

WILD EDIBLE PLANTS OF SEWA CATCHMENT AREA IN NORTHWEST HIMALAYA

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Abstract: The food habit of people has developed on the basis of experience and survival through successive generation. Primal man learnt that certain nuts, fruits, berries, leaves, roots, grains, mushrooms etc. could cause many ailments and even death. Presently they are thoroughly acquainted with the methods of excluding the harmful floristic elements growing in the wild. In view of the population in general and remote, hilly and inaccessible terrain in particular, wild edible plants of the Sewa catchment area has been surveyed. Extensive field survey has brought to light more than ninety plant species are used as edible. The paper discusses various categories of wild edible plants used by local inhabitants in different climatic regions of catchment area.

Key words: Edible plants, Northwest Himalaya, Sewa catchment

INTRODUCTION

The food habit of people has developed on the basis of experience and survival through successive generation. Although humans know that certain nuts, fruits, berries, leaves, roots, grains, mushrooms etc. could cause many ailments and even death but by experience they become thoroughly acquainted with the methods of excluding the harmful floristic elements growing in the wild. This process still continues in inaccessible and hilly terrains and particularly during the hostile climatic conditions, it has resulted in the evolution of dietary food habits of people in such terrains. Consequently the wild biodiversity still provides sustenance.

Himalayas are known to provide life support system to human beings, particularly due to the fact that on account of remoteness and inaccessible terrain, the local populace has largely depended on local plants. Ethno botanical assessment of these have been made by several workers (Clarke,1880; Hope,1899-1904; Steward, 1945,51,1957 and 72; Bir, 1964; Javeid,1965; Bir and Trikha, 1976; Bir *et al.*,1979-1980; Kapoor,1985; Khullar, 1984-1988 and 1994; Kaul, *et al.*, 1985,1986,1989, 1990; Gurung, 1988; Khullar, *et al.*,1988; Kapur,1989; Sharma and Singh,1989; Amatya,1996; Kiran, *et al.*,1999; Kiran, 2000; Kiran and Kapahi,2001b; Beigh, *et al.*,2004; Borthakur, *et al.*,2004; Gupta, *et al.*, 2004; Kant and Dutt,2004).

Himalaya is known as an abode of wild edible plants. Climatic and topographic diversity of the Sewa Catchment area provides a variety of habitats for the luxuriant growth of potential medicinal plant species. Many of these are used by locals in remote and inaccessible areas. This has necessitated the assessment of the wild edible plant species of Sewa catchment area.

MATERIAL AND METHODS

Exploration of the study area was made fortnightly, during 2001-2006. Plant identification was done from floras and subsequently confirmed from B.S.1. Northern circle, Dehradun. Ethnobotanical information was obtained by interacting with the local populace during exploration trips to the area and also from published literature on the plants in habiting the study area.

Study area

The prominent physiographic feature of the area in the rugged, snow covered mountain ranges, cut into precipitous ridges and defiles. Catchment area is spread over 384 Km² located between latitude 32°26'38"N-32°41'00"N and longitude 75°48'46"E-75°55'38"E forming a part of the Northwest Himalaya in district Kathua of Jammu and Kashmir state of India. Altitudinal gradient of the catchment varies from 578m at Mashka to 4300m at Kaplash Peak. The climate varies from sub-tropical to temperate and extremely cold at higher attitudes. Depending upon the altitude, summer temperature varies from 18°-35°C and winter temperature oscillates between 1°15°C.

ENUMERATION OF WILD EDIBLE PLANTS

Extensive field survey has brought to light 97 plant species which are used by local populace. Wild edible plants enumerated here are arranged alphabetically in their botanical names followed by families name, local names, part used & their uses, habits with their period of flowers and fruits are given.

Aconitum heterophyllum Linn. (Ranunculaceae) Atis, Ponkar.

Uses: Young leaves are used by the locals for edible purposes.

Habit: Herb

Fl.Fr.: Aug.-Nov.

Acorus calamus Wall. (Araceae), Bach.

Uses: Rhizomes are used for stomach and bronchial troubles. In addition young leaves are presently flavored and are edible.

Habit: Herb

Fl.Fr.: Apr.-Aug.

Achyranthes aspera Linn. (Amaranthaceae), Puthkanda

Uses: Young leaves are cooked and used as vegetable/ saag.

Habit: Herb

Fl.Fr.: Apr.-Sept.

Aegle marmelos (L.) Corr. (Rutaceae), Bael

Uses: Ripe fruits eaten and used in preparation of sweet drink.

Habit: Tree

Fl.Fr.: Apr.-Aug.

Aesculus indica Colebr. ex Camb. (Hippocastaceae), Khanor, Bunkhori

Uses: Seed soaked in water for about 12 hours, washed thoroughly, dried and made into flour which is used for making 'halwa'.

Habit: Tree

Fl.Fr.: Apr.-Aug.

Allium roylei Stern. (Liliaceae), Jungli Piyaz.

Uses: Bulbs and leaves used as vegetables or spices.

Habit: Herb

Fl.Fr.: Jun.-Sept.

Alternanthera sessilis Linn. (Amaranthaceae), Kanchuri

Uses: Young shoots and leaves are cooked as pot herb.

Habit: Shrub

Fl.Fr.: Round the year

Amaranthus spinosus. Linn. (Amaranthaceae), Kanteli Chauli

Uses: Tender shoots and leaves eaten as vegetable.

Habit: Herb

Fl.Fr.: Round the year

Amaranthus viridis Linn. (Amaranthaceae), Chauli

Uses: Tender shoots and leaves eaten as vegetable.

Habit: Herb

Fl.Fr.: Round the year

Asplenium trichomanes Linn. (Asplenaceae), Kandai

Uses: Tender Shoots and leaves eaten as vegetable.

Habit: Herb

Fl.Fr.: Jul.- Oct.

Phanera vahlii Wt. and Arn. (Caesalpinaceae), Taur

Uses: Seeds roasted and eaten.

Habit: Woody climber

Fl.Fr.: Jun.- Oct.

Bauhenia variegata Linn. (Caesalpinaceae), Kerale, Kachnar

Uses: Flower buds eaten as vegetable, petal used in a curd preparation.

Habit: Tree

Fl.Fr.: Feb.- Jun.

Berberis aristata DC. (Berberidaceae), Kashmal, Simlu

Uses: Ripe fruits eaten, roots used in medicine.

Habit: Shrub

Fl.Fr.: Mar.- Jul.

Berberis lycium Royle (Berberidaceae), Simlu, Kashmal

Uses: Ripe fruits eaten, roots used in medicine.

Habit: Shrub

Fl.Fr.: Mar.- Jul.

Bergenia ciliata Haw. Sternb. (Saxifragaceae) Zakhme hayat.

Uses: Rhizomes are boiled to yield a decoction which after addition of sugar and milk is taken as tea substitute.

Habit: Herb

Fl.Fr.: Mar.- Sept.

Bombax ceiba Linn. (Bombacaceae), Simbal

Uses: Young flower buds cooked as vegetable, root used in medicine.

Habit: Tree

Fl.Fr.: Dec.- Apr.

Capsella bursa pastoris Medik (Brassicaceae), Chamso

Uses: Young leaves and shoots used as vegetable.

Habit: Herb

Fl.Fr.: Dec.- Apr.

Cardamine impatiens Linn. (Brassicaceae),

Uses: Young shoots including leaves and flower eaten as salad.

Habit: Herb

Fl.Fr.: Apr.-Jun.

Carissa opaca Linn. (Apocynaceae), Garna

Uses: Ripe fruits eaten.

Habit: Shrub

Fl.Fr.: Jun.- Dec.

Chenopodium album Linn. (Chenopodiaceae), Bettu

Uses: Tender shoot eaten as vegetable.

Habit: Herb

Fl.Fr.: Mar. -Sept.

Cinnamomum tamala (Lauraceae), Tegpatra

Uses: Leaves used as a spice and in medicine.

Habit: Tree

Fl.Fr.: Mar. -Sept.

Codonopsis ovata Benth. ex Royle (Campanulaceae), Ludut

Uses: Roots are large and are used for making vegetables.

Habit: Herb

Fl.Fr.: Jul. –Sept.

Commelina benghalensis Linn. (Commelinaceae), Chhura
Uses: Freshly leaves used as vegetables. Rhizomes are also known to cook for edible purposes.

Habit: Herb

Fl.Fr.: Jul. –Nov.

Cordia dichotoma Forst. (Cordiaceae), Lasoora

Uses: Fruit used as vegetable or pickled, bark and fruits used in medicine.

Habit: Herb

Fl.Fr.: Mar.-Jul.

Coriaria nepalensis Wallich. (Coronariaceae), Reekhni

Uses: Fruits are known to be edible.

Habit: Herb

Fl.Fr.: Aug.- Sept.

Coronopus didymus Linn. (Brassicaceae), Gangly Hallian

Uses: Young shoots are used as pot herb. The vegetables are cooked like a spinach after boiling to remove the bitter content.

Habit: Herb

Fl.Fr.: Jan.-May.

Crotolaria medicaginea Lamk. (Fabaceae), Guglali

Uses: Young leaves are sometime used as pot herbs.

Habit: Herb

Fl.Fr.: Jul-Oct.

Dendrocalamus strictus Bl. (Poaceae), Bans

Uses: Mature stem is used for making pickle.

Habit: Shrub

Fl.Fr.: Apr.- Jun.

Diplazium acrostichoides Bir. (Athyriaceae),

Uses: The young fronds are cooked and relished as vegetable.

Habit: Herb

Fl.Fr.: Apr.-Sept.

Diplazium frondosum (Clarke) Christ (Athyriaceae), Khandhor, Kasror

Uses: Young circinate leaves are rubbed with a piece of cloth to remove scales and hairs before cooking it as vegetable, also used as pickled.

Habit: Herb

Fl.Fr.: Apr.-Oct.

Dipsacus inermis Wall. (Dipsacaceae), Wupal hak

Uses: Shoots of young plants are cooked as spinach for consumption.

Habit: Herb

Fl.Fr.: Aug.- Nov.

Dodonea viscosa Linn. (Sapindaceae), Senth

Uses: Seeds are known to be edible.

Habit: Shrub

Fl.Fr.: Jan.-May

Elaeagnus umbellata Thunb. (Elaeagnaceae), Kunkholi

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Mar. –Aug.

Euphorbia royleana Boiss. (Euphorbiaceae), Thor

Uses: Pith of young shoots cut into small pieces, washed thoroughly, boiled and cooked as a vegetable and used for preparing rayata .

Habit: Tree

Fl.Fr.: Mar.– Jun.

Ficus auriculata Lour. (Moraceae), Triambal

Uses: Ripe figs eaten, young figs and tender leaves cooked as vegetable.

Habit: Tree

Fl.Fr.: Mar. – Sept.

Ficus palmata Forssk. (Moraceae), Phagra

Uses: Ripe fruits eaten, young figs and tender leaves cooked as vegetable.

Habit: Tree

Fl.Fr.: Mar. – Jul.

Flacourtia indica Merr. (Flacourtiaceae), Kangu

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Apr.-Jun.

Foeniculum vulgare Gaertn. (Apiaceae), Saunf

Uses: Dried fruits are used as spice and carminative.

Habit: Herb

Fl.Fr.: Mar.-Apr.

Fragaria indica Andr. (Rosaceae), Punjakha

Uses : Ripe fruits eaten.

Habit: Herb

Fl.Fr.: Apr.-Jun.

Fragaria nubicola indl. (Rosaceae), Jal bunonoo

Uses: Rhizome used as a substitute for tea.

Habit: Herb

Fl.Fr.: Apr.- Jun.

Gagea elegans Wall. Ex Royle (Liliaceae), Jardu

Uses: Young fleshy leaves of this species are cooked as pot herb.

Habit: Herb

Fl.Fr.: Feb.-Apr.

Galinsago parviflora Cav. (Asteraceae) Peeplo

Uses: The plant is reported to be used as a vegetable.

Habit: Herb

Fl.Fr.: Apr.- Aug.

Galium aparine Linn. (Rubiaceae), Khorti

Uses: Shoots and leaves are cooked as pot herb.

Habit: Herb

Fl.Fr.: Mar.- Sept.

Gnaphalium leutoalbum Linn. (Compositae), Sukhree

Uses: Leaves and young shoots are cooked as vegetable.

Habit: Herb

Fl.Fr.: Apr.- Jun.

Grewia optiva J. R. Drumm. (Tiliaceae), Dhaman

Uses: Ripe fruit eaten.

Habit: Tree

Fl.Fr.: May – Jan.

Gymnosporia royleana Lawson (Celastraceae), Patrau

Uses: Ripe fruits are edible at the time of scarcity.

Habit: Shrub

Fl.Fr.: Dec.- Jul.

Infigofera heterantha Wall ex Brandi (Fabaceae), Kathi

Uses: Flowers are boiled in milk and are used for curing ulcers.

Habit: Shrub

Fl.Fr.: May- Jul.

Juglans regia Linn. (Juglandaceae), Akhrot

Uses: Fruit kernels edible.

Habit: Tree

Fl.Fr.: Apr.- Aug.

Lamium album Linn. (Lamiaceae), Nealuhak

Uses: Young leaves used as pot herb.

Habit: Herb

Fl.Fr.: Apr.- Oct.

Lamium amplexicaule Linn. (Lamiaceae), Henbit

Uses: Leaves are boiled after that cooked like spinach.

Habit: Herb

Fl.Fr.: Mar.- Jun.

Lathyrus aphaca Linn. (Fabaceae), Gangli mattor

Uses: Seeds are known to be eaten during scarcity.

Habit: Herb

Fl.Fr.: Jan..

Lathyrus sativus Linn. (Fabaceae), Khesri

Uses: It is eaten as Dal and Chapatti

Habit: Herb

Fl.Fr.: Jan.- Jun.

Malva parviflora Linn. (Malvaceae), Sonchal

Uses: Eaten as vegetable.

Habit: Herb

Fl.Fr.: Dec.- Apr.

Medicago lupulina Linn. (Fabaceae) Ardkhkhd booti

Uses: Young shoots and leaves are cooked as vegetable.

Habit: Herb

Fl.Fr.: Jan.-Apr.

Mentha arvensis (Lamiaceae), Pudina

Uses: Leaves are used as a spices and carminative.

Habit: Herb

Fl.Fr.: Jun.-Sept.

Mentha longifolia (Linn.) Muds. (Lamiaceae), Pudina

Uses: Leaves are used for making chutney.

Habit: Herb

Fl.Fr.: Jun.- Sept.

Momordica dioica Wall. (Cucurbitaceae), Kakora

Uses: Fruits eaten as vegetable.

Habit: Herbaceous climber

Fl.Fr.: Jul .-Sept.

Morchella esculenta Pers. (Helvellaceae), Gugchi

Uses: Fruitification is used as vegetable.

Habit: Fungus

Fl.Fr.: Apr.- Aug.

Moringa oleifera Lam. (Moringaceae), Sahjan

Uses: Pods cooked as vegetable and pickled.

Habit: Tree

Fl.Fr.: Apr.- Jun.

Morus alba Linn. (Moraceae), Toot

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Apr.- Jun.

Morus nigra Linn. (Moraceae), Shahtute

Uses: Dark red fruits are sour and eaten fresh.

Habit: Tree

Fl.Fr.: Apr.- Jun.

Murraya koenigii Linn. (Rutaceae), Curry patta

Uses: Ripe fruits eaten leaves used as spices in preparation of curries.

Habit: Shrub

Fl.Fr.: Dec.-Apr.

Myrica esculenta Ham. (Myricaceae), Kaphal

Uses: Ripe fruits eaten, used in preparation of refreshing drink, bark and fruits used in medicine.

Habit: Tree

Fl.Fr.: Jul.-Oct.

Oxalis corniculata Linn. (Oxalidaceae), Peeli Khatti booti

Uses: Its sour leaves are cooked or made into chutney.

Habit: Herb

Fl.Fr.: Nov.-Jun.

Origanum vulgare Linn. (Lamiaceae), Sathra

Uses: Leaves of the young plants are cooked as vegetable.

Habit: Herb

Fl.Fr.: Mar.- Sept.

Oxyria digyna Hill. Simthan (Polygonaceae), Kalashi

Uses: Leaves are sour, first boiled and then cooked as vegetable.

Habit: Herb

Fl.Fr.: Jun.- Aug.

Portulaca oleracea Linn. (Portulacaceae), Nailiyara

Uses: Shoots used as vegetable.

Habit: Herb

Fl.Fr.: Apr.- Nov.

Phoenix sylvestris (Roxb.) Linn. (Arecaceae), Khajur

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Dec.- Jun..

Phyllanthus emblica Linn. (Euphorbiaceae), Amla

Uses: Fruit eaten raw, pickled and used for making preserve and medicine.

Habit: Tree

Fl.Fr.: Apr.- Jun.

Phytolacca acinosa Roxb. (Phytolaccaceae), Jharka

Uses: Leaves eaten as vegetable.

Habit: Shrub

Fl.Fr.: Apr.- Sept.

Pinus roxburghii Roxb. (Pinaceae), Chirpine

Uses: Seeds are known to be edible by the locals during the scarcity of food.

Habit: Tree

Fl.Fr.: Apr.- Aug.

Plantago major Linn. (Plantaginaceae), Isabgol

Uses: Soft fleshy leaves cooked as vegetable.

Habit: Herb

Fl.Fr.: Jul.-Sept.

Platanus orientalis Linn. (Platanaceae), Chinar

Uses: Infusion of the roots is consumed as a beverage. It is said to have stimulating properties.

Habit: Tree

Fl.Fr.: Jan.- Jun.

Podophyllum hexandrum Royle. (Podophyllaceae), Bunkakri

Uses: Mature fruits are pear like and sweet in taste.

Habit: Herb

Fl.Fr.: Apr.- Jun.

Polygonum amplexicaule D. Don. (Polygonaceae),

Uses: Woody root stocks are boiled in water to yield decoction to which milk and sugar are added for consumption as a tea substitute by the hilly people.

Habit: Herb

Fl.Fr.: Aug.- Oct.

Pteridium aquilinum Linn. (Pteridiaceae), Kakaie

Uses: Boiled and roasted rhizome and young leaves eaten as vegetable and also for pickle preparation.

Habit: Fren

Fl.Fr.: May-Oct.

Punica granatum Linn. (Punicaceae), Daar

Uses: Dried seeds (anardana) used as souring agent, spice and in medicine.

Habit: Tree

Fl.Fr.: Apr.- Sept.

Pyrus pashia Buch. Ham. (Rosaceae), Kainth

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Apr.- Dec.

Rhododendron arboreum Sm. (Ericaceae), Hardulli

Uses: Fresh or dried flowers used for making chutney, squash and refreshing drink.

Habit: Tree

Fl.Fr.: Mar.- May

Ricinus communis Linn. (Euphorbiaceae), Arind

Uses: Caster oil is produced which is edible.

Habit: Shrub

Fl.Fr.: Sept.-Apr.

Rosa brunonii Lindl. (Rosaceae), Panjali gulab

Uses: Flowers used for preparation of rose water and taken internal as laxative.

Habit: Shrubby climber

Fl.Fr.: Apr.- Jul.

Rubus ellipticus Sm. (Rosaceae), Akhre

Uses: Ripe fruits eaten.

Habit: Shrub

Fl.Fr.: Dec.- May.

Rubus hoffmeisterianus (Rosaceae), Akhre

Uses: Ripe fruits are edible.

Habit: Shrub

Fl.Fr.: Feb.- Aug.

Rumex hastatus D. Don. (Polygonaceae), Aamy, Malori

Uses: Leaves used as salad and making chutney.

Habit: Herb

Fl.Fr.: Feb.- Apr.

Rumex nepalensis Spring. (Polygonaceae), Malora

Uses: Leaves as vegetable.

Habit: Herb

Fl.Fr.: Apr.-Aug.

Sapindus mukorossi Gaertn. (Sapindaceae), Ritha

Uses: Kernels put under running water for about a week, dried and made into flour used for making halwa or bread.

Habit: Tree

Fl.Fr.: Apr.- Jun.

Solanum nigrum Linn. (Solanaceae), Makoy

Uses: Ripe fruits eaten.

Habit: Herb

Fl.Fr.: Jun.-Oct.

Solanum xanhocarpum Schrad & Wend. (Solanaceae), Neeli Kandhari

Uses: Boiled seeds and bark is given to the woman after the delivery.

Habit: Herb

Fl.Fr.: Apr.- Jun.

Syzygium cumini Linn. (Myrtaceae), Jaman

Uses: Ripe fruits eaten.

Habit: Tree

Fl.Fr.: Apr.- Jul.

Taxus baccata Linn. (Taxaceae), Barmi

Uses: Bark is used as a substitute for tea by the local.

Habit: Tree

Fl.Fr.: May-Nov.

Thymus serculum Linn. (Lamiaceae), Merchari

Uses: Seeds used in pickle.

Habit: Herb

Fl.Fr.: Mar.- Jun.

Viburnum grandiflorum Linn. (Caprifoliaceae), Guchh

Uses: Ripe fruits edible.

Habit: Shrub

Fl.Fr.: Jul.- Oct.

Viola odorata Linn. (Violaceae), Banaksha

Uses: Petals are dried and are used for making syrups.

Habit: Herb

Fl.Fr.: Aug.- Oct.

Vitis Jacquemontii Parker (Vitaceae), Dhak

Uses: Ripe fruits edible.

Habit: Woody climber

Fl.Fr.: Jun.-Aug.

Xanthoxylum alatum Roxb. (Rutaceae), Timbru, Timber

Uses: Young leaves and fruits used for making chutney, for flavoring the food.

Habit: Tree

Fl.Fr.: Apr.- Sept.

Ziziphus mauritiana Lamk. (Rhamnaceae), Be

Uses: Ripe fruit eaten

Habit: Tree

Fl.Fr.: Sept.-Feb.

Ziziphus oxyphylla Edgrew (Rhamnaceae), Berry

Uses: Ripe fruits edible.

Habit: Shrub

Fl.Fr.: Jun.-Sept.

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