

ETHNOBOTANICAL EXPLORATION OF LADAKH — J & K

G. M. BUTH and IRSHAD A. NAVCHOO

Department of Botany, University of Kashmir, Srinagar-190006, India.

The present communication provides a glimpse of the ethnobotany of Ladakh, J & K State. As many as fifty one species were found to be of common use among people of Ladakh, of these 24 species were being used as medicine for treatment of various ailments, 9 species were used as vegetable, 11 species as fodder, 4 species as building material and 3 species for miscellaneous purposes.

Keywords : Ethnobotany; Ladakh.

Introduction

One of the first aspects of primitive culture to fall before the onslaught of civilization is the knowledge and use of plants by man. Perhaps, as a consequence of his dependence on plants, man has incorporated these into his language, religion, art, drama and recreation. Despite the progress made in technology, most of our day to day needs are still met by plants growing around. For this reason an evaluation of the relationships between a group of people and their surrounding vegetation can provide useful cultural insights.

Ladakh region of Jammu and Kashmir State is rich in ethnic folklore, culture and heritage. The people have their own medicinal system, food habits and some beverages. It is characterised by its own floristic compo-

sition, geographical and even geological peculiarities. The social and cultural traditions are markedly different from those of Kashmir or any other part of India. The man plant relationship has been to a great extent shaped by its tradition, culture and history.

Until recently the traditional way of life had seen little change, however, Ladakh has become more and more exposed to outside influence, thus threatening its unique culture. The food habits are changing as is the attitude towards disease and medicine. The man plant relationships which were once so strong are gradually being threatened.

Ethnobotanic studies in Ladakh have not received due attention so far. Only some stray accounts (Abrol and Chopra, 1962; Raghunath, 1976; Sriv-

astava and Gupta, 1982; and Atal *et al.*, 1984; Visvanath and Mankad, 1984) are available. The present study is an attempt to provide an insight into the ethnobotany of a region which, as yet, is not fully explored.

Methodology

Present investigation, was carried out in different areas of Leh district from 1986 to 87. Periodic surveys to these areas were conducted every month. The plant collections were made along the rivers, alpine streams, glaciers and other water bodies, in meadows, orchards and cultivated fields. Ethnobotanic information on each plant was gathered from local people through field interviews conducted on each day of collection. On the final day of every periodic sur-

vey, group discussions with knowledgeable old people, Lamas' (the local priests), village heads and amchis (local medicine men) were held to check the validity and uniformity of information regarding plant use. After completion of field data, the dried specimens were identified in 'KASH' (Kashmir University Herbarium).

Ethnobotany

Ethnobotanic information has been presented under sub-headings. In each section, the genera and the species are arranged alphabetically. For each species described is given in a sequence, botanical name with citation, local name, place of collection, altitude, and collection number followed by part used and local use. The name of the family is given in parenthesis.

Plants Used in health care

Astragalus tibetanus Bth. ex. Bunge Astrag Monog. I. 52, 1868.
(Papilionaceae) 'Magress' Dras (3180m) IN 862.

Extract of whole plants is used against gout.

Circium wallichii DC. Var. *nepalensis* Hook. f. FBI 3: 364, 1882. 'Tsejangchar' Tagar
(Asteraceae) (3250m) IN 831.

Powdered roots dissolved in water are used as cooling drink. Extract of shoots is used to expel intestinal worms.

Clematis orientalis Linn. Sp. Pl. 543, 1753. 'Veechoo' Leh (3515m)
(Ranunculaceae) IN 64.

Seeds are used for potency and fertility.

Elsholtzia eriostachya Bth. Lab. Gen. & Sp. 163, 1835. 'Phloling'
(Lamiaceae) Himis (3600m) IN 116.

Decoction of leaves is used to cure gastric troubles and renal pains.

Ephedra regeliana Florin in Svensk. Vet. Akad. Handl. Ser. 3,12
(Ephedraceae) (1): 17, 1933. 'Tsecheldumb' Tagar (3250m)
IN 809.

Decoction of aerial portion is used to cure blood and liver diseases

Geranium wallichianum D. Don. ex Sweet. Geran. I 90, 1821. 'Perhi'
(Geraniaceae) Lungna (5500m) IN 234.

Crushed leaves are rubbed against skin to prevent cutaneous eruptions.

Heraclium pinnatum Clarke in Hook. f. FBI. II: 712, 1879. 'Resho'
(Apiaceae) Khardungla (5600m) IN 369.

Powdered seeds are taken with water to stop vomiting during travels and
journeys.

Inula rhizocephala Schrank var. *rhizocephaloides* (Clarke) Kit. I.C.
(Asteraceae) 151. 'Minchienkarpo' Lamayuru (3500m)
IN 1603.

Powdered flowers are used to cure dysentary.

Jurinea ceratocarpa var. *depressa* Clarke ex. Hook. f. FBI III: 378, 1881. 'Leturzil'
(Asteraceae) Himis (3600m) IN 122.

Powdered seeds with milk are used as light purgative.

Lactuca tartarica C. A. Mey Enum. Pl. Cauc. 56 'Tarnu' Leh
(Asteraceae) (3515 m) IN 31.

Powdered heads with curd are used to cure diarrhoea.

Leontopodium leontopodium (DC.) Händ. Mazz. Beib. Bot. Centralb. 44: 199,
(Asteraceae) 1928. 'Tscha' Lungna (5500m) IN 289.

Powdered aerial parts as poultice is used on cuts and wounds as
antiseptic.

Myricaria elegans Royle III. Bot. Him. 214, 1835. 'Oumbu' Numa
(Tamaricaceae) (4400m) IN 759.

Crushed aerial parts are used as poultice on joints to relieve pain and
oedema.

Nepeta longibracteata Bth. Lab. Gen. & Sp. 737, 1835. 'Gibshiang' Khardungla
(Lamiaceae) (5600m) IN 337.

Decoction of aerial portion is used against fever and cold.

- Oxytropis mollis* Royle ex Bth. in III Bot. Him. 198, 1835.
 (Papilionaceae) 'Shukshing' Khardungla (5600m) IN 408.
 Extract of powdered plant is used to cure cutaneous eruptions.
- Pedicularis albida* Penn. Scroph. West Him. 123, 1943. 'Langna'
 [Scrophulariaceae] Numa [4400 m] IN 756.
 Powdered flowers and leaves are used as poultice on swollen joints to relieve pain and oedema.
- Plantago gentianoides* Sibth. & Sm. Ssp. *griffithii* [Dcne.] Rech. f.
 [Plantaginaceae] Fl. Iran. No. 15: 9, 1966. 'Tharum' Phiyang
 [3500 m] IN 197.
 Powdered seeds are used to cure dysentery and diarrhoea.
- Potentilla argentea* Linn. Sp. Pl. 497, 1753. 'Shadum' Numa
 [Rosaceae] [4400 m] IN 711.
 Extract of whole plant is used as blood purifier and in treatment of pulmonary diseases.
- Primula obtusifolia* Royle III. Bot. Him. 311, 1835. 'Khilchainakpo'
 [Primullaceae] Khardungla [5600m] IN 385.
 Powdered rhizome is used against bile complaints, stomachache, diarrhoea and dysentery.
- Rumex dentatus* Linn. Sp. Pl. 355, 1753. 'Sekephala' Himis
 [Polygonaceae] [3600m] IN 644.
 Decoction of whole plant is used against hyperacidity.
- Saussurea atkinsonii* Clarke, Comp. Ind. 224, 1876. 'Psangipakchan'
 [Asteraceae] Khardungla [5600m] IN 361.
 Decoction of roots and leaves is given against whooping cough and cold.
- Scrophularia decomposita* Royle in Bth. Scroph. Ind. 18, 1835.
 [Scrophulariaceae] 'Zimpontziamt' Matayan [3250m] IN 1695.
 Powdered inflorescences are used for the treatment of dropsy and chronic bronchitis,
- Sedum quadrifidum* Pall. Reise 3.730, 1776. 'Sholomarmo' Lungna
 [Crassulaceae] [5500m] IN 282.
 Decoction of roots in milk is believed to be a remedy for constipation.

Sophora moorcroftiana [Bth.] Bth, ex, Baker in Hook. f. FBI. II : 249, 1876.
[Papilionaceae] 'Takaygonpo' Panamick (3250m) IN 2117.

Decoction of plant is used in treatment of sinusitis, gastric ulcer,
extract of plant is used as blood purifier.

Stachys sericea Wall. ex. Bth. In Wall. Pl. As. Rar. I: 64, 1830. 'Sianthi'
[Lamiaceae] Matayan (3250m) IN 1672.

Aerial portion except inflorescence, is dried on fire, powdered and
used as laxative, febrifuge, antispasmodic, astringent, anodyne and
stomachic.

Plants used as vegetable

Allium carolinianum DC. in Redoute Liliac. Zt. 101, 1804 'Arum, Lungna
[Alliaceae] (5500 m) IN 242.

Mature bulbs are collected, cleaned, cut into small pieces, fried, then
dried and used as vegetable in winter.

Capsella bursa-pastoris (Linn.) Medic. Pflanzen. 85, 1792. 'Koezeat' Himis
[Brassicaceae] (3600 m) IN 637.

Fresh leaves are boiled, squeezed and rolled into balls. These are carried
in polythene bags for use during journeys.

Chenopodium murale Linn. Sp. Pl. 219, 1753. 'Janchikarpo' Leh (3515 m)
[Chenopodiaceae] IN 15.

Whole plant is dried and stored for winter. It is usually boiled with
a little salt, squeezed and then cooked.

Cremanthodium decaisne Clarke, Comp. Ind. 168, 1876. 'Rashkun' Lungna
[Asteraceae] (5500m) IN 269.

Whole plant, fresh or dry, is used as a vegetable particularly by she-
pherds at alpine meadows.

Lactuca orientalis (Boiss.) Boiss. Fl. Or. 3: 819, 1875. 'Tehatis' Spituk (3300 m)
(Asteraceae) IN 563.

Fried sliced roots are used as a substitute for potato chips.

Limnium macrorhabdos (Boiss.) O. Ktze l. c. 395. 'Staspak' Himis (3600 m)
(Plumbaginaceae) IN 613.

Fried leaves are stored for use in winter.

Mentha longifolia (Linn.) Huds. Fl. Angl. 221, 1762. 'Phloling' phiyang (3500m)
(Lamiaceae) IN 217.

Leaves are used for chutneys and pickles.

Nepeta floccosa Bth. Lab. Gen. & Sp. 736, 1835. 'Shamalolo' Mathu (3500 m)
(Lamiaceae) IN 606.

Young leaves and tender shoots are used for making vegetable soup.

Rumex orientalis Bernh. ex Schult. f., Syst. 7: 1433, 1830. 'Sheneumo' Himis
(Polygonaceae) (3600 m) IN 3818.

Young leaves are used pickles, chutnies.

Plants used as fodder

Agrostis stolonifera Linn. Sp. Pl. 62, 1753. 'Howakzet' Phiyang (3500 m) IN 670.
(Poaceae)

Dried plants are used as fodder in winter either alone or as a supplement to alfalfa.

Arundo donex Linn. Sp. Pl. 81, 1753. 'Dambu' Leh (3515 m) IN 61.
[Poaceae]

It is claimed to be highly nutritious fodder for cattle particularly during winter.

Calamagrostis pseudophragmites (Hall. f.) Koelar, Descr. Gram. 106, 1902. 'Jamak'
[Poaceae] Tagar (3250 m) IN 819.

Dried plants are fed to milk cow, it is delieved to increase the quantity of milk production.

Erodium tibetanum Edgew. & Hook.f. in FBI, I: 434, 1875. 'Zema' Karoo (3400m)
[Geraniaceae] IN 78.

Fresh Plants are fed to pashmina goats, it is claimed to increase pashmina wool production.

Gallium pauciflorum Bunge, Enum. Pl. Chin. Bor, 35, 1831. 'Rangchekarpo'
[Rubiaceae] Himis (3600 m) IN 635.

Fresh plants are used as a supplement to alfalfa.

Heracleum thomsonii Clarke in Hook. f. FBI II: 711, 1879. 'Thukar' Himis (3600m)
[Apiaceae] IN 620.

Dried powdered plants are fed to newborn cattle, it is believed to give them strength and stamina.

Impatiens glanduligera Royle, III. Bot. Him. 151, 1835. 'Ganglitz' Kargil [2680 m]
[Balsaminaceae] IN 1569.

Fresh plants are fed to ponies before and during long trekking. It is claimed to give them strength and stamina.

Medicago polymorpha Linn. Sp. Pl. 779, 1753. 'Oalbug' Matayan [3250 m]
[Papilionaceae] IN 1690.

Fresh plants are fed to milk cow. It is claimed to increase quantity of milk.

Melilotus officinalis (Linn.) Pall. Reise, 537, 1776. 'Owal' Panamick [3250m]
[Papilionaceae] IN 776.

Dried plants are fed to milk cow, it is claimed to increase quantity and improve quality of milk.

Potentilla anserina Linn. Sp. Pl. 495, 1753, 'Shadiyaunk' Choglamsar [3100 m]
[Rosaceae] IN 590.

Fresh plants are fed to pashmina goats. It is claimed to increase wool production.

Triglochin maritimus Linn. Sp. Pl. 338, 1753. 'Tzenaramba' Tagar [3250 m]
[Scheuzeriaceae] IN 827.

Underground parts are fed to cows. It is claimed to increase quantity of milk.

Plants used for construction purposes

Perovskia abrotanoides Karel in Bull. Soc. Nat. Mos. 14: 15, 1841, 'Burtche'
[Lamiaceae] Panamick [3251 m] IN 786.

Dried plants are used as thatching material. A thick layer of dried plants is spread over the logs of poplars and a layer of willow branches placed at right angles to each other. Whole stuff is covered with mud. Such roofs are claimed to prevent seepage and also act as insulating material.

Populus nigra Linn. pl. 1034, 1753. 'Yulat' / 'Yerpa' Phiyang [3500 m] IN 533.
[Salicaceae]

Major portion of the typical ladakhi house is composed of popular wood. Long cylindrical logs are used as beams and placed across on walls 50-75 cms apart. These beams are supported on vertical pillars made of the same wood, the top of which is often ornamented. In bigger houses, floors particularly in the upper stories are also made from popular wood. Doors and windows are also made from popular wood. These are tastefully ornamented on outside.

Salix elegans Wall. ex DC. Prodr. XVI. 256, 1852. 'Lomakarpo' Phiyang (3500 m)
[Salicaceae] IN 508.

Branches of moderate uniform diameter are used as 2nd layer of roof covering. These are arranged compactly across beams of yulat (*Populus* sp).

Tanacetum fruticosum Ledeb. Fl. Alt. 4: 58, 1833. 'Yakzae' Karoo (3400 m)
[Asteraceae] IN 71.

Dried plants are used for thatching, usually as a substitute for Burtche (*Perovskia abrotanoides*). But it is not as durable as it rots with age.

Plants used for Miscellaneous purposes

Hippophae rhamnoides Linn. Sp. Pl. 1023, 1753. 'Tschermang' Leh (3515 m)
[Elaeagnaceae] IN 39.

The shrub is usually grown along borders of fields, vegetable gardens and houses as fencing. It is also used as fuel.

Piptatherum gracilis Mezz. in Fedde. Rep. Sp. Nov. 17, 211, 1921. 'Chipkiang'
(Poaceae) Karoo (3400 m) IN 86

The grass is used for making large baskets known as 'Tschekpo' used for carrying vegetables and small nets known as 'Tschaksa' used for straining etc.

Utricularia minor Linn. Sp. Pl. 18, 1753. 'Lingna' Choglamsar (3100 m)
(Lentibulariaceae) IN 585.

Roots and leaves are used for fishing. These are placed inside a fish trap which in turn is immersed in river. It is claimed that fish get attracted towards greenery and are trapped.

Accepted August, 1988

References

- Abrol B L and Chopra I C 1962, *Curr. Sci.* 31 324
- Atal C K, Bhatia A K and Koul M K 1984, Nutritional evaluation of wild edible plants and study on change. Proc. Second Ann. Workshop M A B Project, New Delhi p 37
- Raghunath K 1976, *Preliminary Techno-economic survey of Natural Resources and Herbal Wealth of Ladakh* CCRIMH, New Delhi
- Srivastava T N and Gupta O P 1982, In: *Cultivation and utilization of medicinal and aromatic plants* C K Atal and B M Kapur (eds), p 103
- Visvanath M V and Mankad N R 1984, *J. Econ. Tax. Bot.* 5 401