

## AN ETHNOBOTANICAL STUDY OF PINSWARI COMMUNITY — A PRELIMINARY SURVEY

ARUN K. BADONI

*Institute of Himalayan Studies and Regional Development,  
H. N. B. Garhwal University, Srinagar (U.P.)*

### ABSTRACT

The egregious, idyllic, non-xenophobic *Pinswari* community is an isolated community dwelling in the remote hills of the Tehri District of Uttar Pradesh, India. They are the descendants of the *Jaads* (*Huniyas*) and are still isolated in the sense that normally do not have marital relation with the Garhwalis. Based on ethnobotanical survey (1983-1988) 108 plant species which are used as medicines, fibre yielders, in arts and crafts, and in agricultural implements are reported. Correct botanical name, family, local name, collector's name (abbreviated as AKB) and number and detailed uses as given by local informants are given under each entry.

### INTRODUCTION

The Himalayas may rightly be visualized as a store-house of plant wealth. Being a conglomeration of shrines, terraced fields, meandery valleys, yawning glaciers, glittering peaks, lush green meadows and, above all selfless, friendly hill folks, the numerous Himalayan ridges are a home of a number of economically important plants which have been used by the local settlers since the dawn of civilization. The hymns of Rigveda have also sung the glory of Himalayan herbs and drugs.

The properties of a number of the plants were known in some form or other to primitive man as well. It is only since the past few decades that formal ethnobotanical studies have been started in various parts of the world. In India also, a few workers have taken pains to elucidate the ethnobotanical aspects but still we are far from a comprehensive account, and the U.P. hills stand

almost neglected barring a couple of reports from this University (Badoni 1986; 1987-88; Bisht and Badoni 1990; Paliwal and Badoni 1988, 1990). Floristically quite well explored (Gupta 1956; Ghildiyal 1957; Rau 1963, 1964; Naithani 1967, 1984; Dey *et al.* 1968; Som Deva 1978 a; 1978 b; Bhattacharyya and Malhotra 1982; Hajra and Jain 1983; Gaur 1987 and Badoni, 1990), this area demands extensive ethnobotanical surveys.

The Garhwal Himalaya in Uttar Pradesh, India, lies between the lat.  $29^{\circ}26'-31^{\circ}28'N$  and long.  $77^{\circ}49'-80^{\circ}6'E$  and with a total area of about 3090 sq. km, it comprises of five districts namely Chamoli, Dehradun, Pauri, Tehri and Uttarkashi. The district of Tehri occupies a central position among these in North-West Himalayas and lies between  $30^{\circ}4'-30^{\circ}52.5'$  lat. and  $70^{\circ}56'-79^{\circ}3'E$  long.

'*Pinswaries*' are a tribal population occupying the North-East region of Tehri touching the borders of Uttarkashi district (Fig. 1). This area is 23 km away from the nearest

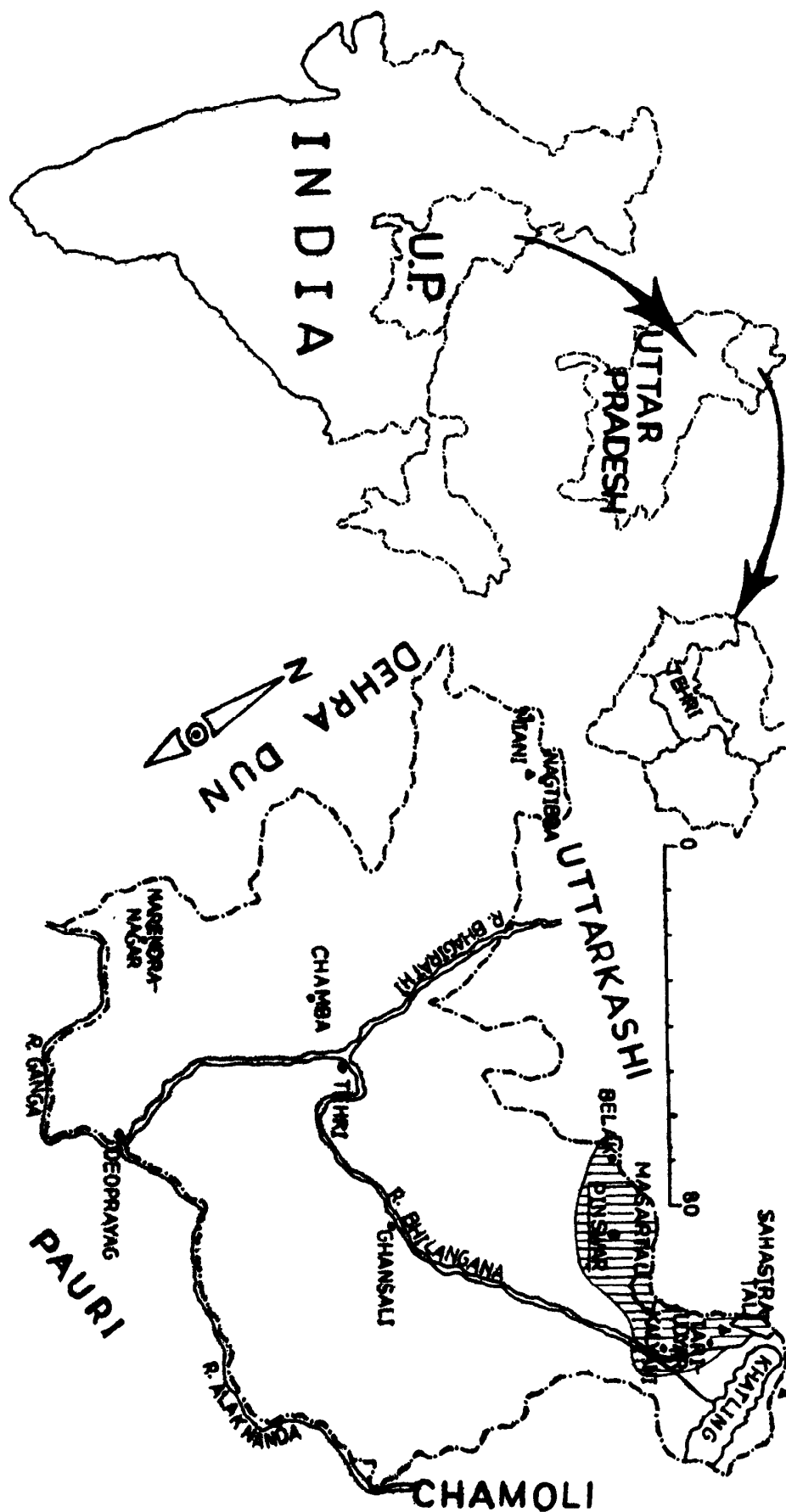


Fig. 1: Maps showing location of U. P. in India, Garhwal in U. P. and Tehri in Garhwal respectively. The detailed map of district Tehri indicates the study area—Pinswar and the surrounding localities inhabited by tribals are marked by shadow.

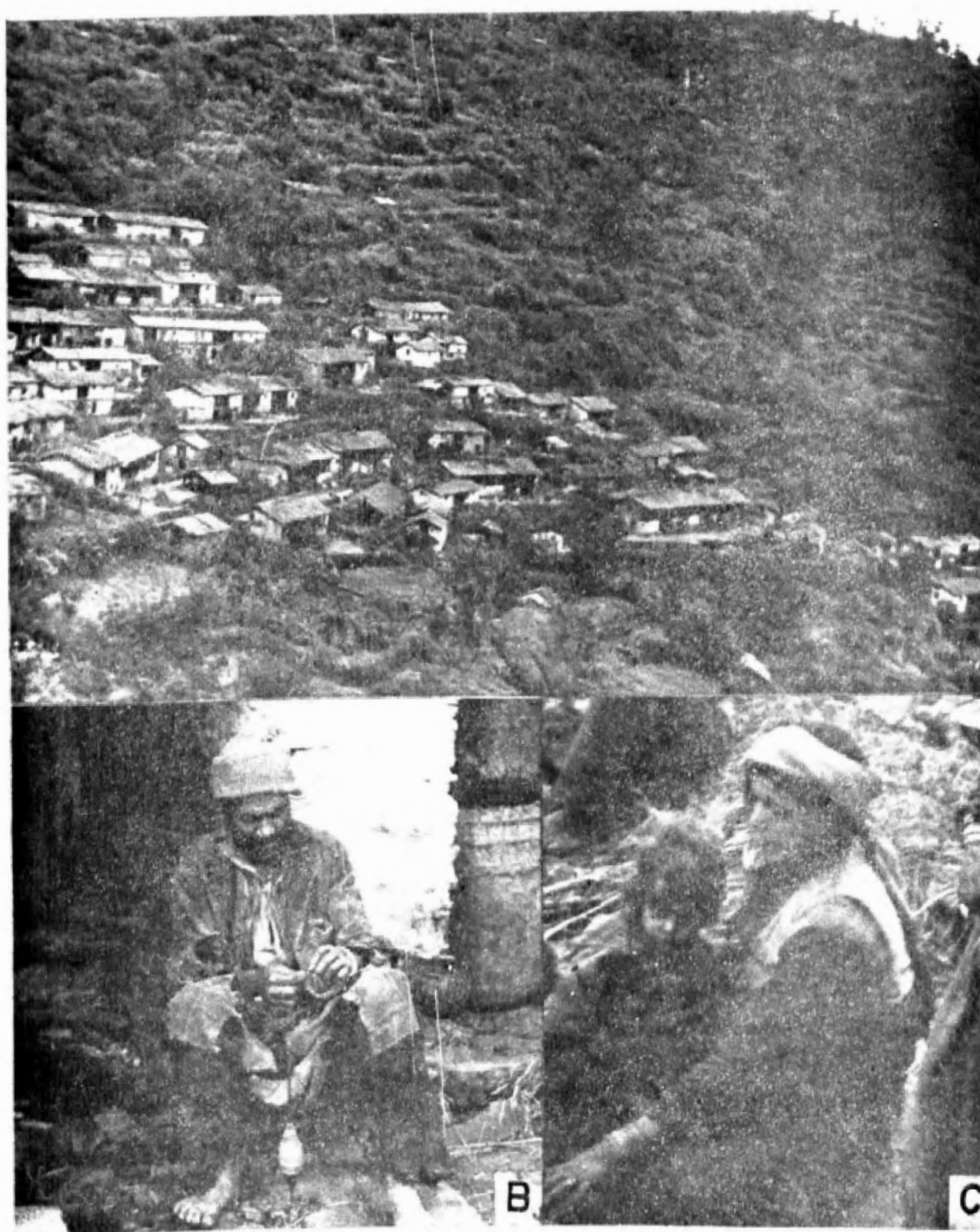


Fig. 2: A-C: A. Pinswari village of Tehri at an elevation of 2,300 m. B. Pinswari man: typical face and style resembling the Jaad tribes. C. Non-xenophobic life-style of a Pinswari woman.

road head, and can be approached only by trekking over steep slopes through narrow and zig-zag paths (Fig. 2A). The *Pinswaries* are now generally referred to as the aboriginal Garhwalis. But this does not seem to be the case. By their appearance and facial features these people resemble the *Jaads* more closely, and it is postulated here that the present day *Pinswari* community is a gradual admixture of the Garhwali element with the *Basahiri Huniya Jaad* stock (Fig. 2B). These *Jaads* in fact are the descendants of the *Huns* (Dabral, 1964). The evidence in favour of this assumption is that the aboriginal Garhwalis in their vicinity do not have marital relations with the *Pinswaries*. Moreover, although some of the *Pinswaries* have not taken to agriculture, most are still nomadic and move with their flock of goats to Belak, Kalyani and other areas for pasturing. The strongest evidence in this favour is the temple of *Hun Devta* (God) whom these people worship. Quite interesting is the fact that these people neither drink liquor, nor prepare any type of wine. In this feature also they resemble the *Huniyas*. They do not feel shy of strangers, and do not practise the *pardah* (veil) system (Fig. 2C). Still being an isolated locality, these people depend upon the nearby forest vegetation for their quotidian activities, and are self-sufficient. In search of medicinal herbs they travel long distances to Masartal, Sahastratal, Belak, Kalyani, Kush-kalyan and Tariudyar (Fig. 4A).

As regards their agricultural practices, *Pinswaries* cultivate only potato (*Solanum tuberosum*), amaranth (*Amaranthus paniculatus* L.). Indian wheat (*Fagopyrum tataricum*), and finger millet (*Flusine coracana*). Wheat, paddy and legumes are obtained by these people by bartering their own products with the Garhwalis. They are very efficient in wood crafts and make agricultural equipments from the wood of *Rhododendron arboreum*, *Quercus floribunda*,

*Q. leucotrichophora*, *Toona serrata* and *Picea smithiana*. The mainstay of their economy is the Himalayan bamboo (*Chimonobambusa falcata*). They use this plant species variously to prepare different types of baskets and mats named as *Swelta*, *Kandu*, *Muretha*, *Palla* etc. These products are sold by them in the markets of Chamyala (Balganga valley) and Ghansyali towns (Fig. 3A-D).

#### MATERIALS AND METHODS

The present study is based on extensive field studies during the years 1983 to 1988. The various plant species collected during these trips were identified at the Forest Research Institute Herbarium, Dehradun (DD), the Botanical Survey of India, Northern Circle Herbarium, Dehradun (BSD), and the Herbarium of Garhwal University, Srinagar. Ethnobotanical information presented here were gathered with the help of local informants and other elders of the community. The traditional medical practitioners were also consulted and sometimes taken them to field trips. An interpreter was employed in order to communicate with the *Pinswaries* and to record information on uses, and other details as given by the them.

#### PLANTS USED BY PINSWARIES

Following is the list of 108 plant species, used by the *Pinswaries*. The botanical binomial (alphabetically arranged) and family names are followed by the common English name (if any), the local name (*italics*), collector's initials, collection number and the use or uses attributed to them. Voucher specimens have been deposited at the Garhwal University Herbarium, Srinagar.

**Aconitum atrox** (Bruhl.) Mukherjee (Ranunculaceae) Aconite. *Mitha* AKB. 350.

A poisonous plant, highly toxic even in small quantities. Tuberous roots are used in

the treatment of cattle diseases and snake bites. Fried with *ghee* (purified butter), the roots are used externally for the treatment of rheumatism and neuralgia. Also variously used as an antipyretic, diaphoretic and diuretic medicine (Fig. 4B).

**Aconitum heterophyllum** Wall. ex Royle (Ranunculaceae) Aconite. *Atis* AKB. 316.

The dried roots are chewed raw for fever and stomach-ache. Considered very useful in diarrhoea.

**Aesculus indica** (Colebr. ex Camb.) Hook. f. (Hippocastanaceae) Indian horse-chestnut. *Pangar* AKB. 1021.

Flour is prepared by roasting and grinding the seeds which is made into bread during the time of scarcity.

**Allium griffithianum** Boiss. (Alliaceae) *Jambo* AKB. 270.

Young leaves are used as vegetable and the leaf powder is used as a condiment. Dried bulbs are fried with *ghee* and applied for muscular pains.

**A. humile** Kunth (Alliaceae) *Laadu* AKB. 71.

The powder of the bulbs is used as condiment and leaves are cooked as vegetable.

**Amaranthus paniculatus** L. (Amaranthaceae) African spinach. *Marchha* AKB. 1122.

Leaves are used as vegetable. Seeds are bartered to the inhabitants of Bal-ganga valley for wheat and paddy in exchange.

**Anemone obtusiloba** D. Don (Ranunculaceae) Wind lower. *Ratanjot* AKB. 593.

Seeds are used as a purgative. A paste of crushed roots is applied on wounds.

**A. rivularis** Buch.-Ham. ex DC. (Ranunculaceae) Common wind flower. *Ratanjot* AKB. 576.

Roots are used externally on swellings.

**Angelica glauca** Edgew. (Apiaceae) Angelica, *Chora* AKB. 343.

Dried leaves and stems are used as spice. Root extract is used in cattle diseases.

**Arisaema jacquemontii** Bl. (Araceae) *Nagdun* AKB. 505.

Leaf paste is applied to wound as an antiseptic and the decoction of the leaves is used in the treatment of scorpion stings and snake-bite.

**Artemisia nilgarica** (Clarke) Pamp. (Asteraceae) Indian nilagarica. *Kunja* AKB. 509.

The decoction of roots and leaves is used as a tonic and for stomach-ache.

**Asparagus curillus** Buch.-Ham. ex Roxb. (Asparagaceae) *Satavari* AKB. 268.

The roots are eaten raw, and young fleshy shoots are used as vegetable.

**A. filicinus** Buch.-Ham ex D. Don (Asparagaceae) *Kaunia* AKB. 400.

Young shoots used as a vegetable, and for decorating doorways.

**Astragalus chlorostachys** Lindl. (Fabaceae) Indian tryacanth. *Rudravanti* AKB. 604.

Seeds used as purgative. Dry root powder is taken for strength and vitality.

**Berberis aristata** DC. (Berberidaceae) Indian burberry. *Kingor* AKB. 240.

Fruits edible. Leaf extract is used to add a sour taste to raw preparations. Root extract is used as an eye lotion.

**Bergenia ciliata** (Haw.) Sternb. (Saxifragaceae) *Dhognpulata* AKB. 348.

Young shoots are eaten as green vegetable, while an extract of the roots is used as a cough remedy.

**B. stracheyi** (Hook. f. et Thoms.) Engl. (Saxifragaceae) *Pasanbhed* AKB. 103.

Young shoots are eaten as vegetable. Dried leaves are used as a substitute for tea. Root-stock is used in urinogenital disorders.

**Bistorta affinis** (D. Don) Greene (Polygonaceae) *Bakrolya* AKB. 345.

Crushed and powdered leaves are rubbed on the forehead for the treatment of headache, also applied to the burns and scalds.



Fig. 3: A-D: *Chimonobambusa falcata* (Himalayan bamboo) is the mainstay of Pinswari economy. A. Habitat. B. A craftsman processing it for further uses. C. Final preparation of various items. D. Baskets (*Swellas*) being taken for sale or bartering.



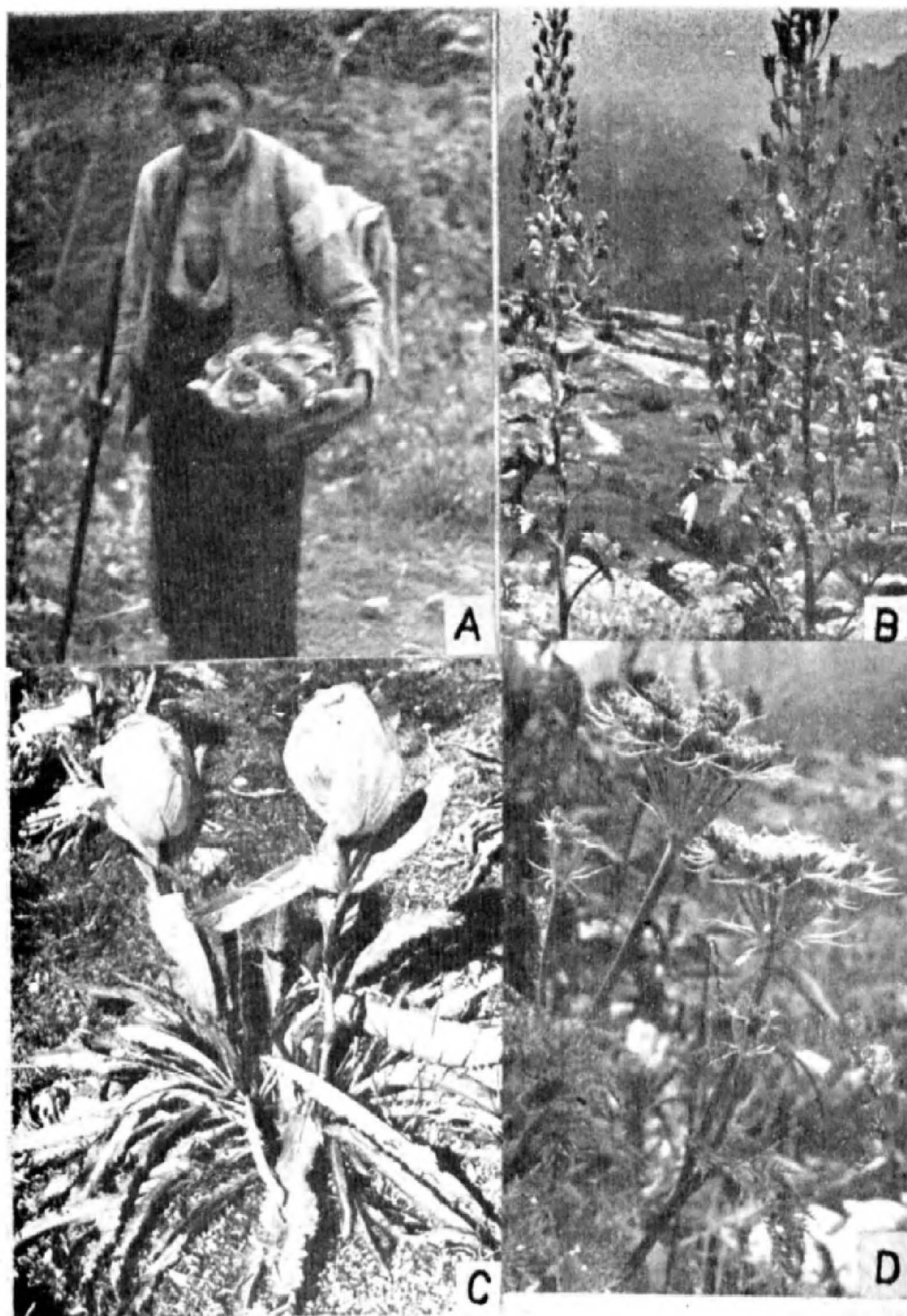


Fig. 4: A-D: A. A herbalist collecting medicinal plants. B-D: Few representative species used in medicinal practices. B. *Aconitum atrox*. C. *Saussurea obvallata* and D. *Selinum wallichianum*.

**Bistorta amplexicaulis** (D. Don) Greene (Polygonaceae) Smart weed. *Amleti* AKB. 1002.

Young shoots and leaves are acidic, so their paste is used as sauce.

**B. macrophylla** (D. Don) Sajak. (Polygonaceae) *Kukheri* AKB. 1106.

Leaves and shoots are used as nutritive vegetable.

**Cannabis sativa** L. (Cannabinaceae) Bhang. *Bhanglu* AKB. 75.

Fibre is obtained from the stem for making ropes and strings. Seeds are roasted and used as a condiment. Bhang (a narcotic) is extracted from the leaves as well as the young inflorescence, and is smoked by the males.

**Centella asiatica** (L.) Urban. (Hydrocotylaceae) Asiatic pennywort. *Thopri* AKB. 397.

Leaf paste is used for the treatment of skin diseases.

**Centipeda minima** (L.) A. Br. et Aschers. (Asteraceae) *Nakchik* AKB. 1102.

The entire plant is ground and applied as a paste for toothache.

**Cerastium glomeratum** Thuill. (Caryophyllaceae) *Chandu* AKB. 532.

A decoction of entire plant is given to ladies after child birth to increase lactation.

**Chenopodium album** L. (Chenopodiaceae) Pigweed. *Banthoo* AKB. 583.

Leaves and tender shoots are used as vegetable.

**Chimonobambusa falcata** Nees (Poaceae) Himalayan bamboo. *Ringal* AKB. 1100.

The culms are used for making various types of baskets, containers, mats and other house-hold items. Medicinally the leaves are used as an emmenagogue and anthelmintic.

**Cicerbita cyanea** (D. Don) Beauv. (Asteraceae) AKB. 1105.

The decoction of the leaves is used for stomach disorders, and to promote digestion.

**Cirsium veratum** (D. Don) Spreng. (Asteraceae) *Biskandara* AKB. 214.

Root paste is applied on wounds and cuts as haemostatic.

**Clematis buchananiana** DC. (Ranunculaceae) *Lungeru* AKB. 606.

Root decoction is used in menorrhagia.

**Colocasia esculenta** (L.) Schott (Araceae) Taro. *Phapri* AKB. 1021.

The corms are consumed after boiling or frying.

**Commelina paludosa** Bl. (Commelinaceae) *Chyura* AKB. 242.

Tender shoots used as vegetable.

**Corydalis govaniana** Wall. (Fumariaceae) *Bhutkeshi* AKB. 202.

Root decoction is used as a remedy for indigestion. Dried leaves and stems serve as insecticides.

**Cotoneaster microphyllus** Wall. ex. Lindl. (Rosaceae) *Ryunshee* AKB. 69.

Twigs are used as toothbrush. Fruits are astringent.

**Cynoglossum lanceolatum** Forssk. (Boraginaceae) Chinese-forget-me-not, *Karat* AKB. 235.

Fruits are used to stop vomiting, and as a pain reliever.

**Dactylorhiza hatagirea** D. Don. (Orchidaceae) *Hathajari* AKB. 49.

Tuberous roots are edible and are considered a strong stimulant. Roots are ground and applied to wounds.

**Delphinium denudatum** Wall. ex Hook. f. et Thoms. (Ranunculaceae) Larkspur. *Nirbishi* AKB. 591.

Dried roots are chewed as a stimulant, and are used in toothache.

**Diplazium esculentum** (Retz.) SW. ex Schrand. (Athyriaceae) *Lingura* AKB. 1107.

Decoction of rhizome and tender leaves is used for haemoptysis and cough.

**D. polypodioides** Blume. (Athyriaceae) *Lingura* AKB. 1108.

Young shoots are used as vegetable.



**Dipsacus inermis** var. **mitis** D. Don (Dipsacaceae) Fuller's teasel. *Kandar* AKB. 1003.

Leaves are used as vegetable.

**Duchesnea indica** (Andr.) Fock. (Rosaceae)

Yellow strawberry. *Bankapha* AKB. 840.

Fruits are edible. Leaf decoction relieves rheumatism.

**Echinops niveus** Wall. ex Royle (Asteraceae)

*Kandaru* AKB. 48.

Root paste is applied to wounds in cattle. Plant extract is used as a tonic, and to cure cough.

**Eclipta prostrata** (L.) L. Mant. (Asteraceae)

*Nirbishi* AKB. 1087.

Plant extract serves as a tonic, and leaves used for scorpion stings.

**Elsholtzia ciliata** (Thunb.) Hylander (Lamiaceae) *Pothi* AKB. 1000.

Decoction of entire plant is used as diuretic medicine.

**Emilia sonchifolia** (L.) DC. (Asteraceae) Tassel-flower. *Ulchi* AKB. 1109.

Leaf juice is used for eye and ear inflammation.

**Eulophia dabia** (D. Don) Hochr. (Orchidaceae)

*Hattajari* AKB. 412.

Tubers are used as purgative and are eaten raw.

**Euphorbia pilosa** L. (Euphorbiaceae) *Daya* AKB. 788.

Leaf paste is applied on wounds.

**Fagopyrum tataricum** (L.) Gaertn. (Polygonaceae) Indian wheat, *Oogal* AKB. 114.

Leaves used as vegetable. The flour obtained by grinding the nuts is made into bread.

**Fragaria nubicola** Lindl. ex Lacaita. (Rosaceae)

*Bankaphal* AKB. 508.

Fruits are edible.

**Fritillaria roylei** Hook. (Liliaceae) *Kakeli* AKB. 122.

Root extract is used as a stimulant.

**Fumaria indica** (Hausskn.) Pugsley. (Fumariaceae) Fumitory. *Mijalu* AKB. 111.

The decoction of entire plants is taken as a blood purifier.

**Galium elegans** Wall. ex Roxb. (Rubiaceae) *Kurra* AKB. 118.

Plant extract is used in the treatment of gonorrhoea.

**Gaultheria trichophylla** Royle (Ericaceae) Fragrant wintergreen. *Gheri*. AKB. 106.

Fruits are edible and the leaf paste is used in rheumatism.

**Gentiana tubiflora** (G. Don) Griseb. (Gentianaceae) Indian gentiana. *Bumlya* AKB. 1008.

Roots are used as tonic, and in urinary infections.

**Geranium nepalense** Sweet (Geraniaceae) Nepal geranium. *Benda* AKB. 167.

Plant extract is used in kidney trouble.

**Girardiana diversifolia** (Link.) Eriss. (Urticaceae) Himalayan nettle. *Kandali* AKB. 564.

Stem yields fibre. Crushed roots mixed with the roots of amaranth (*Amaranthus cruentus*) is used for inflammation of the urinary bladder.

**Hedera nepalensis** Koch. (Araliaceae) *Laglya* AKB. 720.

An infusion of fruits is used in rheumatism.

**Hedychium acuminatum** Roscoe (Scitamineae) Ginger Lilly. *Heduri* AKB. 611.

Rhizomes are chewed in cases of liver trouble, dysentery and for snake bites.

**Heracleum lanatum** Michx. (Apiaceae) *Chhatrya* AKB. 1110.

Dried plant is given to the cattle as a fodder in winter.

**Hibiscus cannabinus** L. (Malvaceae) *Kamblya* AKB. 1005.

Young leaves used as vegetable. Steam yields fibre for making ropes and strings.

- Impatiens cristata** Wall. ex Roxb. (Balsamina-  
ceae) Balsam. *Manjrya* AKB. 612.  
Fruits are used as substitute of chillies.
- Jurinea dolomiaea** Boiss. (Asteraceae) *Dhophya*  
AKB. 1001.  
Root paste is applied on skin eruptions.
- Lactuca brunoniana** (Wall. ex DC.) Clarke  
(Asteraceae) *Gobkya* AKB. 1025.  
It is used as a vegetable, and is also eaten  
raw.
- Lamium album** L. (Lamiaceae) *Kappu* AKB.  
1036.  
Young stems with leaves are used as vege-  
table.
- Lathyrus emodi** (Wall. ex Fritsch) Ali (Faba-  
ceae) *Kurfori* AKB. 139.  
Pods are roasted or boiled, and then eaten.
- Leea edgeworthii** Santapau (Leeaceae) *Damau*  
AKB. 1113.  
Decoction of leaves is used in stomach-  
ache, and as a carminative.
- Lilium oxypetalum** (D. Don) Baker (Liliaceae)  
*Garur-Panja* AKB. 1007.  
The tubers are used as aphrodisiac, and as  
a general tonic.
- Meconopsis aculeata** Royle (Papaveraceae)  
Himalayan blue poppy. *Kalyari* AKB. 260.  
Root decoction is used as a pain reliever.
- Megacarpaea polyandra** Benth. (Brassicaceae)  
*Barmula* AKB. 1112.  
Leaves serve as vegetable while the roots  
are used as febrifuge and carminative.
- Morina longifolia** Wall. ex DC. (Dipsacaceae)  
*Nirvishi* AKB. 666.  
Leaf decoction is used to lower the body  
temperature during high fever, and is also  
used in snake bites and scorpion stings.
- Myrica esculenta** Buch.-Ham. ex D. Don  
(Myricaceae) Bay-berry. *Kaphal* AKB. 780.  
Fruits are edible. Decoction of bark is used  
in asthma, diarrhoea and chronic bronchitis.
- Myrsine africana** L. (Myrsinaceae) *Chapra*  
AKB. 813.  
Fruit pulp is taken along with milk as an  
anthelmintic.
- Nardostachys grandiflora** DC. (Valerianaceae)  
Spikenard. *Masi* AKB. 607.  
Decoction of rhizome is used as a tonic,  
a laxative, for improving digestion, and in  
urinary troubles.
- Origanum vulgare** L. (Lamiaceae) Potmar-  
joram. *Jogpa* AKB. 543.  
A warm infusion of the plant is given to  
ladies for menstrual disorders due to cold  
weather.
- Oxalis corniculata** L. (Oxalidaceae) Indian  
Sorrel. *Chalmosi* AKB. 211.  
Leaves are eaten raw and also cooked as  
vegetable. Decoction of entire plant is used as  
an appetiser and in fever.
- Peperomia tetraphylla** (Forsk. f.) Hook. &  
Arn. (Piperaceae) *Phatkonya* AKB. 291.  
The decoction of the entire plant is used as  
a tonic, and for kidney trouble.
- Perilla frutescens** (L.) Britt. (Lamiaceae)  
Parilla. *Bhangira* AKB. 1108.  
Leaves are used as vegetable and seeds as  
condiments.
- Physalis minima** L. (Solanaceae) Sunberry.  
*Dampho* AKB. 1020.  
Fruits are edible. Plant decoction is used  
as a tonic and purgative.
- Phytolacca latbenia** (Moq.) Hans. (Phytolacca-  
ceae) *Jagra* AKB. 490.  
Fresh leaves are cooked and used as vege-  
table.
- Picrorhiza scrophulariflora** Pennell (Scrophula-  
riaceae) Black hellebore. *Katki* AKB. 488.  
Roots are chewed to relieve cough. Also  
used in fever, dyspepsia, and stomach  
disorder.
- Pilea umbrosa** Bl. (Urticaceae) *Chaul* AKB.  
384.  
Leaves cooked as vegetable.
- Plantago erosa** Wall. (Plantaginaceae) Plan-  
tago. *Jaldya* AKB. 420.

Seeds are used in dysentery and other digestive disorders.

**Podophyllum hexandrum** Royle ex Cambess. (Podophyllaceae) Indian Podophyllum. *Kakraya* AKB. 1111.

Fruits are edible, and the rhizomes are used as a hepatic stimulant, and as a purgative.

**Potentilla lineata** Trevir ex Reich. (Rosaceae) Silver weed. *Bajardanti* AKB. 263. Leaf powder is used for cleaning teeth.

**Quercus floribunda** Lindl. ex. A. Camus (Fagaceae) Oak. *Moru* AKB. 689.

Insect galls on the leaves are eaten. Wood is very strong and serves various purposes.

**Q. leucotricophora** A. Camus ex Bahadur (Fagaceae) Oak. *Banj* AKB. 690.

Wood is used for making agricultural equipments and also for building purpose. A decoction of the acorns is used in dyspepsia.

**Rheum australe** D. Don (Polygonaceae) Himalayan rhubarb. *Archa* AKB. 555.

Leaves and flowers are cooked as vegetable and is especially given as a cure for piles and bronchitis. Root decoction is given in cases of dysentery and dyspepsia.

**Rhododendron arboreum** Sm. (Ericaceae) Rose tree. *Burans* AKB. 824.

Flowers are eaten raw and are especially prescribed for dysentery. Leaves and stems are used as poultice for high fever and headache.

**R. hypenanthum** Balf. f. (Ericaceae) *Kodya* AKB. 236.

Leaves used as a substitute for tea, and also to relieve coughs and colds.

**Rorippa nasturtium-aquaticum** (L.) Hayek. (Brassicaceae) *Kotal* AKB. 13.

Young shoots and leaves are cooked as vegetable.

**Rosa macrophylla** Lindl. (Rosaceae) *Kunja* AKB. 376.

Fruits are edible. Unripe fruits are made into sauce.

**Rubus foliolosus** D. Don (Rosaceae) Himalayan yellow Raspberry. *Anchu* AKB. 1004.

Fruits are edible and considered very useful in dyspepsia.

**Rumex acetosa** L. (Polygonaceae) Dock Sorrel. *Khatiyaru* AKB. 1107.

Leaves are made into sauce. The leaf extract is applied to wounds and cuts, and is said to be very effective. Root decoction is used in severe coughing spasms.

**R. nepalensis** Spreng. (Polygonaceae) *Kholya* AKB. 133.

Young shoots and leaves are used as vegetable and root decoction is used in venereal disease.

**Saussurea obvallata** (DC.) Edgew. (Asteraceae) Costus. *Brahmkamal* AKB. 347.

Root paste is applied on cuts and wounds. Flowers are fried and then used in rheumatism (Fig. 4C).

**Selinum wallichianum** (DC.) Raizada et Saxena (Apiaceae) *Barhatu* AKB. 195.

Seeds are used as condiments and the decoction of the roots is used as blood purifier.

**Stellaria media** (L.) Vill. (Caryophyllaceae) *Badyala* AKB. 301.

The entire plant is used as a green vegetable.

**Swertia ciliata** (D. Don ex G. Don) Burt. (Gentianaceae) *Chiretta*, *Chirayata* AKB. 198.

The decoction of roots is used as an antipyretic.

**Taraxacum officinale** Weber ex Wiggers. (Asteraceae) Common dandelion. *Kankaphyla* AKB. 40.

Leaves are used as vegetable. Decoction of roots and rhizomes is used as diuretic, hepatic stimulant and as a tonic,

**Taxus baccata** L. (Taxaceae) Himalayan yew.

*Thuniara* AKB. 640.

Leaf paste is applied on swellings.

**Thalictrum foliolosum** DC. (Ranunculaceae)

*Peelijari* AKB. 67.

Decoction of roots is given for ophthalmia.

**Thymus linearis** Benth. (Lamiaceae) Mother-of-thyme. *Dhar-ki-jwain* AKB. 433.

Decoction of entire plant is given in urinary troubles. Leaves and twigs are good flavouring agents.

**Typhonium diversifolium** Schott. ex Lindl. (Araceae) *Nakdoon* AKB. 483.

Roots are taken as an energising tonic and the ripe fruits are edible.

**Urtica dioica** L. (Urticaceae) Stinging nettle. *Kandali* AKB. 344.

Young tops are thoroughly washed, boiled and cooked as vegetable. Crushed roots are used as diuretic drug.

**Valeriana hardwickii** Wall. (Valerianaceae) Indian Valeriana. *Muskbara* AKB. 215.

The pleasant smelling roots are used to treat hysteria and intestinal disorders.

**Viburnum grandiflorum** Wall. ex DC. (Sambucaceae) Cranberry bush. *Guyana* AKB. 462.

Crushed leaves are taken as a remedy for constipation.

**Viola biflora** L. (Violaceae) Sweet violet. *Banfisa* AKB. 99.

Entire plant is used as demulcent and in biliousness and lung troubles.

**V. canescens** Wall. ex Roxb. (Violaceae) Sweet violet. *Banfisa* AKB. 26.

Leaves boiled in the same manner as tea, and the decoction is used as a remedy for cold and cough.

**Zanthoxylum acanthopodium** DC. (Rutaceae)

Wing leaf prickly ash. *Timru* AKB. 777.

Fruits and leaves are used as condiments. The juice of the fruit is frequently employed to relieve severe toothache,

## ACKNOWLEDGEMENTS

I gratefully acknowledge the award of Research Associateship by the Council of Scientific & Industrial Research, New Delhi. The village leaders and the herbalists deserve my special thanks for their generosity in providing information and hospitality. I wish to thank Dr. H. K. Badola and R. L. Semwal for their assistance and suggestions on the manuscript. Last but not least, my sincere thanks are duly extended to Prof. G. S. Paliwal for his whole hearted supervision.

## REFERENCES

- BADONI, A.K. Some aspects of the ethnobotany of the hill tribes of Uttarkashi district. *Proc. Indian Bot. Conf.* 65 : 57-58. 1986.
- Ethnobotany of the hill tribes of Uttarkashi : Plants used in rituals and psycho-medicinal practices. *Johsard* 11 & 12: 103-115. 1987-88.
- On the occurrence of *Plantago lanceolata* Linn. from Garhwal Himalayas. *Indian Forester* 116: 250. 1990.
- BIST, M. K. AND A. K. BADONI. Araceae in the folk life of the tribal populace in Garhwal Himalayas. *Journ. Econ. Bot. & Phytochem.* 1: 21-24. 1990.
- DABRAL, S. P. Uttrakhand Ke Bhotantik. Dogadda (Pauri Garhwal). 1964.
- GAUR, R. D. A Contribution to the flora of Srinagar Garhwal. *Journ. Econ. Tax. Bot.* 9: 31-63. 1987.
- GHILDYAL, B. N. A botanical trip to the Valley of Flowers. *Journ. Bombay Nat. Hist. Soc.* 54: 365-386. 1957.
- GUPTA, R. K. Botanical explorations in the Bhilangana Valley of the erstwhile Tehri Garhwal State. *Ibid.* 53: 581-594. 1956.
- HAJRA, P. K. AND S. K. JAIN. A contribution to the Botany of Nanda Devi National Park in Uttar Pradesh, India. B.S.I., Calcutta. 1983.
- NAITHANI, B. D. Plant collection with Kedarnath Parwat Expedition. *Bull. Bot. Surv. India* 2: 224-236. 1967.
- Flora of Chamoli. B.S.I., Howrah. 1984.
- PALIWAL, G. S. AND A. K. BADONI. Ethnobotany of the hill tribes of Uttarkashi. I. Medicinal Plants. *Journ. Econ. Tax. Bot.* 14: 421-442. 1990.

- PALIWAL, G. S. AND A. K. BADONI. Ethnobotany of the hill tribes of Uttarkashi. II. Wild edibles. *Bull. Bot. Surv. India* 30: 111-119. 1988.
- RAU, M. A. The vegetation around Jamunotri in Tehri Garhwal, U. P. *Ibid.* 5: 277-280. 1963.
- A visit to the Valley of Flowers and Lake Hemkund in North Garhwal, Uttar Pradesh. *Ibid.* 6: 169-171. 1964.
- SOM DEVA. New or little known plants from Garhwal Himalaya. I. *Indian Journ. For.* 1: 163-165. 1978a.
- New or little known plants from Garhwal Himalaya, II. *Ibid.* 1: 348-354. 1978b.