrobolan, Gooseberry

## Scientific Name:

*Phyllanthus emblica* L.

## Family:

Euphorbiaceae

## Introduction:

Medium sized deciduous tree reaching upto 15 m. Leaves simple, linear-oblong blunt, entire, hairless, small petioled, arranged in two ranks on slender branchlets, light green, resembling pinnate leaves; 1 to 1.5 cm long and 0.2 to 0.3 cm wide with distinct midrib. Flowers minute, greenish yellow.

## Availability:

Naturally distributed from 150 to 1600 m throughout Nepal. Also found in sloppy areas and forests near roads.

## Harvesting Time:

September to November



Photo: Khilendra Gurung



Photo: Dipesh Pyakurel

## Part used in Trade:

Fruit

## General description on traded part:

Raw fruit is green in color. Dried fruit light brown to black in color, wrinkled, slight sour, bitter. Both raw and processed Amala are in trade.

## Uses:

Fruit is sour in taste and contains maximum amount of vitamin C. Amala is used to preserve the food materials. It is also used for digestion, Anemia, Jaundice etc. Fresh fruit is used to cure urine related diseases and dry fruit for Diarrhea and Dysentery. Fruit powder is also used as anti-dandruff. In Ayurvedic medicine, it is used in manufacturing Chyawanprash and Trifala. Fresh fruit is eaten raw or by making pickles.

## Conservation Status:

Government of Nepal has prioritized Amala in cultivation and conservation.

# Ashuro

## English Name:

Malabar Nut

## Scientific Name:

*Justicia adhatoda* L.

## Family:

Acanthaceae

## Introduction:

Strong-smelling, deciduous shrub growing up to 3 m tall in height. Petiole covered by slightly yellow colored smooth bark. Leaves opposite, stalked, 7 to 19 cm long, 4 to 6 cm width, elliptic to lanceolate, acuminate, entire, soft and highly scented. Flowers sessile, white with tiny red spots having two lip shaped petals. Flowers from December to April.

## Availability:

Distributed from 600 to 1600 m in open areas and on uncultivated land and edges of cultivated land throughout Nepal.



Photo: Dipesh Pyakurel

## Harvesting Time:

Leaves are harvested throughout the year. Flowers from July to October.

## Part used in Trade:

Leaves along with petiole and Flower.

## Description of traded part:

Leaves along with petiole is thinner, inner part slightly white- brown, outer part brown with few vertical veins. Dried leaves are thinner, slightly green in color and scented.

## Uses:

All the parts of Malabar Nut are useful. Leaves are used as medicine in Expectorant and also used as medicine for Asthma and Bronchitis. Leaves are taken along with boiled water during cough and fever. Leaves are also used as green manure to increase production of rice, potato and maize. Its use helps to increase yield in potato and decrease risk from pests. Leaves also have insecticidal properties.



Photo: Khilendra Gurung

# Aswagandha

## English Name:

Winter Cherry

## Scientific Name:

*Withania somnifera* Dunal

## Family:

Solanaceae

## Introduction:

Evergreen shrub growing approximately 1.5 m tall in height with straight branches. Whole plant is covered by white hairs. Leaves small petioled or sessile, lower part covered by many white hairs, leaf margins straight. Flower light yellow-green in color.

## Availability:

Naturally distributed in some parts of India and Mediterranean region. In Nepal, it can be cultivated in tropical region.

## Harvesting Time:

September to November.



Photo: Khilendra Gurung

## Part used in Trade:

Root is used in trade. It is not available in Natural forests of Nepal, so in large quantity roots are imported from India.

## General description on traded part:

Raw fresh root smells like that of horse and named so. Petiole is minute, woody in nature, 30 to 45 cm long, thickened like finger, strong, externally rough and internally white in color. Bark is thinner and light yellow in color.

## Uses:

Root is used in the treatment of impotency, sexual stimulant, weakness, gout and sleeplessness, fever and swelling of body.



Photo: Khilendra Gurung

# Attis

## English Name:

Aconite

## Scientific Name:

*Delphinium himalayai* Munz

## Family:

Ranunculaceae

## Introduction:

Erect perennial herb about 1 m high. Leaves petioled, circular, five-lobed, hairy, lobes dentate. Flowers bluish in long, one-sided spikes. Flowers in July - August.

## Availability:

Distributed from 2000 to 4000 m on open slopes, endemic to Western and Central Nepal.

## Harvesting Time:

October to December

## Part used in Trade:

Tuber



Photo: DPR



Photo: Khilendra Gurung

## General description on traded part:

Root is bitter in taste. Its diameter is about 1-1.5 cm tapering towards end, less branches, small roots emerging from rhizome and bark is brown in color.

## Uses:

Juice of the root is given in cases of cough and colds. An infusion of the root is put in wounds in the hooves of cattle to expel worms or kill germs.

## Conservation Status:

Government of Nepal has prioritized Attis in cultivation and conservation. CAMP Vulnerable.

# Bajradanti

## English Name:

Cinquefoil, Silver Leaf

## Scientific Name:

*Potentilla fulgens* Wall. ex Hook.

## Family:

Rosaceae

## Introduction:

Perennial herb growing up to 30 cm in height. Leaves compound, small petiole; leaflets numerous, 4 cm long and 1.5 cm wide, alternately small and large diminishing in size from the uppermost downward, dentate, silky tomentose beneath. Tip of stalk of flower yellow in color.

## Availability:

Distributed from 1800 to 3500 m in open ground and pastures throughout Nepal.

## Harvesting Time:

October to December.

## Part used in Trade:

Root



Photo: Khilendra Gurung

## Description of traded part:

Root at first are light rose in color and later brown in color, around 1 cm in radius, bitter in taste and destitute of flavor.

## Uses:

Commercially used in the preparation of toothpaste. It is also used as medicine in the treatment of stomach pain and during worms.



Photo: DPR 1995

# Barro

## English Name:

Belleric Myrobolan

## Scientific Name:

*Terminalia bellirica* (Gaertn.) Roxb.

## Family:

Combretaceae

## Introduction:

Deciduous tree about 30 to 40 m high. Bark dark rough, wood somewhat yellow. Leaves long petioled, alternate, 10 to 25 cm long, 5 to 14 wide, mostly at the end of branches, elliptic to ovate, leathery, entire, base narrowed and unequal. Flowers sessile, yellowish, in axillary slender spikes, odor offensive. Flowers from October to November. Fruits from November to February.

## Availability:

Distributed from 3000 to 1100 m in Eastern and Central Nepal. Common in Shorea robusta forests.

## Harvesting Time:

December to March.



Photo: Dipesh Pyakurel



Photo: Khilendra Gurung

## Part used in Trade:

Fruit and Seed.

## Description of traded part:

Fruit is about 1.3 to 2 cm in radius, spindle shaped, divided unclearly into 5 ridges, brown in color and slightly hairy externally. Fruit contain minute seeds. Fruit tastes slightly sweet and bitter. Fruit carp is slightly rough in comparison to *Terminalia chebula*.

## Uses:

Fruit is used as digestive, strengthening teeth and prevention in gum bleeding. Fruit is used in the preparation of medicine for fever and seed for bronchitis. One night water swollen fruit is advantageous for eye infection.

## Other Uses:

Dust of dried fruit carp of Barro mixed with boiled water is useful in cough, Asthma, constipation etc. It is also useful during diarrhea, respiratory trouble and headache.



# Bel

## English Name:

Bel Fruit Tree, Wood Apple

## Scientific Name:

*Aegle marmelos* (Linn.) Corr

## Family:

Rutaceae

## Introduction:

Deciduous, thorny, medium-sized tree about 8 to 15 m high growing in cultivated lands and forests. Bark brown, lobed, scaly. Leaves petioled, alternate, trifoliate, leaflets ovate to lanceolate, 4 to 6 cm long, oval, dentate, aromatic. Flower greenish white in subterminal panicles, scented. Flowers from April to June and fruits next year from April to July.

## Availability:

Distributed up to 1100 m throughout Nepal. However, common in Chure and bottom of South Chure, Doon areas and in lower belt of hilly districts at Mid-Western Development Region of Nepal.

## Harvesting Time:

August to September.



Photo: Govinda Ghimire



Photo: Khilendra Gurung

## Part used in Trade:

Fruit

## Description of traded part:

Fresh fruit is acerbic, bitter, and sour. Fruit is very hard, like coconut, spindle shaped, green in raw and little rough purple in color when ripen. Flesh of the fruit is yellow in color and taste is sweet-sour tasty.

## Uses:

Pulp of ripe fruit is eaten fresh or mixed with water to prepare juice which is very healthy. In Nepal, daughters of Newar community are traditionally first married to fruit of wood apple. Juice prepared from leaves are used as medicine for curing stomach troubles, diabetes, diuretic and insecticides. Fruit is also beneficial in digestive, Diarrhea, cold and Dysentery. Ripen fruit consumption cures constipation, neck ache and increases digestive ability. Flesh of fruit is also used as gums. Root tastes very sweet and bitter. Root is beneficial in fever Dysentery and nausea.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.

# Bhojo

## English Name:

Sweet Flag

## Scientific Name:

*Acorus calamus* L.

## Family:

Araceae

## Introduction:

Perennial aromatic herb about 1 m high, common in wet land areas. Leaves basal, 40 to 150 cm long, 1 to 3 cm wide, flat, linear, midrib distinct, margin wavy. Flowers small, bisexual, yellowish, condensed or cylindrical Spadix. Flowers from May to June. Fruits from August to September.

## Availability:

Distributed from 500 to 2300 m asl in marshy and wetland areas.

## Harvesting Time:

September to February.

## Part used in Trade:

Rhizome



Photo: Khilendra Gurung

## Description of traded part:

Rhizome is 0.6 to 2 cm in thickness and about 1 m long, jointed, hairy and aromatic. Outer part of rhizome is light orange-brown while inner part is pinkish white in color. Its taste is biting and numbing. Root is white and black in color. White rooted Bhojo is found in irrigated or cultivated areas whereas black rooted Bhojo is found in wild and better.

## Uses:

It is used as food preservatives in houses as natural and safe insecticide. Root has valued medicinal properties. It is also beneficial during cough, cold and wounds in neck, Dysentery, fever and toothache. It is also used as tonic for brain. It is also used in manufacturing incense. Calamus oil is also extracted from its roots.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photos: Khilendra Gurung

# Bhojpatrako Bokra

## English Name:

Himalayan Silver Birch

## Scientific Name:

*Betula utilis* D. Don

## Family:

Betulaceae

## Introduction:

Hardwood deciduous tree about 20 m high. Leaves small petioled, 2 to 12 cm long, 2 to 7 cm wide, oval, acute, irregularly serrate, base broadly cuneate or rounded, sticky when young. Inflorescence yellowish, the male catkins at the top of long shoots, female catkin solitary. Flowers and fruits from July to October.

## Availability:

Distributed from 2700 to 4300 m in natural condition throughout Nepal. It is found in high Himalayan regions at the maximum height at Timber line.

## Harvesting Time:

August to November.



Photo: Dipesh Pyakurel

## Part used in Trade:

Bark

## Description of traded part:

Bark easily extractable, thinner, multi layered, like paper, with white- yellow nodes at the surface. It is lightly red-yellow in color.

## Uses:

Dust of bark are used in the preparation of incense. In ancient times, it was used in writing. Bark is used as energetic and to cure Fever, Common Cold, Jaundice, Diuretic and Anthelminthic.

Locally, papery bark is used to shield materials, lining the roofs of houses, preserving food materials from insects and rain. High valued MAPs/NTFPs including Silajeet is shield in barks of *Betula* and traded to Indian cities.



Photo: Khilendra Gurung

# Bhutkesh

## English Name:

Ragwort/ Milk Parsley

## Scientific Name:

*Selinum wallichianum* (DC.) Raizada & Saxena; [Synonym *Selinum tenuifolium* Wall. ex C.B. Clarke]

## Family:

Umbelliferae / Apiaceae

## Introduction:

Perennial herb about 1.5 m high. Stem hollow. Leaves pinnate with much divided lobes. Flowers white, minute like of Coriander, densely clustered in compound umbels.

## Availability:

Distributed from 2500 to 4500 m throughout Nepal in open and rocky topography.

## Harvesting Time:

October to November.

## Part used in Trade:

Root



Photo: Khilendra Gurung

## Description of traded part:

Roots in fresh are light yellow with fine hairs. When dried, it turns into brown color, peeled hair like roots, inner part light yellow-white. It smells almost like that of black cumin.

## Uses:

Roots are used as medicines. It is beneficial in stomach ache, gastric and fever.



Photo: Dipesh Pyakurel

# Bish, Nilo Bish

## English Name:

Aconite, Nepali Aconite

## Scientific Name:

*Aconitum spicatum* (Briihl) Stapf *Aconitum ferox* Wall. ex Ser.

## Family:

Ranunculaceae

## Introduction:

Both species of Aconite i.e. *Aconitum spicatum* and *Aconitum ferox* are traded from Nepal.

***Aconitum ferox*:** Perennial herb up to 1 m high. Leaves petioled, alternate, nearly round, palmately lobed, 8 to 15 cm long. Inflorescence with 10 to 12 dark blue flowers. Flower blue or violet in receme. Flowers from September to October.

***Aconitum spicatum*:** Perennial erect herb about 1 to 2 m high with the largest rhizome among Aconite genus. Leaves petioled, digitate, three- or five- parted. Flowers is purple in recemes. Inflorescence about 15 to 40 cm long. Flowers from September to October.



Photo: Khilendra Gurung

## Availability:

***Aconitum ferox*:** Distributed from 2100 to 3800 m in Eastern and Central Nepal.

***Aconitum spicatum*:** Distributed from 1800 to 4200 m in Eastern, Central and Western Nepal.

## Harvesting Time:

October to November.

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome of *Aconitum ferox* is about 10 to 20 cm long and 1.5 to 3 cm in thickness, dark brown in color. Fine roots arises from the rhizome. *Aconitum spicatum* has the largest rhizome among *Aconitum* genus.

## Uses:

Rhizome of both species is very poisonous. Rhizome after some particular process, are used as medicine in the treatment of animal bites as anti-poisonous medicine. Rhizome of *Aconitum spicatum* is the most poisonous among *Aconitum* genus.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

# Bishfej

## English Name:

Wall Fern

## Scientific Name:

*Polypodium vulgare* L.

## Family:

Polypodiaceae

## Introduction:

Terrestrial or epiphytic fern growing in old trees. Rhizome modified, broad, creeping with brown linear scales in the surface. Fronds 30 to 65 cm long, 8 to 15 cm wide, upper surface smooth, lower surface with few fine hairs, cut down to the rachis into numerous, minutely dentate pinnae, pinnae gradually narrowed toward the base. Lower surface of leaves contains brown colored reproductive structures called sori.

## Availability:

Distributed from 1300 to 2700 m in cool, moist and shady in north facing slopes throughout Nepal.

## Harvesting Time:

September to October.



Photo: Dipesh Pyakurel

## Part used in Trade:

Modified rhizome

## Description of traded part:

Modified rhizome is brown in color, woody in nature, surface is covered by numerous brown colored scales. Inner side of woody part is light brown in color. Dried rhizome is about 0.5 cm in radius and 3 to 8 cm in length.

## Uses:

Rhizome has medicinal properties. Powdered rhizome, mixed with corn flour, is roasted and about 8 teaspoons of this powder, three times a day, is given to relieve backaches. Similarly, it is also used to cure stomach troubles.



Photo: Dipesh Pyakurel

# Chamomile Flower

## English Name:

Blue Chamomile, German Chamomile

## Scientific Name:

*Matricaria chamomilla* L.

## Family:

Compositae

## Introduction:

Annual aromatic herb growing up to 60 to 90 cm tall in height, multi-branched. Leaves compound; leaflets slightly hairy with minute lobes. Petiole internally hollow; externally covered by green colored leaves.

## Availability:

This plant is exotic to Nepal. In Nepal, cultivated in lower plains of Tarai from 500 to 1800 m.

## Harvesting Time:

Flowers can be harvested three times annually. Generally, flowers are harvested March onwards.



Photo: Govinda Ghimire

## Part used in Trade:

Flower

## Description of traded part:

Radius of Flower is 1.3 to 2.5 cm, outer sepals are white and inner petals are yellow in color. Flower has very sweet smell. Smell is continued even in dry flower.

## Uses:

Valuable essential oil, Chamomile oil is extracted from its flower. The oil is used in food materials including drinks, chocolates, in cosmetics and in soaps and shampoos. Flower is also used in tea. It has medicinal value also.



Photo: Khilendra Gurung

# Chiraito, Tite

## English Name:

Chiretta

## Scientific Name:

*Swertia chirayita* L.

## Family:

Gentianaceae

## Introduction:

Biennial to perennial herb growing from 60 to 150 cm tall in height, having only one main stem above ground surface. Roots woody or non woody in nature, 0.5 to 1.5 cm in thickness, 5 to 10 cm in length, slightly brown in color. Leaves opposite, elliptic, entire, tip pointed. Leaves below the stem are longer than leaves above the stem. Flowers yellowish or greenish, July-November.

## Availability:

Indigenous to temperate Himalayas. Distributed in Eastern and Central Nepal at 1500 to 3000 m in moist areas having more humidity and forest openings and private cultivated lands. It is found from east to west Nepal in around 50 districts.

## Harvesting Time:

November to December.



Photos: Dipesh Pyakurel



Photo: Dipesh Pyakurel

## Part used in Trade:

Whole plant

## Description of traded part:

The plant is about 60 to 150 cm tall, roots are slightly curved, some thickened and brown in color and leaves are minute. Lower part of stem is like spindle shaped and upper part is quadrangular and lines are clearly seen in every angle. Whole plant is extremely bitter.

## Uses:

Though whole plant contains medicinal properties, roots are commonly used in medicine. It contains medicinal properties for curing fever, bronchial asthma liver disorders, Also used as anthelmintic, expectorant, Antiperiodic, hypoglycemic, laxative, etc. Due to bitterness in Chiraito, it is used as alternative source in beer industries. Studies show its use in protection of liver related disease. For the treatment of Malaria, pieces of leaves and stem are chewed or its boiled water is drunk.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



# Chiuri

## English Name:

Nepal Butter Tree

## Scientific Name:

*Diploknema butyracea* (Roxb.) H.J. Lam

## Family:

Sapotaceae

## Introduction:

Deciduous tree growing up to 20 m tall in height. Leaves petioled, 14 to 30 cm long, 7 to 16 cm broad, raised in clusters from the tip of the branches, upper surface smooth, lower leaf surface hairy. Flower yellow, stalked, raised in clusters from the tip of the branches. Flowers from November to February. Fruits from March to July.

## Availability:

Distribution is scattered from 300 to 1500 m in Nepal.

## Harvesting Time:

July to August.



Photo: Dipesh Pyakurel

## Part used in Trade:

Fruit, Seed and Ghee.

## Description of traded part:

Seed swollen in center and slightly tapers towards end. Fruit carp light yellow, brown in color, broken in few places and white part or ghee is seen from broken part. Ghee is whitish yellow in color.

## Uses:

Fruit, leaves, seed and bark are useful. It is used in the preparation of soap, oil, candles and ghee. Its bark is used as poison in fishing and leaves are used to prepare local plates called "doona tapari" in which rice and curry are served.



Photos: Govinda Ghimire

# Chutro

## English Name:

Barberry

## Scientific Name:

*Berberis asiatica* Roxb. ex DC.; *Berberis aristata* DC.

## Family:

Berberidaceae

## Introduction:

In Nepal, 32 species and more than 8 varieties of *Berberis* are found. *Berberis asiatica* and *Berberis aristata* are major two traded species of *Berberis*. In Notification (Gazette) of Government of Nepal, Barberry is indicated as *Berberis* spp. At local level, in many places (*Mahonia napaulensis*) is also known as Barberry.

***Berberis asiatica*:** Spiny shrub about 3 m high. Leaves small petioled, raised in cluster, 2 to 7 cm long, 0.5 to 2 cm broad, ovate, leathery, margins coarsely spinous, venation netted. Flower stalked, yellow. Fruit fleshy or pulpy, blue-black when ripe. Flowers March-May. Fruits June-July.

***Berberis aristata*:** Also Spiny shrub about 3 m high. Leaves short petioled, raised



*Berberis aristata*

Photo: Khilendra Gurung

in cluster, 1.5 to 9 cm long, 0.5 to 2 cm broad, ovate, with trifid spines, entire or spinous dentate, smooth, base tapering. Flower stalked, yellow, in drooping racemes. Fruit ovoid, blue - black when ripe. Flowers March-June. Fruits July-November.

## Availability:

*Berberis asiatica* is distributed from 1800 to 3000 m and *Berberis aristata* is distributed from 600 to 2500 m throughout Nepal.

## Harvesting Time:

October to December.

## Part used in Trade:

Bark and root

## Description of traded part:

Bark and root scentless. Outer part slightly brown in color, lobed and inner part is yellow in color.

## Uses:

Fruit, leaves, bark and roots have medicinal properties. Especially Bark and root are used to extract natural yellow dye. Juice of bark is boiled and filtered for use as drops in cases of inflammation of the eye.



*Berberis asiatica*

Photo: Dipesh Pyakurel

# Dalechuk, Bhuichuk

## English Name:

Seabuckthorn

## Scientific Name:

*Hippophae salicifolia* D. Don; *Hippophae tibetana* Schlecht.

## Family:

Elaeagnaceae

## Introduction:

Two species of *Hippophae* are found in Nepal, *Hippophae salicifolia* and *Hippophae tibetana*.

***Hippophae salicifolia*:** Spiny deciduous shrub or tree about 5 m high. Leaves petioled, oblong to lanceolate, stellately pubescent above. It is dioecious with separate male and female plants. Male flowers yellow-brown, produced in clusters before leaves arise. Female flowers solitary, produced along with the leaves.

***Hippophae tibetana*:** Dwarf, thorny, deciduous shrub about 10 to 50 cm high and spread with branches. Branches tip turned to long, pointed thorn. Leaves small petiole, alternate or opposite, linear lanceolate, somewhat leathery, densely clothed with silvery brown scales on both surfaces. Flowers yellow in axillary clusters, appearing in the new leaves.



*Hippophae tibetana*

Photo: Dipesh Pyakurel

## Availability:

***H. salicifolia*:** Distributed from 2000 to 3700 m in western and Mid-western Development regions of Nepal, common on riverbanks, silt mud brought by river and open areas after landslides.

***H. tibetana*:** Distributed in eastern and central Nepal from 3300 to 4500 m on rocky areas and sandy ground.

## Harvesting Time:

September to November.

## Part used in Trade:

Fruit

## Description of traded part:

Fruits of *H. salicifolia* and *H. tibetana* are fleshy and orange red after matured. Ripe fruit are extremely sour in taste and has maximum amount of Vitamin C.

## Uses:

Fruits are used to prepare tasty healthy drinks. Juice are sold in Hilly and Himalayan tourist areas. Seed contains high quality of essential oil which has medicinal properties used to prevent skin wrinkling, swelling, antibiotics, for relaxation and help to manufacture new tissues. Regular use of essential oil also has skin protection property so used as materials for cosmetic materials and sun cream.



*Hippophae salicifolia*

Photo: Khilendra Gurung

# Dhasingre, Patpate

## English Name:

Wintergreen

## Scientific Name:

*Gaultheria fragrantissima* Wallich

## Family:

Ericaceae

## Introduction:

Shrub about 3 m high. Leaves petioled, 3 to 13.5 cm long, 1.5 to 5 cm wide, oblong to lanceolate, acuminate, serrate, leathery, bright green. Flowers whitish, fragrant. Fruit purplish blue when ripe. Plant flowers in October and the seeds ripe in November.

## Availability:

Distributed from 1200 to 2700 m throughout Nepal on rocky hillsides in forest areas.



Source: Dipesh Pyakurel

## Harvesting Time:

The plant is harvested when flowers in October and dried for later use.

## Part used in Trade:

Leaves

## Description of traded part:

Wintergreen oil is extracted by steam distillation of the leaves and twigs. Wintergreen oil is fluidy liquid, pinkish or water white in colour and strongly aromatic with sweet-woody odor.

## Uses:

Winter green oil is very toxic and diluted oil is used as a food flavoring, treating or relieving pain for muscular or skeletal problems. It also promotes healthy respiratory function.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Source: Dipesh Pyakurel

# Dhayero

## English Name:

Fire-flame Bush

## Scientific Name:

*Woodfordia fruticosa* (L.) Kurz.

## Family:

Lythraceae

## Introduction:

Spreading perennial shrub about 3 m, sometimes up to 7 m high with drooping branches. Bark is rough red in color, thinner and easily extractable. Leaves are sessile, 5 to 12 cm long, 1 to 3 cm width, opposite, sometimes whorls of three, oblong to lanceolate, acuminate, entire, upper surface dark green and lower surface velvety, with black dots. Flowers short stalked, scarlet, in few-flowered axillary cymes.

## Availability:

Naturally distributed from 200 to 1500 m in dry and open places throughout Nepal.



Photo: Khilendra Gurung



Photo: Dipesh Pyakurel

## Harvesting Time:

April to May.

## Part used in Trade:

Dried flower.

## Description of traded part:

Flower is crimson or red in color, having small petiole, like tube with sweet smell. Leaves and petiole pieces are mixed with flower.

## Uses:

Flower yield a red dye. Flower, boiled in water, are taken in case of profuse menstruation, indigestion, Dysentery, bleeding from nose and mouth, Diarrhea etc.

# Dhupi

## English Name:

Black Juniper

## Scientific Name:

*Juniperus indica* Bertol

## Family:

Cupressaceae

## Introduction:

Four species of *Juniperus* namely *J. indica*, *J. recurva*, *J. squamata* and *J. communis* are found in Nepal. But, in terms of trade, black juniper i.e. *Juniperus indica* is common species.

***J. indica*:** Woody shrub or small tree about 0.5-2 m high, with largely horizontal branching. Leaves dark grey-green, dimorphic, with adult plants mostly scale-like, sometimes needle-like on shaded shoots, decussate or sometimes in whorls of 3, closely appressed, 1-3 mm long; while young plants mostly needle-like leaves, borne in whorls of 3, 5-8 mm long.

## Availability:

Distributed from 3000 to 4600 m in on open and rocky alpine slopes in drier areas. Above 4000 m asl, Juniper remains as shrub whereas below 4000 m asl Juniper are tall trees.

## Harvesting Time:

Leaves throughout the year; Fruits July to August.



Photo: Dipesh Pyakurel



Photo: Khilendra Gurung

## Part used in Trade:

Leaf, Fruit and upper part of petiole.

## Description of traded part:

As mentioned, the structure of leaves are the major basis of identification. When leaves are rubbed in hand, sweet aromatic nature is distinct. Dry leaves are greenish brown. Leaves in trade are mixed with petioles having thicker scales and black fruit.

## Uses:

Local people of the Himalayan region also use to gift dried leaves of Juniper to their relatives in Kathmandu or abroad. In medicine, leaves of Juniper are used to increase Appetite, cure Stomachache, killing microorganisms of stomach, controlling Dysentery, Piles, bronchitis etc. Fruit is used for sex stimulant, curing Asthma, old bronchitis, lever and bone marrow related diseases. To flavor alcoholic drinks, fruits of juniper and essential oil are highly useful. Essential oil is commercially used in the preparation of costly cosmetic materials like soap, rum sprays, pesticides and other materials.

## Conservation Status:

Conservation status of Juniper in national level is unknown.

# Gamdol, Kaladana

## English Name:

Orchid

## Scientific Name:

*Brachycorythis obcordata* (Lindl.) Summerh.

## Family:

Orchidaceae

## Introduction:

Annual terrestrial orchid growing up to 20 cm tall. Leaves 2 to 5 cm long and 0.8 to 1.8 cm broad, without petiole, lanceolate, distinct mid rib, slightly rough green in color. Flower slightly blue-pink in color, small stalked, arising from in between petiole and leaf base around 1 cm in diameter. Flowers from August to October.

## Availability:

Distributed from 1000 to 2000 m. Abundant in Hilly Sal and broad leaved forest mixed area.



Photo: Khilendra Gurung

## Harvesting Time:

September to November

## Part used in Trade:

Pseudo bulb, Rhizome

## Description of traded part:

Each plant has two rhizomes and 0.8 to 1.4 cm in shape. It is hard like stone, swollen at middle and tapering at both ends and slightly brown in color.

## Uses:

Rhizome is used as expectorant, astringent, and as energy tonic.

## Conservation Status:

All Orchids under CITIES Appendix II.



Photos: Khilendra Gurung  
Dipesh Pyakurel

# Ghodtapre, Brahmi

## English Name:

Water Pennywort

## Scientific Name:

*Centella asiatica* (L.) Urban.

Synonym: *Hydrocotyle asiatica*

## Family:

Umbelliferae

## Introduction:

Evergreen herb. Minute roots arising from each nodes. Leaves small 1 to 1.5 cm long, 1.3 cm broad, kidney shaped. Flowers minute, red-white in color. Distributed more in grazing areas.

## Availability:

Found in open and moisturized places distributed from 500 to 2800 m, especially in edges of cultivated lands and drainage.

## Harvesting Time:

Throughout the year.



Photo: Flickr

## Part used in Trade:

Whole plant

## Description of traded part:

Slightly bitter, acerbic and sweet in taste. Thinner branches and dried green leaves are intermixed in dry plants. Leaves are as described above but little small due to dryness. Red white flowers are also present in the tip of petioles.

## Uses:

Whole plant is being used in medicine. Leaves are used in curing Stomach disturbances, Epilepsy, Neural disease, purification of blood and Fever. Leaves are also used as tonic and strengthen memory power.

## Conservation Status:

Its status is satisfactory in Nepal.



Photo: Khilendra Gurung



# Githha, Vyakur

## English Name:

Potato Yam, Wild Yam

## Scientific Name:

*Dioscorea bulbifera* L. *Dioscorea deltoidea* Wall. ex Griseb

## Family:

Dioscoreaceae

## Introduction:

Out of 13 species of *Dioscorea* found in Nepal, *Dioscorea bulbifera* and *Dioscorea deltoidea* are commercially used in trade.

Both species are biennial climbers. Leaves petioled, arising only from nodes, heart shaped, leaf tip pointed and distinct leaf veins. Flower arises from nodes in clusters, green-yellow in color.

## Availability:

Both species distributed from 150 to 2000 m, especially in Chure and Mahabharat ranges of Nepal.

## Harvesting Time:

December to February.

## Part used in Trade:

Tuber

## Description of traded part:

Tuber is thickened, yam like brown in color, small roots emerging, inner white and outer part slightly yellow in color and acerbic



Photo: Khilendra Gurung

## Uses:

Tuber is edible. Githha has a medicinal properties so possess commercial value. Both tuber and fruit are edible. It is the source for *Diosgenin* which is used to manufacture hormone producing medicine.

## Conservation Status:

Government of Nepal has prioritized it for cultivation and conservation. *Dioscorea deltoidea* falls under Appendix II in CITES.

# Guchhi Chyau

## English Name:

Morel Mushroom

## Scientific Name:

*Morchella conica*, *M. esculenta* Pers.

## Family:

Morchellaceae

## Introduction:

Though 8 species of *Morchella* harvested in Nepal, *Morchella conica* and *M. esculenta* is most common. Its color is roughly black and soft net like. It is a fungus growing in organic matter of decayed and rotten plant parts wood, leaves etc. after monsoon.

## Availability:

Distributed from 2000 to 3500 m in Eastern, Central and Western Nepal. Naturally, occurs in the areas where *Betula utilis*, *Pinus wallichiana*, *Rhododendron anthopogon*, *Quercus* spp. are found. In Nepal, especially Morel Mushroom are found in districts of Karnali zone.

## Harvesting Time:

Life cycle of Morel Mushroom is maximum for a month after its germination. After fruiting at mature, it is in good condition



Photo: Wikipedia

for a week and then starts rotting and cannot be harvested. So, its whole part i.e. umbrella like part and stem should be harvested from May to July.

## Part used in Trade:

Whole part above the ground

## Description of traded part:

It is almost like unopened umbrella in structure. It is about 2 to 3 cm thickened inner side containing tissues [seems as tied by threads]. It is brown in color, wrinkled in umbrella like part. Dried Morel Mushroom is somewhat black in color and light in weight.

## Uses:

Traditionally, Morel Mushroom is used as delicious vegetable and energetic medicine. Its paste is used in burn in Himalayan districts. In modern uses, it is also used as delicious vegetable and tonic.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

# Gurjo, Guduchi

## English Name:

Tinospora

## Scientific Name:

*Tinospora sinensis* (Lour.) Merr.

## Family:

Menispermaceae

## Introduction:

Perennial deciduous climber with rambling stems, bark smooth, peeling off in papery pieces, with scattered wart-like lenticels, bright green underneath the papery bark. Leaves petiole, heart shaped, venation prominent. Flowers yellowish in racemes. Flowers after leaf fall from June to September and Fruits in winter season.

## Availability:

Distributed from 500 to 1100 m in Tarai and Mid-Hills area.

## Harvesting Time:

Petiole is harvested especially during February to April.



Photo: Govinda Ghimire



Photo: Khilendra Gurung

## Part used in Trade:

Stem or Petiole.

## Description of traded part:

A thin, slightly brown or ash like colored layer is present outside the stem and inner part is green. It is slightly bitter, somewhat acerbic and sweet in taste.

## Uses:

Stem contains chemicals like Tinocordifolin and Tinocordifoliside. Stem is used to treat Asthma, Cough, Bronchitis, Fever, Diabetes, Acidity, skin and urine related diseases and leprosy. It is also used as energetic medicine and in herbal tea.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.

# Harro

## English Name:

Chebolic Myrobolan

## Scientific Name:

*Terminalia chebula* Retz.

## Family:

Combretaceae

## Introduction:

Deciduous tree about 20 to 30 m high, 2 m thick, young branches covered with rusty brown hairs. Leaves petioled, opposite or alternate, 20 cm long, oblong to ovate, acuminate, entire, smooth. Flowers yellowish, the odor offensive, in terminal spikes. Flowers from September to October. Fruits from October to February.

## Availability:

Distributed from 150 to 1100 m in tropical and subtropical forests. Abundant in forests of *Shorea robusta* and *Terminalia bellirica* in Eastern and Central Nepal.



Photo: Khilendra Gurung

## Harvesting Time:

December to March.

## Part used in Trade:

Fruit and Seed.

## Description of traded part:

Fruit is oval, yellow orange or shiny slightly brown. It is 2 to 4 cm long and divided into five angles after dried. When eaten the taste of fruit is acerbic, somewhat sweet little sour, and somewhat bitter.

## Uses:

Bark, fruit and seed are used as medicines. Matured or raw fruits are mainly used in the leather, garment, dye and Ayurvedic medical industries. It is also used as the medicine for skin diseases, leprosy, fever and heart diseases. It is one of the important constituents of the triphala of Ayurvedic medicine.



Photo: Khilendra Gurung

# Jangali sayapatri

## English Name:

Wild Marigold, Black Mint

## Scientific Name:

*Tagetes minuta* L.

## Family:

Asteraceae

## Introduction:

Erect, woody annual herb about 0.5-2 m high with strongly odorous foliage. Leaves 5-20 cm long, slightly glossy-green, pinnately compound with 4-6 pairs of pinnae, opposite below and alternate or opposite above, leaflets narrowly lanceolate, sharply toothed and 2-4 cm long. Inflorescences scented, panicle-like, 20-80 narrowly cylindrical flower heads, heads small, surrounded by 4-5 fused involucre bracts. Flowers ray and disk, barely extend beyond the phyllaries; ray flowers 3-5 yellow-orange florets, disk flowers 10-15 yellow-orange.

## Availability:

Distributed from 1200 to 2500 m.



source internet

## Harvesting Time:

The plant is in flower in October and the seeds ripen in November. The plant is harvested when in flower and dried for later use.

## Part used in Trade:

Whole plant

## Description of traded part:

Tagetes oil is extracted from the leaves, stalks and flower, picked when the seeds are just starting to form. The dried leaves are used as an aromatic seasoning for soups and vegetables. They give an apple like flavor.

## Uses:

Nowadays used as a flavorful beverage, a medicinal tea, and a condiment since pre-contact times. Flavorful herbal tea is used for medicinal benefits such as a remedy for colds, respiratory inflammations or stomach problems. Essential oil, called Marigold oil is used as a flavoring in perfume, tobacco, ice cream, baked goods, soft drink industry etc.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



source internet

# Jatamansi

## English Name:

Spikenard

## Scientific Name:

*Nardostachys grandiflora* DC.

## Family:

Valerianaceae

## Introduction:

Perennial herb growing from 10 to 60 cm high, rootstock out, covered with fibrous stalks of withered leaves. Basal leaves lanceolate, longitudinally veined, glabrous or straight hairy, cauline. Leaves arise in cluster almost from the ground surface in rosette form. Flower bluish white, June-August. Fruits October to November.

## Availability:

Distributed from 3600 to 5000 m in open, moisturized and dry rocky hillsides, lichen covered rocks, Juniper and Rhododendron shrublands, grazing areas and forests. Generally found in all High Himalayan districts but especially high in Karnali zone.

## Harvesting Time:

From October to November after seed dispersal



Photo: Dipesh Pyakurel

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome covered by reddish brown fibrous stalks, about 0.5 to 1 cm thickened and about 10 to 15 cm long, scented like that from animals. After extraction of essential oil from Jatamansi, the residue left is called marc which is more swollen soft having less fibres.

## Uses:

Rhizome contains medicinal properties to stimulant heart and respiratory system, to cure gastric, anemia, urine related diseases and fight against microorganisms. Essential oil extracted from rhizome is used commercially in manufacturing cosmetics and perfumes. Rhizome and essential oil is highly valued base for preparing hair oil. Similarly, it is also used as alternative for Valerian used in heart related disease.

## Conservation Status:

Banned to export from Nepal in raw form. Government of Nepal allows only the export of essential oil or extract after processing within Nepal and issuing permission from Department of Forest. Marc can be also exported. Jatamansi is kept under Appendix II in CITES. IUCN and CAMP threat status Vulnerable.



Photos: Khilendra Gurung

# Jethimadhu

## English Name:

Liquorice

## Scientific Name:

*Glycyrrhiza glabra* L.

## Family:

Leguminosae

## Introduction:

Perennial herb growing up to 1 to 2 m high. Petiole spindle shapes, creeping in the ground. Leaves compound having 9 to 17 oval yellow colored 2.5 to 5 cm long leaflets. Flowers are in purple to pale whitish blue produced in a loose inflorescence about 15 cm long.

## Availability:

Not found in natural condition in Nepal and till date its commercial cultivation also not started in Nepal. Imported from India in huge quantity. Though it is cultivated in India but not of Indian origin. It can be cultivated in tropical and sub-tropical regions.



Photo: Wikipedia

## Harvesting Time:

October to November.

## Part used in Trade:

Root

## Part used in Trade:

Root externally rough, brown having vertical lines about 1 to 2 cm in thickness; internally fibrous, woody, yellow. Bark medium thickness. Tastes sweet, quiet melting and sweetening when chewed.

## Uses:

In the treatment of common cold, sore throat, vomiting, acidity, gout, weakness, joint pain, skin related diseases.



Photos: Khilendra Gurung  
Dipesh Pyakurel

# Jhayau

## English Name:

Lichen

## Scientific Name:

*Parmelia nepalensis* Tayl.

## Family:

Parmeliaceae

Before Government of Nepal banned exporting of lichens without processing, 17 species of lichens used to be traded in national and international markets. Out of them, *Parmelia nepalensis* used to be harvested and exported most.

## Introduction:

*Parmelia nepalensis* grows on bark of *Quercus* spp., *Alnus nepalensis*, *Berberis* sp., *Rhododendron* sp. and *Pinus wallichiana* trees. It is slight whitish yellow in color. Its growth rate is very slow.

## Availability:

Distributed from 1000 to 3000 m throughout Nepal in dense forests and pollution free forests. Maximum distribution is in hilly districts of mid and Far Western Development Regions.



Photo: Khilendra Gurung



Photo: Khilendra Gurung

## Harvesting Time:

Throughout the year.

## Part used in Trade:

whole plant

## Description of traded part:

Whole part of lichen is traded. Dried lichens are very light in weight. Its fibers in upper part are green brown and lower part are slightly whiter.

## Uses:

Extract of lichens are medicinally important. It is used in the treatment of Food poisoning, disturbance in menstrual cycle. Natural color are also extracted from lichens. Lichens are also used as bio indicator of air pollution.

## Conservation Status:

Government of Nepal has banned export of lichen without processing it inside the country. Only its extract can be exported.



# Jimbu

## English Name:

Wild Garlic

## Scientific Name:

*Allium wallichii* Kunth.

## Family:

Amaryllidaceae

## Introduction:

Bulbous annual herb growing up to 65 cm high. Leaves like that of garlic, linear, flat, longer than the main flower stalk, having garlic like odor when rubbed. Flowers purple, stalked, in terminal clusters of cyme, August to September. Fruits September to October.

## Availability:

Distributed from 2500 to 4000 m throughout Nepal in open grazing lands.

## Harvesting Time:

October to November



Photo: Khilendra Gurung

## Part used in Trade:

whole plant

## Description of traded part:

When dried, it becomes dark brown in color, very thinner and scented like garlic.

## Uses:

It is used as spice in curry, meat and pickle. Its rhizome is chewed during altitude sickness.



Photo: Khilendra Gurung

# Kachur

## English Name:

Zedoary

## Scientific Name:

*Curcuma zedoaria* Rosc.

## Family:

Zingiberaceae

## Introduction:

Perennial herb growing up to 40 cm tall. Leaves radical like turmeric emerging in cluster from roots, long, mid rib pink colored and distinct. Flower arises from the ground surface, initially slightly yellow in color and later pink in color.

## Availability:

Distributed throughout Nepal up to 1000 m in forest and cultivated conditions.

## Harvesting Time:

November to December.



Photo: Khilendra Gurung

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome slightly yellow in color, almost the size of turmeric and fragrant.

## Uses:

Essential oil is extracted from rhizome. Locally used to cure common cold and stomach related diseases.



Photo: DPR 1995

# Kakarsingi

## English Name:

Insect Gall in Pistacia

## Scientific Name:

*Pistacia chinensis* subsp. *integerrima* J.L. Stewart.

## Family:

Anacardiaceae

## Introduction:

Tree growing up to 18 m tall in height and 2.7 m in thickness. When its fruit are wounded by insects, medicinal valued Pistacia is prepared which is used.

## Availability:

Distributed from 300 to 1500 m in open and dry areas of western Nepal only. Generally found in Pine (*Pinus roxburghii*) forest.

## Harvesting Time:

November to December.



Photo: Dipesh Pyakurel

## Part used in Trade:

Bark of dry fruit

## Description of traded part:

Empty bark of flower is the main basis of its identification. Fruit bark is brown in color and has slight lines like. It has no any specific scent. Flower is empty and inner part is slightly yellow in color compared to outer part of flower. It is up to 2.5 cm in length.

## Uses:

Dust of wounded fruit is used as medicine in Dysentery, Asthma, against bites of Snake and Scorpio and killing worms. Flower dust is also used in respiratory related diseases. Oil can also be extracted which has medicinal value.



Photo: Dipesh Pyakurel

# Kakoli, Ban Lasun

## English Name:

Fritillary, Snake's Head Fritillary

## Scientific Name:

*Fritillaria cirrhosa* D. Don

## Family:

Liliaceae

## Introduction:

Perennial herb growing up to 75 cm. Leaves linear, lower leaves opposite, upper leaves whorled, 3 to 5 in number. Flower solitary, drooping, yellowish with dark purple spots.

## Availability:

Distributed from 3000 to 4500 m along with Rhododendron and Juniper bushes and in open grasslands.

## Harvesting Time:

September to October.

## Traded part:

Bulb



Photo: Dipesh Pyakurel

## Description of traded part:

Bulb resembles garlic clove; small and slightly brown in color. It has strong and bitter taste.

## Uses:

It is used to treat Asthma, Bronchitis and Tuberculosis.

## Conservation Status:

CAMP Vulnerable. One of the highly exploited high altitude plant.



Photo: Dipesh Pyakurel

# Kalo Musli

## English Name:

Black Musli

## Scientific Name:

*Curculigo orchioides* Gaertn.

## Family:

Hypoxidaceae

## Introduction:

Perennial herb with elongated tuberous rootstock. Leaves small petioled, radical, 5 to 7 cm long, lanceolate with distinct veins. Flower arises from the leaf base, slightly yellow.

## Availability:

Distributed from 600 to 1800 m in shadows of trees mostly in eastern and central Nepal.

## Harvesting Time:

September to October.

## Traded part:

Root and Rhizome



Photo: Khilendra Gurung



Photo: showyourplant.com

## Description of traded part:

Rhizome is almost radish shaped, 5 to 8 roots emerging from rhizome. Roots 7 to 11 cm long having small branchlets of roots. Its inner part is black while outer is white after dried.

## Uses:

Energetic and used as sex stimulant. Roots are used in the treatment of Vomiting, Piles, Jaundice, Asthma, Dysentery, Gonorrhoea etc.

## Conservation Status:

CAMP Vulnerable

# Kaulo

**Scientific Name:**

*Persea odoratissima* (Nees) Kosterm.

**Family:**

Lauraceae

**Introduction:**

Medium sized tree. Leaves upper surface shiny green; lower surface seems like covered with white dusts; 7.5 to 18 cm long and 3 to 7.5 cm width, slightly lanceolate, pointed at the end. Flowers minute, yellow green in color.

**Availability:**

Distributed from 1000 to 2100 m throughout Nepal.

**Harvesting Time:**

September to November



Photo: Dipesh Pyakurel

**Part used in Trade:**

Bark of main stem

**Description of traded part:**

Bark is traded in small pieces. It is slightly brownish red in color. Bark is very hard with no any significant smell. In FY 2010/2011 Kaulo bark was the highest exported raw MAPs in term of quantity. Kaulo dust is called Jiket Powder in market.

**Uses:**

Bark is used to manufacture incense. Bark has sticky nature and when mixed with water it works as adhesive.

**Conservation Status:**

Its status is going to be in threat due to overharvesting for trade.



Photo: Dipesh Pyakurel

# Kutki

## English Name:

Gentian

## Scientific Name:

*Neopicrorhiza scrophulariiflora* (Pennell)  
D.Y. Hong

## Family:

Scrophulariaceae

## Introduction:

Perennial herb. Rhizomes strong and long, underground or spread parallelly in the ground surface, coarsely rooting from nodes. Petiole short, leaf blade spatulate to ovate, tapering towards leaf base resulting only to petiole, margin serrate or rarely double serrate. Flower blue-violet colored, arises in the inflorescence raised from clusters of leaves.

## Availability:

Distribution ranges from 3600 to 4800 m especially in north facing, open and moistured stony slopes, rocks, shrubs region and forests throughout Nepal.



Photo: Dipesh Pyakurel

## Harvesting Time:

November to December

## Part used in Trade:

Rhizome and root

## Description of traded part:

Rhizomes are 60 cm long, brown in color and crystalline in nature. Size of dry Rhizome is around that of small finger with distinct nodes. Its pieces are acerbic and little bitter in taste.

## Uses:

It is used to cure Gastritis, Worms, Bile related ailments, Expectorant, Fever and tonic to heart.

## Conservation Status:

Wild harvest and trade of kutki is allowed only after the taxonomic identification and confirmation of the species as *Neopicrorhiza scrophulariiflora* by Department of Plant Resources, and then the final approval of Department of Forests after its inventory and identification of its total natural and harvestable stock in the wild.



Photos: Khilendra Gurung

# Laghupatra

## English Name:

Himalayan May Apple

## Scientific Name:

*Podophyllum hexandrum* Royle

## Family:

Berberidaceae

## Introduction:

Erect, unbranched, sticky, fleshy herb about 60 to 70 cm high. Leaves long petioled, orbiculate to cordate, deeply three lobed, lobes obovate, acuminate, serrate. Rhizome creeping, rooting. Flower white or pinkish, bowl shaped, solitary terminal. It flowers from June to July.

## Availability:

Distributed in high hilly and Himalayan region throughout Nepal from 2400 to 4500 m in slope forests and open areas.

## Harvesting Time:

October to November.

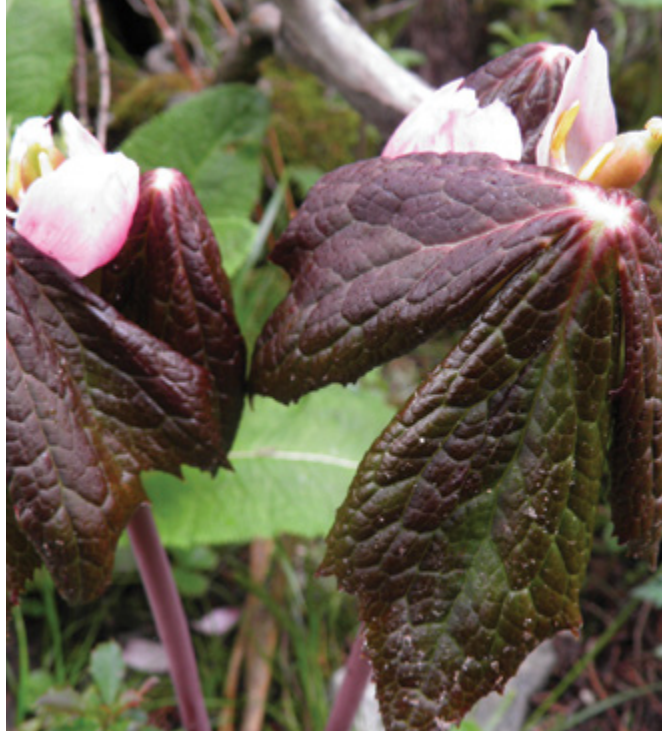


Photo: Dipesh Pyakurel

## Part used in Trade:

Rhizome and Root

## Description of traded part:

Root is irregular, like having nodes, 3 to 4 cup like trace seen in upper part. Lower part contains many scars. It lightly smells but little acerbic when eaten.

## Uses:

Root contains chemical called Podophyllin, used in liver wounds. Recently, it is discovered that Podophyllin might be used to prepare medicine that possibly cures cancer.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation. It also falls under Appendix II of CITIES.

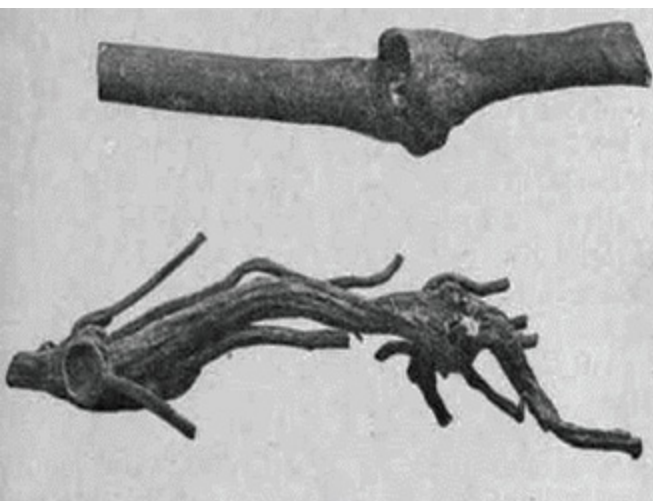


Photo: Chestofbooks



# Lalgedi, Ratogedi

## English Name:

Bead Vine, Crab's Eye

## Scientific Name:

*Abrus precatorius* L.

## Family:

Leguminosae

## Introduction:

Perennial climber. Leaves small petioled, even pinnate, leaflets in 10 to 20 pairs, opposite, about 2 cm long, 0.8 cm wide, minutely apiculate, margin entire, underside glabrous or silky. Flowers red, pink or whiter in many flowered in racemes.

## Availability:

Distributed up to 1000 m asl throughout Nepal. Common in slight shady areas, it spreads in other shrubs.

## Harvesting Time:

September to October.



Photo: Khilendra Gurung

## Part used in Trade:

Seed

## Description of traded part:

Easier to identify. Seed is red in color and any one part of seed is black in color. Some corner may contain white color or eye in place of black.

## Uses:

Seed is bitter and used in energetic, sex stimulant, purifying blood, cough etc. It is beneficial for curing eye diseases.

Seed is used to measure very valuable materials including gold. Generally, 1 seed equals 1 seed/Lal (100 seed/Lal = 1 Tola).



Photo: Khilendra Gurung

# Lauthsalla

## English Name:

Himalayan Yew

## Scientific Name:

*Taxus wallichiana* Zucc.

## Family:

Taxaceae

## Introduction:

Evergreen coniferous tree up to 30 m high. Bark thinner, reddish brown, rough, exfoliating in irregular papery scale.

Leaves small petioled, linear, flattened, distichous, acute, shiny dark green above, rusty below, narrowed towards base. Cones yellowish, axillary. Seeds olive green, surrounded by red and fleshy cup-shaped aril.

## Availability:

Distributed from 2300 to 3400 m throughout Nepal but abundant on Western Nepal.



Photo: Khilendra Gurung

## Harvesting Time:

Leaves can only be harvested from trees having more than 20 cm in radius from February to April.

## Part used in Trade:

Leaves

## Description of traded part:

Leaves are dried, light brown in color, fine petiole when comes in trade. Sometimes, dried fruit is also mixed with the leaves.

## Uses:

Leaves contain raw material for Taxol i.e. 10-De Acetyl Baccatin. Taxol is one of the constituents used to cure Breast and ovary cancer. Bark is used to color materials that are needed for holy purposes.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.

It is banned to export without processing it inside Nepal. It also falls under Appendix II in CITES.



Photo: Khilendra Gurung

# Majitho

## English Name:

Madder

## Scientific Name:

*Rubia manjith* Roxb. ex Fleming

## Family:

Rubiaceae

## Introduction:

Trailing herb, stems and branches four-angled, minutely prickly. Leaves petioled, ovate to cordate, long-pointed, basal veins prominent. Flowering in small inflorescence. Flowers dark red. Fruit globose, succulent. Flowers from June to November. Fruits January.

## Availability:

Distributed from 1200 to 2700 m throughout Nepal.

## Harvesting Time:

October to November.

## Part used in Trade:

Root and Stem.



Photo: Khilendra Gurung

## Description of traded part:

Root tastes sweet, somewhat sour and bitter and red in color. Stem is quadrangular, rough from low to up, woody, fine and quite red in inner part.

## Uses:

Root contains chemicals called Alizarin and Purpurin. Root and stem of madder is used in the treatment of heart attack, ulcer and skin related diseases. Its stem and petiole are used as antidote to Cobra and scorpion bite. Stem and root are also used to dye wool used for preparing carpet.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

# Nagbeli

## English Name:

Club Moss

## Scientific Name:

*Lycopodium clavatum* L.

## Family:

Lycopodiaceae

## Introduction:

Trailing, spore-bearing perennial climber, usually branching dichotomously. Leaves many, scaly, crowded, linear, awl shaped. Spike yellowish, terminal, elongated, greenish yellow.

## Availability:

Distributed from 1200 to 3500 m throughout Nepal in damp, shady places, slope and wasted lands.

## Harvesting Time:

Pods from October to November. Pod contains spores within it.



Photo: Dipesh Pyakurel



Photo: Dipesh Pyakurel

## Part used in Trade:

Dust of Lycopodium (Spores)

## Description of traded part:

Spore very fine, slippery; colour of rectified butter; inflammable.

## Uses:

Whole plant is used as medicine in the treatment of Diuretic and Asthma. The tip and root of twig is used in the treatment of Gout, lungs and kidney related diseases. Twigs also has ornamental value.

Spore is used in the preparation of facial and body creams. Spores used to be highly exported from Nepal but due to mixture exporting is less.

# Neem

## English Name:

Indian Lilac

## Scientific Name:

*Azadirachta indica* A. Jussieu

## Family:

Meliaceae

## Introduction:

Evergreen tree about 15 m high. Leaves crowded near the end of branches, petioled, odd-pinnate, leaflets sub sessile, sub opposite, lanceolate, unequally sided, serrate, acuminate, shiny bright green above. Flowers white, fragrant, in numerous axillary panicles.

## Availability:

Distributed from 100 to 900 m throughout Nepal, fairly common in open places around villages.

## Harvesting Time:

Fruits are harvested at the monsoon.



source internet

## Part used in Trade:

Whole Plant

## Description of traded part:

Bark is brown and vertically fissured. The Neem gives a little yellow fruit that is edible. It looks like an apricot and also has a seed with a kernel inside of it.

## Uses:

After seed has been dried in the sun, the fruits are subjected to a double grinding through a “rotary crusher” and a “pulveriser” (disc harrow). The obtained powder is sifted. For a commercial use, the powder will be compacted into pellets, more easy to be used with a sower. These little grains are then bagged.

The Neem fruit is the ideal fertilizer for the organic culture.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



source internet

# Nirmansi, Nirbishi, Nilobish

## English Name:

Larkspur

## Scientific Name:

*Delphinium denudatum* Wall. Ex Hook. f. & Thomson

## Family:

Ranunculaceae

## Introduction:

Annual herb up to 70 cm tall. Lower leaves long petioled, orbiculate, five to nine lobed, dentate, upper leaves few, short petioled, deeply three or more lobed, lobes entire or pinnatifid. Flowers small blue or violet, with an awl-shaped spur, few in lax racemes.

## Availability:

Highly distributed from 2700 to 4200 m in open pasturelands of Eastern and Central Nepal.

## Harvesting Time:

October to November

## Part used in Trade:

Root



Photo: Dipesh Pyakurel

## Description of traded part:

Roots are acerbic and bitter. Roots are rough yellow brown in color.

## Uses:

Roots are used as medicine for heat production, digestive and gastric. Roots of seedlings are used as medicine for acidity, fever, ulcer and cough. It is also used as anti-poisonous medicine.

# Okhar

## English Name:

Walnut

## Scientific Name:

*Juglans regia* L.

## Family:

Juglandaceae

## Introduction:

Deciduous tree growing up to 30 m tall. Its bark is brown in color, straight deep and lobed. Leaves compound, 5 to 13 leaflets, small stalked, 6 to 20 cm long, 3 to 7 cm width with straight margins. Flowers from March to April and Fruits from May to October.

## Availability:

Naturally distributed from 1200 to 3000 m throughout Nepal. Local Walnut of Nepal are of two types: One with hard and other with breakable seed coat.

## Harvesting Time:

Both Fruit and fruit carp of Okhar are harvested during November-December.

## Part used in Trade:

Fruit and bark of stem.

## Description of traded part:

Fruit carp is dark brown or slight black in color, slightly scented. Bark of stem is brown in color, without any special scent, with long horizontal lines, about 0.3 cm in diameter.



Photo: Khilendra Gurung

## Uses:

Bark yield dye. Fruit carp used as Detergent. Bark has medicinal value. Fruits are also edible.

## Conservation Status:

Government of Nepal has totally banned collection, transportation, trade and export of bark of stem.

# Padamchal

Amalved, Karaj Chulthi, Chulthi Amilo

## English Name:

Himalayan Rhubarb

## Scientific Name:

*Rheum australe* D. Don

## Family:

Polygonaceae

## Introduction:

7 species of *Rheum* are found in Nepal but *Rheum australe* is only in the trade. Root of *Rheum australe* is called Padamchaal and its stem is called Amalved. Leaf and Leaf petioles are called Karaj Chulthi or Chulthi Amilo.

***Rheum australe*:** Perennial herb about 1 m high but height recorded up to 3.5 m. Leaves petioled, up to 1 m in radius, ovate or orbiculate, obtuse, base rounded or cordate. Stalk of flower and petiole of leaf red in color. Regeneration from root during monsoon.

## Availability:

Distributed from from 3200 to 4200 m in rock and grasslands of mountain and high hills throughout Nepal

## Harvesting Time:

November to May



Photo: Khilendra Gurung

## Part used in Trade:

Rhizome, Petiole of leaf and leaf.

## Description of traded part:

Rhizome is tight, robust like brown in color, with thicker bark. In outer part of roots, wrinkled rings are seen and in middle parts of roots round annual rings are seen. Petioles of leaf are lightly yellow in color. It tastes sour.

## Uses:

Different types of compounds of Anthraquinone group and plant chemical called Emodin are found in root and stem. Rhizome, leaf petioles, leaf and roots are useful. Rhizome and petioles are used as medicine for Diarrhea, Gout and Epilepsy. Leaf and stem are eaten as pickle in raw or boiled form. Powder of root is used for cleaning teeth.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung



# Pakhanved, Pasanved, Dhungephul

## English Name:

Rockfoil

## Scientific Name:

*Bergenia ciliata* (Haw.) Sternb.

## Family:

Saxifragaceae

## Introduction:

Perennial herb growing parallelly in the ground surface about 30 cm high. Leaves petioled, arising from a common point, 15 to 30 cm long, 5 to 10 cm broad, suborbiculate, entire fringed with short, stiff hairs. Flowers are produced in clusters, pink or white in color. Flowers from April to June. Fruits from July to August.

## Availability:

Distributed from 1600 to 3200 m. Prefers moisturized area, poor sunlight hilly area, especially in stones of bottom of mountains.

## Harvesting Time:

October to November



Photo: Khilendra Gurung

## Part used in Trade:

Underground stem

## Description of traded part:

Underground stem is brown, having fine roots, aromatic, around 1 cm in radius. Though stem looks like hard but when chewed is like soft wood, bitterer. External layer of dried stem is wrinkled.

## Uses:

Stem contains chemical called Bergenia-c-glycoside. It is used in the preparation of medicine for Cancer. Rhizome is used in the treatment of Dysentery, fever and kidney diseases. In Ayurvedic system, it is used as energetic, cough, heart diseases, stomachache.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photos: Khilendra Gurung

# Panchaunle, Hatajadi

## English Name:

Salep, Marsh Orchid

## Scientific Name:

*Dactylorhiza hatagirea* (D. Don) Soo

## Family:

Orchidaceae

## Introduction:

Terrestrial perennial orchid about 30 to 45 cm high, root tuberous, slightly flattened and divided into three or five finger-like lobes. Leaves 5 to 30 cm long, 2 to 4 cm wide, oblanceolate, base sheathing. Flowers spotted rosy purple, including the stout curved cylindrical spur, narrowly lanceolate, numerous produced in base of stalk in huge clusters.

## Availability:

Distributed from 2800 to 4000 m in open and moisturized grasslands, slope pastures, marshy areas and open canopy forests in north-west, south west or eastern faces. Abundant from 3800 to 4200 m.



Photo: Dipesh Pyakurel

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome is human palm shaped and soft fleshy, seems similar to fingers of hand divided into 3 to 5 (sometimes 6) lobes. Fresh rhizome weighs about 2.5 gram in average, and about 0.64 gram when air dried.

## Uses:

The root is expectorant, astringent, demulcent, and highly nutritious. Powdered root is spread over wounds to control bleeding. A decoction of the root is given in case of stomach trouble.

## Conservation Status:

Government of Nepal has banned its collection and trade. Whole Orchidaceae family falls under Appendix II in CITIES.



Photos: Khilendra Gurung  
Dipesh Pyakurel

# Pipla

## English Name:

Long Pepper

## Scientific Name:

*Piper longum* L.

## Family:

Piperaceae

## Introduction:

Two species of *Piper* i.e. *Piper longum* and *Piper peepuloides* are traded in Nepal but generally *Piper longum* is only traded in the market.

***Piper longum*:** Twining perennial herb, creeping and rooting below, often minutely tomentose. Leaves petioled, 3-8 cm long, 2-8 cm wide, broadly ovate to cordate, shortly acuminate, glabrous, lower leaves long stalked, upper leaves sessile, clasping the stem at their base, usually five veined at the base. Flowers greenish in spikes, July to August. Fruits October to January.

## Availability:

Distributed from 200 to 1300 m throughout Nepal.



Photo: Khilendra Gurung



Photo: Khilendra Gurung

## Harvesting Time:

November to January.

## Part used in Trade:

Fruit

## Description of traded part:

Ripen inflorescence harvested are dried. Fruit is dark brown or black in color, 2.5 to 7 cm long, lanceolate / pointed, green in raw, dark green when matured and black when comes in trade. Fruit seems having many dusts stuck in outer side. It smells very sweet and aromatic.

## Uses:

Mainly, fruits are used as condiments. Fruit and leaf are used as hair tonic and to control malarial fever. Pipla is used as medicine and anti-poisonous medicine for snake and wild lizard bites. It is also used in herbal tea. Roots are used as medicine in the treatment of fever, energetic, cough and common cold.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.

# Ritha

## English Name:

Soapnut / Soapberry

## Scientific Name:

*Sapindus mukorossi* Gaertn.

## Family:

Sapindaceae

## Introduction:

Deciduous tree about 10 to 18 m high. Bark dark green or brown. Leaves petioled, pinnate, leaflets short-petioled, alternate or sub-opposite, lanceolate, entire, smooth, base oblique. Flowers yellowish or purplish. Flowers February to May. Fruits October to February.

## Availability:

Distributed scatter rather than colonial from 600 to 1400 m East to West Nepal. Abundant in Western Nepal, common with *Diploknema butyracea*, *Pinus roxburghii*, *Woodfordia fruticosa*.

## Harvesting Time:

November onwards

## Part used in Trade:

Fruit and seed



Photo: Khilendra Gurung

## Description of traded part:

Fruit around 2 cm round, outer part soft, light or dark brown. Bark is wrinkled. Fruit when becomes old, turns black. Black and hard seed is inside the fruit. When the seed is rubbed in cement or stone, it gets very hotter.

## Uses:

Fruits contain a natural soap called *saponin*, which is released when they come into contact with water. Saponin is highly important for medicinal properties. It is used in shampoo, insecticides, soap and detergent powders. Locally, bark of soapnut is used as soap and shampoo for bathing, washing etc. Outer soft part of fruit of soapnut is used as also poison for fishing. It is also used as medicine in Cough, Anemia and Epilepsy.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photos: Khilendra Gurung

# Rudrakshya

## English Name:

Utrasum Bead Tree

## Scientific Name:

*Elaeocarpus sphericus* (Gaertn.) K. Schum.

## Family:

Elaeocarpaceae

## Introduction:

Medium-sized tree about 20 m high, slender with spreading canopy, Leaves petioled, 8 to 18 cm long, 2.5 to 6 cm wide, elliptic to lanceolate, rarely serrulate, glabrous. Flowers white, elegantly tubercled, generally with five equidistant grooves. Flowers May to June. Fruits August to December.

## Availability:

Distributed from 600 to 1500 m especially in Bhojpur, Sankhasawa and Khotang districts of Eastern Nepal.

## Harvesting Time:

December to February.



Photo: Khilendra Gurung

## Part used in Trade:

Seed

## Description of traded part:

Fruit is sour and somewhat acerbic. *Elaeocarpus* is very much wrinkled (1 to 33 faces/mouth), light brown in color and very hard. Its value varies according to faces of the seed. Some traders also sale by making artificial faces of the seeds.

## Uses:

Seed are highly important for religious purpose. There is high demand of seeds in countries like Nepal and India. Beads are also used to make necklace, bracelet and other jewels.

Fruit, seed and flesh are used as medicine for producing heat, preparing digestive tablets, whooping cough, Epilepsy, controlling pressure, heart and mental related diseases.



Photo: Khilendra Gurung

# Saldhup

## Scientific Name:

*Shorea robusta* Gaertn

## Family:

Dipterocarpaceae

## Introduction:

Subdeciduous tree about 50 m high. Bark reddish brown, rough with long deep, wide vertical fissures. Leaves petioled, 10 to 20 cm long, 5 to 13 cm wide, ovate to oblong, entire, leathery, acuminate, glabrous, upper surface green, shiny, lower surface slightly rough green. Flowers yellowish in axillary and terminal panicles. Flowers from April to May. Fruits around July.

## Availability:

Distributed from 150 to 1200 m, less in eastern Tarai due to deforestation but abundant dense forests in western Nepal.



Photo: Dipesh Pyakurel

## Harvesting Time:

October to November.

## Part used in Trade:

Resin

## Description of traded part:

It looks like resin, shiny, yellow-brown in color. It smells like its leaves. Small pieces of resin are almost transparent.

## Uses:

Resin is used in Diarrhea, urine burns, burn or teeth ache. In Nepal, its leaves are used to make local plates called "doona and tapari", in which rice and curry is served.



Photo: Kashi Nath Adhikari

# Salla Simta

## English Name:

Hemlock

## Scientific Name:

*Tsuga dumosa* (D. Don) Eichler

## Family:

Pinaceae

## Introduction:

Evergreen coniferous tree of pine family about 40 m high, branches drooping. Leaves small petioled, about 2 to 3 cm long, linear, entire, more or less distichous, apex obtuse. Cones ovoid.

## Availability:

Distributed from 2300 to 3300 m mixed with *Rhododendron* and *Quercus* trees throughout Nepal.

## Harvesting Time:

November to December

## Part used in Trade:

cone



Photo: Dipesh Pyakurel

## Description of traded part:

Cone is nut shaped, broad in base and tapering towards end, light violet in color, scaly sporophylls.

## Uses:

It is used as raw material in the preparation of handicrafts.



Photo: Khilendra Gurung

# Sarpagandha, Chandmaruwa

## English Name:

Serpentine, Rauwolfia Root

## Scientific Name:

*Rauwolfia serpentina* (L.) Benth.

## Family:

Apocynaceae

## Introduction:

Evergreen, erect, perennial shrub about 90 cm high, not prefer open sunlight. Leaves petioled, opposite or three or four leaves in a whorl, oblong, tapering toward the stalk. Flowers small, white-pink, scented, in clusters at the tip. Bark of stem brown, lobed.

## Availability:

Distributed from 100 to 800 m asl from East to West Nepal in forests of *Shorea robusta*, *Terminalia chebula*, *Terminalia bellirica*, *Terminalia alata*, *Dalbergia sissoo*, *Acacia catechu*, *Adina cordifolia*, *Holarrhena pubescens* etc.

## Harvesting Time:

November to March.

## Part used in Trade:

Root



Photo: Khilendra Gurung



Photo: Khilendra Gurung

## Description of traded part:

Roots are scentless, bitter, yellow-brown, up to 40 cm long and up to 2 cm in thickness. But in trade and export, roots are cut into pieces of 10-15 cm. Inner part of the root is white and acerbic when eaten.

## Uses:

Roots are used as medicine in the treatment of veins related diseases, sleeplessness and controlling pressure. It is believed that when some part roots are taken by pregnant women, it fastens delivery process. Juice of its root is used in the treatment of Diarrhea and Dysentery. Juice of leaves are used to clear webs of the eyes But it should be strictly not used by patients of cough, Asthma and ulcer. This plant is source for medicine of Reserpine and Anti-Hypotensive.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation. Government of Nepal has banned it to export without processing it inside Nepal. It falls under Appendix II of CITIES. IUCN threat status Endangered and CAMP Critically Endangered.



# Satavari, Kurilo

## English Name:

Asparagus

## Scientific Name:

*Asparagus racemosus* Willd.

## Family:

Liliaceae

## Introduction:

Straggling, much branched, slender, thorny, perennial shrub about 1 to 1.5 m high. Leaves petioled, fine, green. Flower small, stalked, white, fragrant, in racemes.

## Availability:

Distributed in natural condition from 300 to 2200 m in hills from East to West Nepal. Cultivation also started in many districts of Nepal.

## Harvesting Time:

October to December.



Photo: Khilendra Gurung

## Part used in Trade:

Root.

## Description of traded part:

Root light yellow, 20 to 30 cm long, tapering in both ends. Fine fibers are extracted from mid part of the root leading wrinkled roots. No any special smell.

## Uses:

Plant is energetic and sex stimulant. Dust of roots when taken by delivered women, it increases milk production.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Dipesh Pyakurel

# Satuwa

## English Name:

Love Apple

## Scientific Name:

*Paris polyphylla* Smith

## Family:

Liliaceae

## Introduction:

Perennial herb about 50 cm high, rhizome hard, growing elliptically. Leaves petioled, in a whorl at the top of the stem, 14 to 16 cm long, 4 to 6 cm wide, lanceolate, long pointed, dark green. Flowers solitary, yellowish.

## Availability:

Distributed from 1900 to 3100 m throughout Nepal. Prefers damp, shady, moist and humus rich soil under canopy of forest in full shade to partial shade near streams in north facing slopes.

## Harvesting Time:

October to November.



Photo: Khilendra Gurung

## Part used in Trade:

Rhizome.

## Description of traded part:

Bark of rhizome is hard, slightly brown and lightly white with ring like symbols. Inner part of rhizome is white, dissolves as dust when chewed. Small roots are also attached in the roots. Usually, rhizome is about 1 cm in radius and 5 to 8 cm in long.

## Uses:

Rhizome is used to kill worms and as tincture iodine in cuts or wounds. Rhizome when boiled in water and eaten, acts as energetic. It is also used as alternative medicine for diosgenin. Rhizome is also used as medicine for Jaundice.

## Conservation Status:

Due to high trade in national and international trade, status of Love apple is in threat. CAMP Vulnerable.



Photo: Khilendra Gurung

# Seto Musli

## English Name:

White Musli

## Scientific Name:

*Chlorophytum borivilianum* Santapau & R.R.Fern.

## Family:

Liliaceae

## Introduction:

Annual herb up to 30 cm high under garlic family. Leaves green-yellow, spindle shaped, 9 to 18 cm long, 1 to 2 cm wide. Flower white yellow. Inflorescence 20 to 25 flowers in monsoon, upper part male flowers, lower part female flowers. Fruit triangular, black. Flowers from July to September. Fruits from October to November.

## Availability:

In Nepal, there are 5 species of *Chlorophytum*. All these species are harvested in the name of *Chlorophytum borivilianum*. These species are distributed in the forest of Tarai, inner



Photo: Khilendra Gurung

Tarai and hilly areas of East to West Nepal from 300 to 1,400 m.

## Harvesting Time:

January to March

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome about 15 to 20 long are used in medicines. Root and rhizome contains sticky resin, very important in terms of commercialization. When the rhizome is dried, it becomes small like Raisin, soft ghee colored and outer bark is slightly wrinkled.

## Uses:

Roots are used in Diarrhea, Dysentery, Jaundice and Asthma. It is useful when taken mixing with sugar and ghee during respiratory related diseases. Roots are used as medicine in urine, liver, diabetes, veins related, joint related, scabies and skin related problems. It is also used as alternative for Viagra to develop reproductive power.



Photo: Khilendra Gurung

# Sikakai

## English Name:

Soap Pod

## Scientific Name:

*Acacia rugata* (Lam.) Voigt

## Family:

Fabaceae

## Introduction:

Deciduous tree about 15 high. Stem, petiole and leaves with fine curved cylindrical thorn, branches with brown, white spots. Leaves petioled, bipinnate, pinnae in 6 to 25 pairs, pinnules in 10 to 30 pairs, linear. Flowers creamy white in axillary peduncled spikes. Fruits a pod. Flowers from September to October, converted into fruits by October to March.

## Availability:

Distributed from 400 to 800 m in tropical climate forests, open places and scattered near streams. Common in inner forests of cool places, river banks and shady areas in Tarai and dun valley of Western and Central Nepal.



Photo: Dipesh Pyakurel

## Harvesting Time:

Matured pods (if possible by hand otherwise cutting petiole of pod or hitting by stick) are harvested from March to May.

## Part used in Trade:

Pods and seeds.

## Description of traded part:

Fruit is 7 to 12 cm long and 2 to 3 cm thickened. Dried pods of fruit are wrinkled like, having 6 to 10 seeds, with cavity between two seeds. Fruits are matured only after winter. Pods of fruit are in cluster and red in color before ripening.

## Uses:

Roots are used as Stimulant and Tonic. Roots are also used as insecticides. Soap pod is usually used in the preparation of shampoo available in the market. Pod contains Saponin and Tanin, commercially used, so cultivation of Soap pod seems to be appropriate.



Photo: S Rajbhandari

# Siltimur

## English Name:

Siltimur pepper

## Scientific Name:

*Lindera neesiana* (Wall. ex Nees) Kurz

## Family:

Lauraceae

## Introduction:

Deciduous tree about 5 m high. Leaves petioled, 7 to 12 cm long, 1.5 to 5.3 cm wide, elliptic to lanceolate, caudate to acuminate, entire, thinly leathery, finely reticulate and pale below. Petiole shiny green in young, later brown, less lobed. Flowers scented, green-yellow, crowded, in umbels. Flowers March to April. Fruits May to August.

## Availability:

Distributed from 1500 to 2700 m in edges of cultivatable lands in Central and Eastern Nepal.

## Harvesting Time:

July to September



Photo: Khilendra Gurung

## Part used in Trade:

Fruit

## Description of traded part:

Fruit is initially dark green, red in matured and black colored when dried, wrinkled like black pepper, equivalent to small pea, highly scented (slightly like lemon).

## Uses:

It is used as spice. It has medicinal properties. It is used in Gastric and stomach ache. Locally, it is used while cooking mushroom.



Photo: Khilendra Gurung

# Simal ko ful

## English Name:

Silk Cotton Tree

## Scientific Name:

*Bombax ceiba* L.

## Family:

Bombacaceae

## Introduction:

Deciduous tree about 40 m high, branched in all directions. Leaves long petioled, digitate, leaflets 5 to 7, stalked, 5 to 20 cm long, 2 to 6 cm wide, lanceolate, cupidate, entire, smooth, base tapering. Flowers red, fascicled at or near the end of branches. Main trunk and limb with numerous conical spines in young but eroded in older. Flowers from February to March. Fruits from April to June.

## Availability:

Distributed up to 1200 m throughout Nepal in open areas.

## Harvesting Time:

Pods from June to July and Cotton-like fibrous stuff / Floss surrounding the seeds from May to June.



Photo: Dipesh Pyakurel

## Part used in Trade:

Cotton-like fibrous stuff

## Description of traded part:

Dried flowers are traded for Cotton-like fibrous stuff. Outer part of flower is slightly hard, rough brown. Inner part of flower is slightly red in color and soft.

## Uses:

Cotton-like fibrous stuff is commonly used for stuffing economically priced pillows, cushions, quilts and mattresses. Resin, bark, flower and roots are used as medicine in the treatment of Dysentery and stomach related diseases. Its flower and fruits are used as medicine during snake bite. Roots are used as Stimulant, Energetic and Aphrodisiac.

The fruit is cooked and eaten and also pickled.



Photo: Khilendra Gurung

# Somlata

## English Name:

Ephedra

## Scientific Name:

*Ephedra gerardiana* Wall. ex Stapf

## Family:

Ephedraceae

## Introduction:

Tufted gymnospermous perennial shrub about 1 m high. Stem much branched, branches whorled, spreading. Leaves reduced to two-toothed sheaths. Plants dioecious. Cones yellowish. Ovule ovoid, surrounded by persistent bracts. Cones from June to August. Fruits from August to October.

## Availability:

Distributed from 2400 to 4200 m in dry and slope areas.

## Harvesting Time:

November to December.



Photo: Dipesh Pyakurel

## Part used in Trade:

Branches

## Description of traded part:

Stem tastes acerbic. Flower is red and sweet when eaten. Branches while in trade are green brown in color. Leaves in the nodes occurs like scales. It does not have any special smell.

## Uses:

Dry fine branches are used in the treatment of Sinusitis, Asthma, nose and neck related diseases, Epilepsy, Diuretic and Allergy. Modern Medical Science has found it as a source of chemical called Ephedrine. It also helps to decrease the blood pressure.



Photos: Khilendra Gurung  
DPR 1995

# Sugandhkokila

**English Name:**

**Scientific Name:**

*Cinnamomum glaucescens* (Nees) Nand. Mazz.

**Family:**

Lauraceae

**Introduction:**

In Nepal, also called Sugandhkokila, Malagedi, Telkaulo, Malagiri etc.

Medium sized evergreen tree about 15 to 20 m high. Leaves petioled, 4-17 cm long, 1.5 cm wide, elliptic to ovate, pointed, entire, upper surface smooth shiny, lower surface lightly rough. Flowers yellowish. Fruit globose, green, black when ripe. Flowers April to May. Fruits September to October.

**Availability:**

Distributed from 1000 to 2500 m in natural condition in the districts of Central and Western Nepal. Abundant in the districts like Rolpa, Dang, Pyuthan, salyan and Rukum. Common among *Shorea robusta*, Pine, *Diploknema butyracea*, *Persea* sp., *Michellia champaca*, *Schima wallichii*, *Rhododendron* forests, in slope, rocky and cool places near river, streams and sources of water.



Photo: Pashupati Nath Koirala

**Harvesting Time:**

October to November

**Part used in Trade:**

Fruit

**Description of traded part:**

Fruit is black colored and scented. Fully dried fruits are wrinkled, marble sized and oval shaped. Seed is brown yellow in color.

**Uses:**

Fruit, bark and wood are useful. Essential oil extracted from fruit is used in production of beauty processing material like perfumes, soap etc. Mark or extract left over after processing essential oil are used in the preparation of stick incense. Wood is supposed to be the alternative of medicinal herb called *syasfras* found in USA. Locally in villages, paste of seed is used in the swelling parts. Seed is used to cure common cold, worms in the stomach and teeth ache.

**Conservation Status:**

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Pashupati Nath Koirala



# Sugandhwal, Samayo

## English Name:

Valerian

## Scientific Name:

*Valeriana jatamansii* Jones

## Family:

Valerianaceae

## Introduction:

Perennial aromatic herb about 50 cm high with a thick rootstock. Basal leaves long petioled, ovate, acuminate, dentate or sinuate, cauline leaves short petioled, opposite, small. Flowers white or tinged with pink, in terminal corymbs. Ramets numerous, intermixed, in cluster. Rhizome spread parallel to the ground surface, rooting.

## Availability:

Distributed from 1500 to 3600 m usually in north facing cool forest areas, shrubby areas and open places. Abundant from 1500 to 2000 m in north facing cool, shady and moist slopes. Occurs in almost all hilly districts from East to West Nepal. Common in forests of *Rhododendron*, *Juglans*, *Taxus* etc. Dense in *Rhododendron* and Pine forests in Western Nepal.

## Harvesting Time:

November to December



Photo: Khilendra Gurung

## Part used in Trade:

Rhizome

## Description of traded part:

Rhizome is 2 to 7 cm long, strong, woody in nature, unbranched, brown, scented very strongly, smells like animal, possessing fine roots, spot showing maximum leaf fall.

## Uses:

Rhizome and root have medicinal properties to relief from pain, heal wound, stimulant, sleepiness, anemia, gastric, digestive, expectorant, diuretic and killing germs. In Ayurvedic system, used in the treatment of mental problem, spinal related diseases, headache, stomach and eye pain, Epilepsy, Dysentery, high blood pressure related problems, Gastritis etc.

Essential oil is extracted from the rhizome and root of Valerian. Essential oil is used commercially in the manufacture of perfume, cosmetics or other industrial materials. Essential oil is also used to manufacture hair oil, perfume and incense and in the treatment of spinal related diseases.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

# Sunpati

## English Name:

Anthopogon

## Scientific Name:

*Rhododendron anthopogon* D. Don

## Family:

Ericaceae

## Introduction:

Evergreen aromatic dwarf shrub about 0.6 to 1 m high. Stem many branches, with brown scales. Leaves petioled, elliptic to ovate, obtuse to mucronate, upper surface slightly scaly, lower surface densely scaly. Flowers white, pink, light yellow, sometimes red. Fruit a capsule, ovoid, enclosed in the persistent calyx.

## Availability:

Distributed from 3300 to 5100 m, common in north facing, open and cool stony slope, rocks, shrub lands and forest.

## Harvesting Time:

October to November.



Photo: Dipesh Pyakurel

## Part used in Trade:

Leaves and young petiole

## Description of traded part:

Leaves are green brown, dry, scented, lower surface are rusted or covered by golden scaly hairs. Dried yellow flower also unusually mixed with leaves and petioles. Petiole is yellow white, less scented.

## Uses:

Leaves and flower are used to cure respiratory diseases like common cold, cough, Asthma, bronchitis, etc. Essential oil processed from its leaves (Anthopogon oil) is used in the production of expensive cosmetic materials like perfume, powder etc. Marc or extract left over after processing leaves are also used in the production of incense.

## Conservation Status:

Abundant available in high Himalayan region, therefore its status is not threatened. Harvesting of Anthopogon is also low pressurized in the high Himalayan areas.



Photo: Khilendra Gurung

# Tejpat, Dalchini

## English Name:

Nepalese Cinnamon, Bay Leaf

## Scientific Name:

*Cinnamomum tamala* (Buch.-Ham.) Nees & Eberm.

## Family:

Lauraceae

## Introduction:

Medium sized evergreen tree about 10 to 15 m high. Barks green at young, brown, wrinkled when matured. Leaves petioled, alternate or opposite, shiny above, smooth, ovate to oblong, long pointed, three-veined, entire, glabrous aromatic. Flowers stalked, white to yellowish, small arising in the tip of branches, March to May. Maximum Dalchini are achieved from *Cinnamomum zeylanicum* but barks derived from *Cinnamomum tamala* are also called Dalchini.

## Availability:

Naturally, distributed from 450 to 2000 m throughout Nepal. Abundant in Western Nepal. Not indigenous origin of Nepal, originated from Sri Lanka. Common in the forests of *Schima wallichii*, *Castanopsis indica*, *Bombax ceiba*, *Persea* sp.

## Harvesting Time:



Photo: Khilendra Gurung



Photo: Khilendra Gurung

October to December and in some places, till March.

## Part used in Trade:

Leaves and Bark

## Description of traded part:

Dry leaves upper part greenish yellow and lower part yellow. Leaf from base to tip three-veined. Leaf with petiole are scented.

Bark are cut into small pieces in trade. Outer part of bark are browner and inner part are reddish brown in color. The bark is aromatic and spicy.

## Uses:

Leaves and bark are used in medicine, spice and to flavor food materials. Leaves are used in the treatment of Dysentery, stomachache and digestion. Drinking bark boiled in water cures Diarrhea, nausea and stomach disturbances. Essential oil extracted from leaves are used in medicine, food and drinking materials. Its essential oil is used as medicine for toothache.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.

# Timur

## English Name:

Nepalese Pepper

## Scientific Name:

*Zanthoxylum armatum* DC.

## Family:

Rutaceae

## Introduction:

Spiny shrub or small tree about 3 m high. Petiole odor. Leaves alternate, slightly winged, with stipular spine at the base, odd pinnate, leaflets three to nine with red colored thorn. Flowers small, whitish in loose inflorescence. Fruit spherical, red when matured, splitting into two valves, 3 to 4 mm in fresh, odor.

## Availability:

Distributed from 1000 to 2500 m in Hilly regions throughout east to west Nepal in natural conditions and edge of cultivated land. Abundant in hilly areas of Mid-western Nepal.



Photo: Khilendra Gurung

## Harvesting Time:

October to December.

## Part used in Trade:

Fruit.

## Description of traded part:

Fruits are small bean shaped, black or brown colored essential oil scented, with biting and numbing taste. Majority fruits are broken into two pieces but unseparated. Along with fruit, sometimes dark brown colored seed is also present.

## Uses:

Fruits are used for headache, toothache in Ayurvedic Medicinal System. It is also used as spice and pesticide. Essential oil extracted from fruit is used for cosmetic materials, food materials and medicinal purposes.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

# Tukiful

## English Name:

Dandelion, Common Dandelion

## Scientific Name:

*Taraxacum officinale* (L.) Weber.

## Family:

Compositae

## Introduction:

Annual herb about 10 cm high. From its every part, white milky liquid is secreted. Leaves all basal, variable in shape, without petioles, 5 to 20 cm long, irregular lobed triangular and dentate. Flower heads yellow, solitary, on a hollow leafless stalk. Flowers from March to November.

## Availability:

Distributed from 1000 to 4000 m throughout Nepal.

## Harvesting Time:

August to November.



Photo: Khilendra Gurung

## Part used in Trade:

Root

## Description of traded part:

Roots are 15 cm long, 1.5 to 2.5 cm in radius, balloon sized. Root when chewed at first is sweet but later bitter.

## Uses:

Tender leaves are valued as a potherb. Root contains medicinal properties. Flower is used in treatment of diuretic, disturbances in stomach and liver related diseases. Root are roasted and prepare coffee to create appetite and relaxation. Root are also used as energetic.



Photo: DPR 1995

# Tulsi

## English Name:

(Holy Basil, Sacred Basil)

## Scientific Name:

*Ocimum sanctum* L.

## Family:

Labiatae

## Introduction:

Annual, aromatic herb about 50 to 60 cm high. Leaves petioled, opposite, 2.5 to 5 cm long, elliptic to oblong, acute at both ends, margin dentate, both surface hairy, upper green, lower light white green. Flower are very small, white or purplish flowering in 5 to 16 cm long verticillate inflorescence at the tip of the branch.

## Availability:

Cultivated from 400 to 1800 m asl throughout Nepal.

## Harvesting Time:

October to November.



Photo: Dipesh Pyakurel

## Part used in Trade:

Leaves.

## Description of traded part:

Dried leaves and petiole are light brown in color, petioles are small pieced, highly scented. When focused and seen, its stalk is quadrangular and hairy.

## Uses:

Leaves are used in Common Cold, Cough, Fever, Asthma, Headache, Toothache and Ear pain. To purify blood, activating digestion process, decreasing sugar level in blood, treat ringworm, leaves and roots are used to prepare Tulsi tea. Essential oil is also extracted from leaves. Tulsi has high religious belief among Hindu religion followers.



Photo: Khilendra Gurung

# Yarsagumba

## English Name:

Winter worm, Caterpillar Fungus

## Scientific Name:

*Ophiocordyceps sinensis* (Berk.) G.H. Sung.

## Family:

Hypocreaceae

## Introduction:

Grows at the Himalayas as a parasite attacking a special type of moth of *Hepialus* genus (a type of butterfly that can fly in night). Mycelium are developed inside the body of larva which sucks the food from larva. When larva dies, black-brown colored, 5-8 cm long, mace shaped, reproductive part emerges out from head of the larva.

## Availability:

Caterpillar Fungus is endemic to the Himalayas. It grows in moisturized grasslands and open slope lands in cool and dry climate with annual precipitation less than 350 mm. It is distributed in East to West Nepal from 4200 to 5000 m asl in high Himalayan grasslands, top of inner valleys and higher Himalayan areas. It is more dominant in the western Himalayas of Nepal.

## Harvesting Time:

Reproductive part i.e. stroma when gets mature and spores are developed, suitable harvesting time for Caterpillar Fungus is from last week of May. If not harvested in



Photo: Khilendra Gurung

15 to 20 days after stroma maturation, it starts getting rotten. Sustainable harvesting should be done dividing grasslands into different parts based on rotational system of harvesting.

## Part used in Trade:

Whole plant

## Description of traded part:

Lower part of Caterpillar Fungus is golden-yellow in color and larva like. Upper part emerging from head is light dark in color and fine. Fungal reproductive part including larval part is about 15 cm. When eaten, larval part tastes like meat and fungal part tastes like mushroom.

## Uses:

Caterpillar Fungus is used as medicine for energetic, sex stimulant, strengthen memory power and kidney, heart and blood related diseases. Studies show Caterpillar Fungus has property to balance diseases and antibodies. Due this properties, Caterpillar Fungus is believed to be used for the treatment of blood, heart and kidney related diseases, Hepatitis, Impotency, old coughs, swelling respiratory, Asthma, spinal related problems, Joint aches, even AIDs and Cancer.

## Conservation Status:

Government of Nepal has prioritized it for Cultivation and Conservation.



Photo: Khilendra Gurung

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