



# International Journal of Herbal Medicine

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**I** International  
**J** Journal  
**H** of  
**M** Herbal  
Medicine

ISSN 2321-2187  
IJHM 2014; 2 (4): 11-18  
Received: 20-08-2014  
Accepted: 09-09-2014

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## Documentation and ethnobotanical survey of wild edible plants used by the tribals of Kupwara, J & K, India.

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### Abstract

The present study deals with the identification, documentation and ethno-botanical exploration with respect to food value of wild edible plants from selected areas of Kupwara (Budnamel, Keran, Karnah, and Jungand). Total 31 wild edible plants were surveyed. Edible parts of wild plants (fruit, flower, leaves, tubers and rhizomes) are the nature's gift to mankind; these are not only delicious and refreshing but also the chief source of vitamins, minerals and proteins. The wild edible plants are the normal food of cattle grazers and the forest tribes. Although the popularity of these wild forms of fruits, flowers and tubers has declined, it is considered that special attention should be paid to them in order to maintain and improve this important source of food supply.

**Keywords:** Ethno botany, Edible plants, Kupwara, Tribal's.

### 1. Introduction

Consuming wild edibles is part of the food habits of people in many societies and intimately connected to virtually all aspects of their socio-cultural, spiritual life and health <sup>[1]</sup>. It also plays a major role in meeting the nutritional requirement of the tribal population in remote parts of the country throughout year <sup>[2-9]</sup>. Wild food plants play a very important role in the livelihoods of rural communities as an integral part of the subsistence strategy of people in many developing countries <sup>[10]</sup>. India is one of the second largest human populations in this planet 75% of the population is living in the rural areas. Most rural communities depend on the wild resources including wild edible plants to meet their food needs in periods of food crises, as well as for additional food supplements <sup>[11]</sup>. It is estimated that in India about 800 species are consumed as food plants, chiefly by the tribal inhabitants <sup>[12]</sup>. Wild plants have since ancient times, played a very important role in human life; they have been used for food, medicines, fiber and other purposes and also as fodder for domestic animals. In search for wild edible food plants many of which are potentially valuable for human being has been identified to maintain a balance between population growth and agricultural productivity, particularly in the developing countries <sup>[13]</sup>.

Various publications provided detailed knowledge about the utilization of wild plants as food in specific location around the world. Studied conducted in Africa by Zemedede showed that wild plants are essential components of many African diets, especially in period of seasonal food shortage <sup>[14]</sup>. A study conducted by Wilson in Zimbabwe revealed that some poor household rely on wild fruits as an alternative to cultivated for quarter of all dry seasons meals <sup>[15]</sup>. Paster and Gustavo in their study conducted on wild edibles found that 57 wild edible plants species are consumed, in 118 different ways as a source of food by charote people of Argentina <sup>[16]</sup>. Francesca and Francesca described the importance of 188 wild food plant species used popularly in the Sicily <sup>[17]</sup>. Javier compiled and evaluated the ethnobotanical data available on the wild edible plants traditionally used for human consumption in Spain. A total of 419 wild plant species belonging to 67 families were discussed with respect to the part used, localization, method of consumption and harvesting time. This study showed that the reported wild edibles are the essential components of many Spanish diets especially during various traditional events and fairs <sup>[18]</sup>. Victoria described the cultural, practical and economic value of wild plants by applying a quantitative technique in the Bolivian Amazon and concluded that wild plants play an important role in the daily life of local inhabitants <sup>[19]</sup>. A study conducted by Athena on Paphos and Larnaca country side of Cyprus revealed that inhabitants of these areas subsisted primarily on pastoralism and agriculture and therefore preserves the traditional knowledge on wild edible plants <sup>[20]</sup>. Ana

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and Mariana studied the pattern use and knowledge of wild edible plants in distinct ecological environments, from Northwestern Patagonia and found that knowledge and consumption of wild edible plant follow a pattern according to ecological conditions of gathering environments, as well as the cultural heritage of the Paineo people [21]. Agarhar Murugkar and Subbulakshmi studied the nutritive value of wild edible fruits, berries, nuts, roots and spices consumed by the khasi tribes of India. They concluded that the wild plants eaten by Khasi tribe are a good source of nutrients and considering their low cost and easy availability, need to be popularized and recommended for commercial exploitation [22]. Maikhuri studied the nutritional value of some lesser known wild food plants and their role in tribal nutrition [23]. Rawat reported some common wild fruits of Garhwal Himalaya [24]. Rakesh found that wild edibles are playing an important role in the rural development in the central Himalaya Mountains of India [25]. A study conducted by Debaratona the wild food plants of Midnapore, West Bengal showed that 31 wild edible plant species are frequently consumed during the flood and droughts

[26].

Significant work in the field of ethno botany has been done in past 4-5 decades in the Himalayan state of Jammu and Kashmir by many workers [27-36]. Many papers have been published on the ethno medicinal and economic aspects of plants of this state. Little work has been done on wild edible plants of the state [37-40]. But this is the first report on wild edible plants from this backward and border district Kupwara.

## 2. Study Area

The Kashmir division has 10 districts, among 10 districts Kupwara is one of the backward and border district. It lies in the north of the Kashmir and located between 34°45' and 75°20' east longitude (fig.1). The district has a total geographical area of 2,379 sq Km comprising of 368 villages. As per 2011 census, 870,354 persons with population density of 366 persons per sq Km. The schedule caste and schedule tribe population of the area comprises of 7.97%. The present study was carried in Budnabel, Keran, Karnah, and Jungand. The languages spoken here are Kashmiri, Pahari, and Gojree.

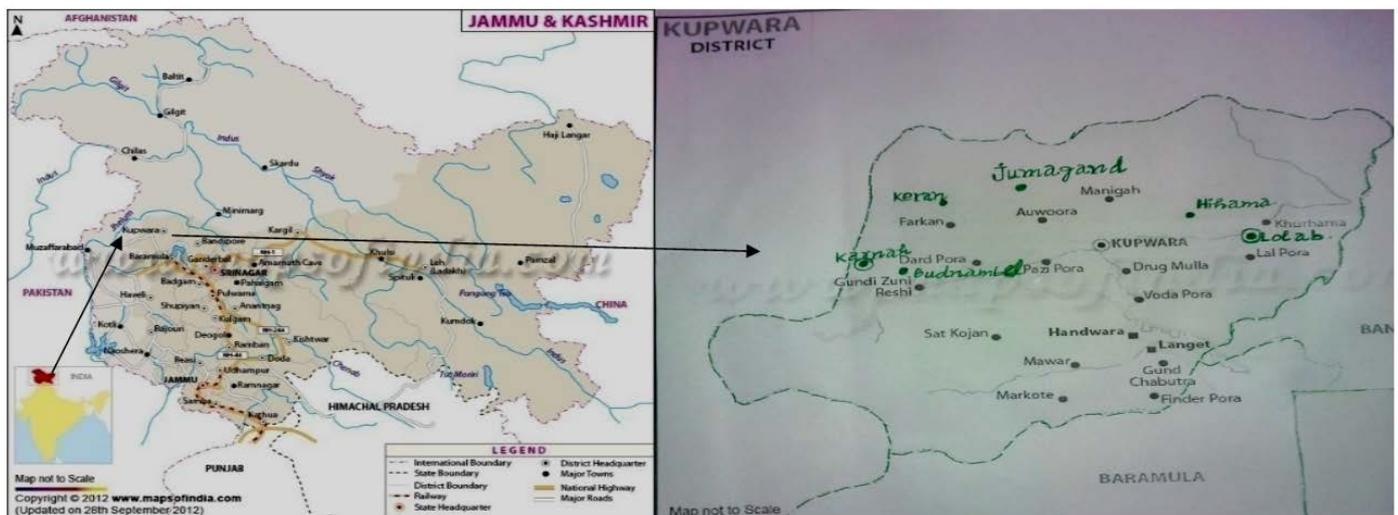


Fig 1: Map of Kupwara showing study area (Budnabel, Keran, Karnah, and Jungand)

## 3. Materials and Methods

The present study was carried out around the selected areas of Kupwara District (Budnabel, Keran, Karnah, and Jungand) during 2013-2014. The aim of the study was to explore, collect, identify, and preserve the wild and domesticated plants used by tribal's as food. The data were collected from the tribal's through participatory rural appraisal and questionnaire survey. The elder persons, farmers, herdsman, shepherds, housewives, and children were contacted to collect data on uses of plants. Local names, plant part used, method of utilization were gathered from them with regard to each plant. The collected specimens were dried, pressed, poisoned, and mounted on herbarium sheets [41-42]. All collected specimens were identified with the help of available literature [43-45].

## 4. Results

The study shows that, tribal's of Budnabel, Keran, Karnah,

and Jungand possess a very good knowledge on the wild edible plants around the forest areas. A total of 31 plant species from, 19 families have been recorded as wild edible plants in the study area (Table 1), of which Whole plant recorded ranked first with 12 species, Green Leaves, Fruits, Rhizome, Flowers, Roots, and Seeds ranked next with 10,5,1,1,1,1 respectively (Fig 3). Among the 20 families, the most utilized species belong to Asteraceae (4), Amaranthaceae (3), Polygonaceae (3), and Brassicaceae (3), and the remaining families were represented by one or two species each (Fig 4). In present study about 31 wild edible plants have been enumerated, among them 25 are herbs, 2 shrubs, 2 fungus, 1 fern, and 1 tree (Fig5). Out of 31 species, angiosperms comprised the highest number being represented by 28 species followed by fungus 2 species and pteridophytes 1 species. Dicotyledons were represented by 27 and monocotyledons were represented by only 1 species (Fig 6).

**Table 1:** Wild edible plants used by the Gujjar and Bakerwal tribals of (Budnamel, Karnah, Keran and Jungand), Kupwara Jammu & Kashmir.

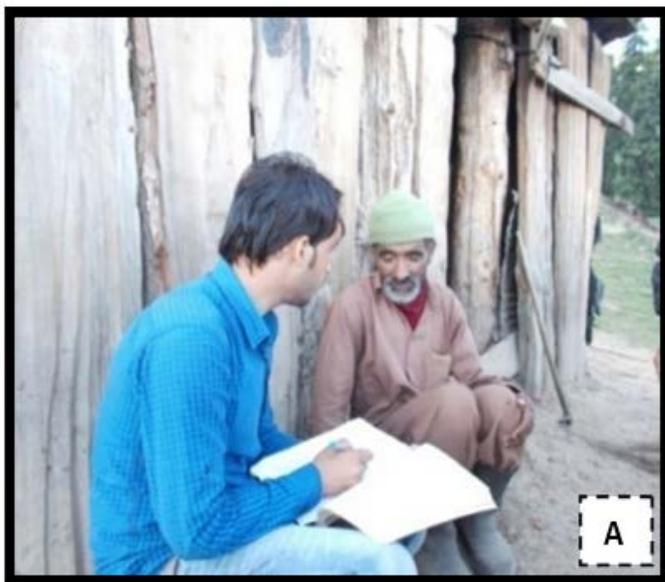
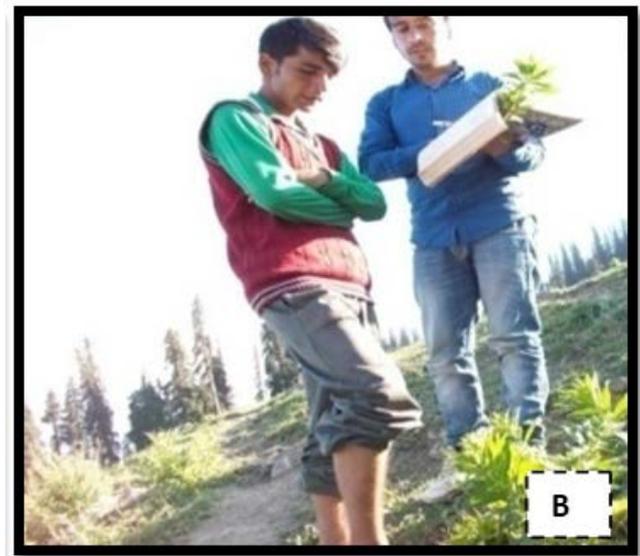
S NO.	Botanical Name. (Vernacular Name.)	Family	Parts Used	Uses	Habitat	Flowering Period
01	<i>Amaranthus caudatus</i> L. (Leesa)	Amaranthaceae	WP	Herb is used as a vegetable in study area.	Herb	June-Aug <sup>[33, 43, 45]</sup>
02	<i>Amaranthus sp.</i> (Wasthalkh)	Amaranthaceae	LE	Used as vegetable in juvenile stage.	Herb	April-Sept <sup>[33, 43, 44]</sup>
03	<i>Arisaema jacquemontii</i> Blume. (Hapatmakei/ Hapetcheor)	Araceae	RH	Used as a vegetable in the juvenile stage.	Herb	May-Sept <sup>[33, 43, 44]</sup>
04	<i>Asplenium falcatum.</i> (Dade)	Filicinae	LE	The fern is used as vegetable both in fresh condition as well as dried during summer time and eaten in harsh winter.	Fern	[33, 45]
05	<i>Brassica oleracea.</i> (Hakh)	Brassicaceae	LE	Used as vegetable in the study area.	Herb	April-Sept <sup>[43, 45]</sup>
06	<i>Calvatia gigantea.</i> (Mangde)	Lycoperdaceae	WP	During the time of April-May, the women of the study area search the fungus from the forests and collect them. After that it is eaten as raw as well as cooked and make vegetable.	Fungus	[33, 44]
07	<i>Capsella bursa pastoris</i> L. (Kralmund)	Brassicaceae	WP	Used as vegetable in the juvenile stage.	Herb	March-May <sup>[43, 44]</sup>
08	<i>Chenopodium album</i> Lin. (Buthwa)	Amaranthaceae	WP	Young shoots are used as vegetable.	Herb	June-Oct <sup>[43, 45]</sup>
09	<i>Cichorium intybus</i> Linn. (Jangle hand/Posh hand)	Asteraceae	WP	Used as vegetable especially by women during pregnancy.	Herb	June-Sept <sup>[34, 35, 43]</sup>
10	<i>Fragaria nubicola.</i> (Jangli Gonch)	Rosaceae	FR	The fruits are edible.	Herb	June-Oct <sup>[40, 43, 44, 45]</sup>
11	<i>Jurinea himalaica</i> R.R.Stewart. (Thendi-Jeri)	Asteraceae	R	Uncooked roots are chewed, these become chegum like after chewing.	Herb	July-Sept <sup>[43, 44]</sup>
12	<i>Malva neglecta</i> L. (Sochal)	Malvaceae	LE	Used as vegetable	Herb	May-July <sup>[34, 40, 43]</sup>
13	<i>Mentha longifolia</i> L. (Pudina)	Lamiaceae	WP	Shoots are used as vegetable. Also used as Condiment.	Herb	May-Aug <sup>[33, 35, 44]</sup>
14	<i>Morchella esculenta</i> L. (Guchi)	Morchellaceae	WP	Fruiting body is used as vegetable.	Fungus	[33, 34, 45]
15	<i>Morus alba</i> L. (Tul)	Moraceae	FR	Fruits are eaten.	Tree	May-Aug <sup>[34, 44]</sup>
16	<i>Origanum vulgare.</i> (Baber)	Lamiaceae	SE & LE	Leaves are used as vegetable and the seeds as spice.	Herb	June-Sept <sup>[33, 43]</sup>
17	<i>Plantago lanceolata.</i> (Gul)	Plantaginaceae	LE	Fresh leaves are used as vegetables.	Herb	May-Sept <sup>[34, 33, 44]</sup>
18	<i>Plantago major.</i> (Bud-gull)	Plantaginaceae	WP	Used as vegetable in juvenile stage.	Herb	May-Sept <sup>[33, 34, 45]</sup>
19	<i>Podophyllum hexandrum</i> Royle. (Wanwagun)	Berberidaceae	FR	Fruit is edible Red Berry.	Herb	April-June <sup>[33, 34, 40, 44]</sup>
20	<i>Ranunculus arvensis</i> L. (Churim)	Ranunculaceae	WP	The green part of the plant before flowering is cooked and is used as vegetable.	Herb	April-June <sup>[34, 43]</sup>
21	<i>Ranunculus muricatus</i> L (Thul Hakh)	Ranunculaceae	WP	Before flowering the plant is used as vegetable.	Herb	July-Sept <sup>[34, 44]</sup>
22	<i>Rheum austral</i> D.Don. (Chotail)	Polygonaceae	LE	Vegetable in the study area.	Herb	June –Aug <sup>[34, 43]</sup>
23	<i>Rheum emodi</i> Wall, ex-Meissn. (Pambchalan)	Polygonaceae	LE	Vegetable in the study area.	Herb	July-Aug <sup>[33, 43, 45]</sup>

24	<i>Rumex acetosa</i> L. ( <b>Abjie</b> )	Polygonaceae	WP	Vegetable in juvenile stage.	Herb	May-Aug <sup>[33, 43, 44]</sup>
25	<i>Saussurea lappa</i> ( <b>Kuth</b> )	Asteraceae	LE	Leaves eaten as vegetable.	Herb	July-Sept <sup>[34, 33, 45]</sup>
26	<i>Solanum nigrum</i> . ( <b>Makoi/Cambetamtar</b> )	Solanaceae	FR	Fruits are eaten.	Herb	June-Sept <sup>[33, 43, 44]</sup>
27	<i>Sisymbrium loeselii</i> Linn ( <b>Dand Hakh</b> )	Brassicaceae	WP	Used a vegetable in the study area.	Herb	June-Sept <sup>[44, 45]</sup>
28	<i>Stellaria media</i> . ( <b>Nick hakh</b> )	Caryophyllaceae	WP	The whole plant is used as vegetable at Tender stage.	Herb	April-June <sup>[43, 45]</sup>
29	<i>Taraxacum officinale</i> Weber ( <b>Hand</b> )	Asteraceae	LE	Young leaves are cooked and used as vegetable.	Herb	April-July <sup>[34, 44]</sup>
30	<i>Viburnum grandiflorum</i> Decene. ( <b>Kalmach</b> )	Caprifoliaceae	FR	Fruits are delicious and edible.	Shrub	July-Sept <sup>[43, 44, 45]</sup>
31	<i>Viola Odorata</i> . ( <b>Nun-posh</b> )	Violaceae	FL	Vegetable	Shrub	May-Aug <sup>[33, 43, 45]</sup>

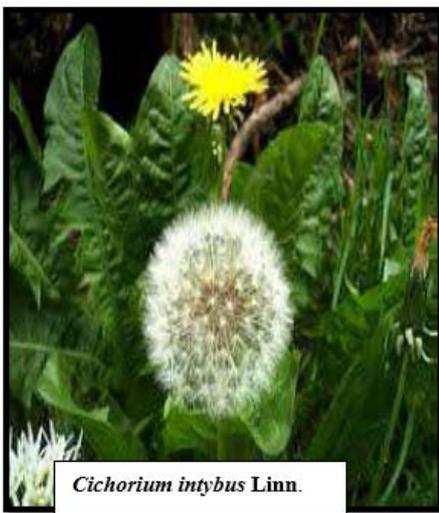
**Abbreviations Used:-** WP (whole plant), R (Roots), ST (Stem), LE (Leaves), FL (Flowers),FR(Fruit),TU (Tuber), B (Bulb), RH (Rhizome), SE(Seeds)

## 5. Discussion

The edible plants have played an important role as a natural source of food for human beings since ages. The extreme cold arid conditions of Budnamel, Keran Karnah, and Jungand enforced the tribal people to depend upon nature for their food, shelter, medicine, fodder, fuel and other necessities of life. The edible plant provides delicious fruits, nutritious leaves and other useful parts like bulbs, roots, seeds, & leaf stalk, etc. for the tribal people especially at the time of scarcity. Documentation of wild edible plants from ethnobotanical approach is important for enhancing the understanding of indigenous knowledge systems. The wild consumption and availability of wild plants attest their value, and are especially visible among indigenous cultures. But in recent times, the old traditional in many tribal communities are at risk and gradually decline, hence there is urgent need to study such knowledge systems and find innovative ways of tapping their potential for the welfare of mankind.



**Fig 2 (A&B):** Research scholar interviewing a *Gujjar* at Budnamel  
(C):- Huts of *Gujjars* and *Bakerwals* at Jungand (Kupwara)



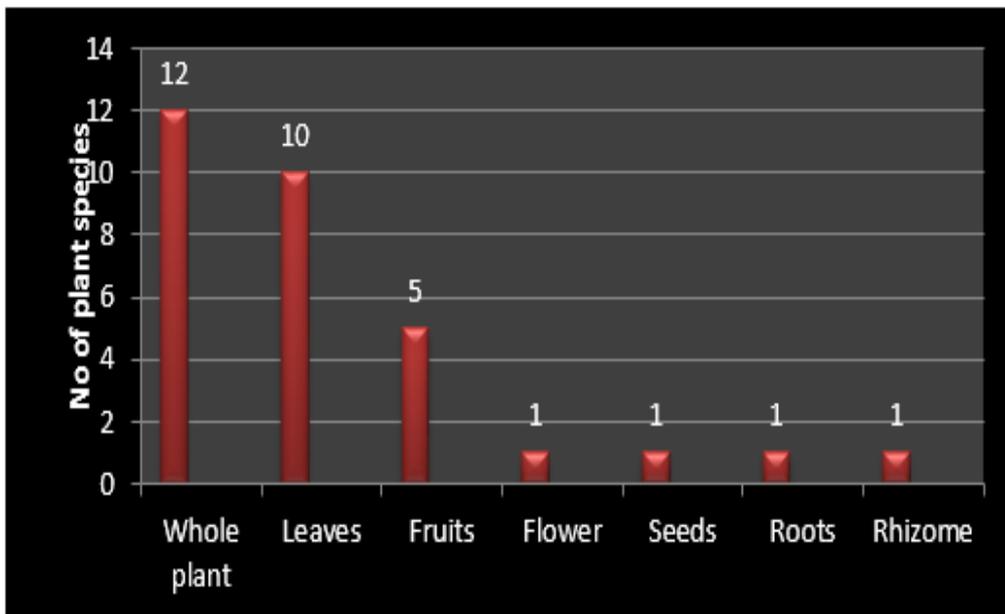


Fig 3: Wild edible plant species in different categories

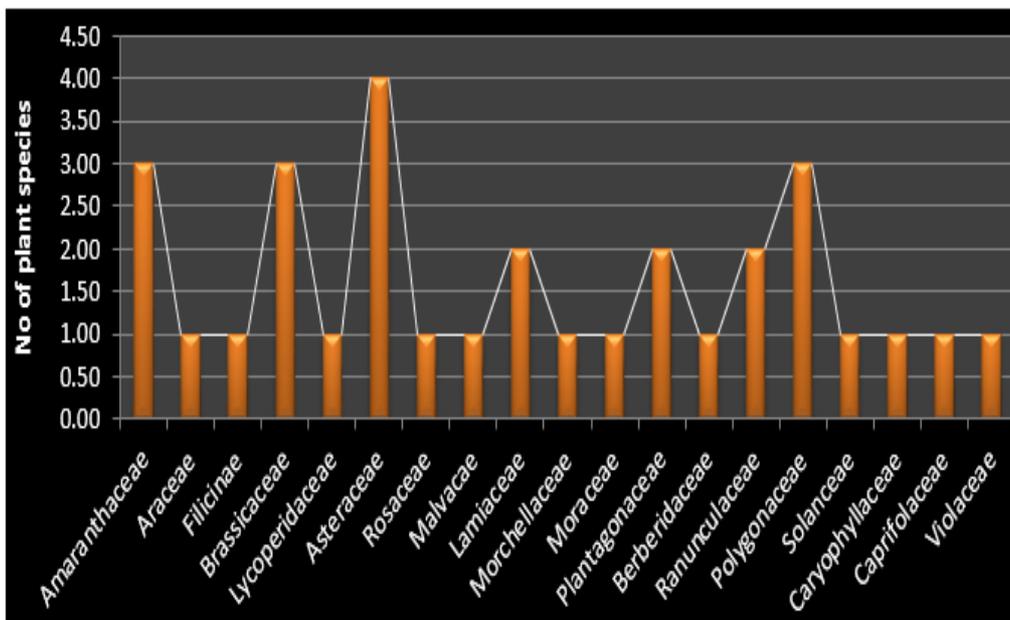


Fig 4: No. of plant species of various families used by people of Kupwara (Budnamel, Keran, Karnah, and Jumgand).

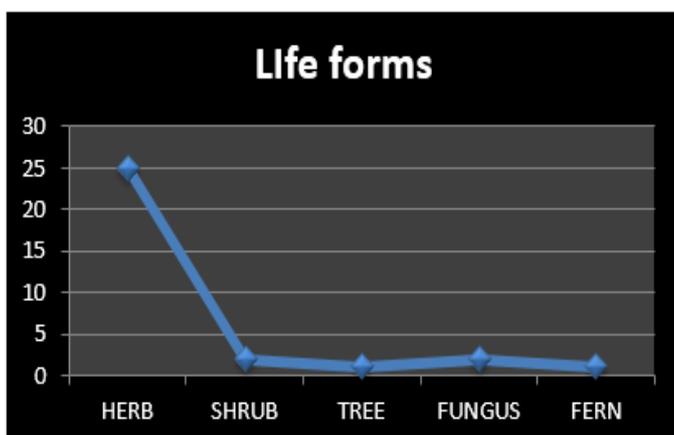


Fig 5: life form of wild edible plant species.

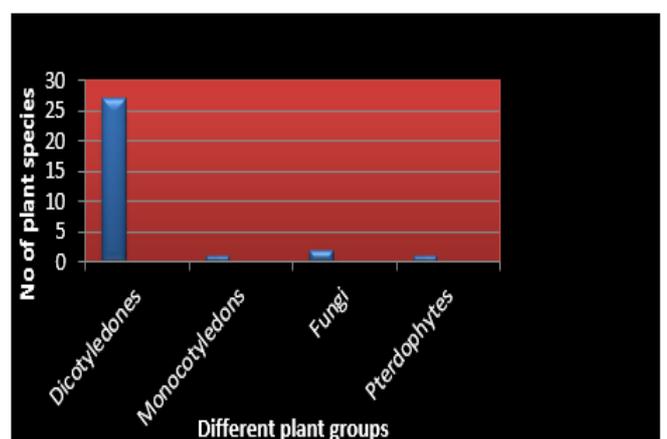


Fig 6: No. of families of different groups.

## 6. Acknowledgment

The help received from the informants is duly acknowledged. The author is also highly thankful to the Principal P.M.B. Gujarati science college Indore (Dr. Santosh Nagar), H.O.D Botany (Dr J Shri Sikka), for providing guidance and necessary facilities during the course of this work. Thanks are Due to My Brother Advocate Tanveer Ahmad Mir and MIS Operator's of Block Development Office Kralpora (Zahoor Ahmad & Nazir Ahmad) for their help in preparation of the manuscript.

## 7. References

- Singh A. Cultural significance and diversity of ethnic foods of North East India. *Indian J Trad Knowl*, 2006, 6:79-94.
- Setalaphruk C, Lisa LP. Children's traditional ecological knowledge of wild food resources: a case study in a rural village in Northeast Thailand. *J Ethnobiol Ethnomed* 2007; 3:1-11.
- Sundriyal M, Sundriyal RC. Wild Edible Plants of the Sikkim Himalaya: Nutritive values of selected species. *Econ Bot* 2001; 55:377-390.
- Grivetti LE, Britta OM. Value of traditional foods in meeting macro- and micronutrient needs: the wild plant connection. *Natl Res Rev* 2000; 13:31-46.
- Britta OM. Wild vegetables and Micronutrient Nutrition-studies on the Significance of Wild vegetables in Women's Diets in Vietnam, (Comprehensive summaries of Uppsala, Dissertations from the Faculty of Medicine), 2001.
- Britta M, Dung NNX, Thanh DT, Hambraeus L. The contribution of Wild Vegetables to micronutrient intakes among women: An example from the Mekong Delta. *Vietnam Ecol Food Nutr* 2001; 40:159-184.
- Britta OM, Tuyet HT, Duyet HN, Dung NNX. Food, Feed or Medicine: The multiple functions of edible wild plants in Vietnam. *Econ Bot* 2003; 57:103-117.
- Sasi R, Rajendran A, Maharajan M. Wild edible plant Diversity of Kotagiri Hills - a Part of Nilgiri Biosphere Reserve, Southern India. *J Research Biol* 2011; 2:80-87.
- Hazarika TK, Lalramchuana, Nautiyal BP. Studies on wild edible fruits of Mizoram, India used as ethno-medicines. *Genet Resour Crop Evol*; DOI: 10.1007/s10722-012-9799-5, 2012.
- Jadhav VD. Documentation and ethnobotanical survey of wild edible plants from Kolhapur district. *Recent Research in science & technology* 2011; 3(12):58-63.
- Rashid A. Less known wild edible plants used by the Gujjar tribe of District Rajouri, Jammu & Kashmir state India. *International journal of Botany* 2008; 4(2):219-224.
- Singh HB, Arora RK. Wild edible plants of India, ICAR, New Delh, 1978.
- Kanchan LV. Nutritional analysis of indigenous wild herbs used in eastern Chhattisgarh India. *Emir J Food Agric* 2011; 23(6):554-560.
- Zemede, A. Indigenous African food crops and useful plants: survey of indigenous crops, their preparations and home gardens. Nairobi: The united Nation University institute for natural resources in Africa, 1997.
- Wilson KB. Ecological dynamics and human welfare: a case study of population, health and nutrition in southern Zimbabwe, Ph.D thesis, University College, London, 1990.
- Pastor A, Gastavo FS. Edible wild plants of the Cherote India, Gran chalo, Argentina. *Botanical J Linnean Soc* 2007; 153:73-85.
- Francesca L, Francesca V. Wild food plants of popular use in Sicily. *J ethnobiol ethnomed* 2007; 3(15).
- Javier TP, Mannel, Ramo M. Ethnobotanical review of wild edible plants in Spain *botanical J Linneansoc* 2006; 152(1):27-71.
- Victoria RG, Tomas H, Vincent V, Welliam L, David W. Cultural practical and economical value of wild plants: A quantitative study in Bolivian amazon. *Econ Bot* 2006; 60(1):62-71.
- Athena DP. Demetra, Hadjkhambis CH. An ethnobotanical survey of wild edible plants of Paphos and Larnaca countryside of Cyprus. *J Ethnobiol ethnomed* 2006; 2:34.
- Ana H, Land L, Mariana. Pattern of use and knowledge of wild edible plants in distinct ecological environments: A case study of a Mapuche community from Northwestern Patagonia. *Biodiversity conserve*. 2004; 13:1153-1173.
- Murugkar DA, Susbulakhmi G. Nutritive values of wild edible and species consumed by the Khasi tribe of India. *Ecol Food Nutr* 2005; 44:207-223.
- Maikhuri RK. Nutritional value of some lesser known wild food plants and their role in tribal nutrition: A case study in North-East India. *J Trop sci* 1991; 31:397-405.
- Rawat SW, Pant GB, Sarla B, Negi YS, Badoni S. Biochemical investigation of some common wild fruits in Garhwal Himalaya. *Prog Hortic* 1994; 26(1-2):35-40.
- Rakesh KM, Kottapalli SR, Krishna GS. Bioprospecting of wild edible for Rural Development in the central Himalaya Mountains of India. *Mountain Res Dev* 2004; 24(2):110-113.
- Debarata D. Wild food plants of Madinapur, West Bengal used during Drought and Flood .*Ethnobotany and Medicinal plants of India Subcontinent*, Maheshwari, J.K(ed) Scientific Publishers Jodpur, India, 2004.
- Gupta OP, Srivatava TN, Gupta SC, Badola DP. An Ethno botany and Phyto chemical Screening of higher altitude plants of Ladkh part 2 *Bull Medico -Ethnobot, Res* 1982; 1:301-317.
- Kachroo P. Nahvi IM. Ethno botany of Kashmir's, in; *Forest Flora of Srinagar and plants of Neighborhood*. (Bishen Singh Pal Singh, Dehra Dun) 1987; 239.
- Kiran HS, Kapahi BK, Srivastava TN. Non Timber forest Wealth of Jammu and Kashmir state (India) *J Non- Timb For Prod* 1999; 6(1 and 2):1-18.
- Kaul MK, Sharma PK, Singh V. Ethnobotanical studies in North West and Trans Himalaya Iv. Some traditionally tea substitute from JK State. *Himalaya Plant J* 1987; 4:23-28.
- Lone FA. Folklore medicinal system of Uri sector Kashmir valley. India. 2nd world congress on biotechnology development of herbal medicine. 2003; (91)20-22.
- Mala FA, Lone MA, Lone FA, Aray N. Ethno-medicinal survey of Kajinaag range of Kashmir Himalaya, India, *Int Jr Pharma and Biosciences* 2012; 3(2):442-449.
- Mir MY. Ethno medicinal survey of plants from Kupwara, j & k India. *International Journal of Advanced Research*, 2014; 2(1):846-857.
- Lone FA, lone S, Aziz MA, Mala FA. Ethnobotanical studies in tribal areas of Kupwara, India, *Int Jr Pharma & Bioscience* 2012; 3(4):399-411.
- Hassan GA, Ahmad TB, Mohi-ud-din RA. An Ethno

- Botanical study in Budgam district of Kashmir Valley. IRJP 2013; 4(1):201-204.
36. Mir MY. Indigenous knowledge of using medicinal plants in treating skin diseases by tribal's of Kupwara, J&K, India. Int J Herbal Med 2014; 1(6):62-68.
  37. Abrol BK, Chopra IC. Some vegetable resources of Ladkh cur sci 1962; 31:324-325.
  38. Srivastava TN. Wild edible plants of jammu & kashmir state – an ethno-botanical study; Ancient Science of life (VII) 1988, 201–206.
  39. Rashid A. Less known wild edible plants used by the Gujjar tribe of District Rajouri, Jammu & Kashmir state India , international journal of Botany, 2008; 4(2):219-224.
  40. Javaid M. DAD. Diversity and Distribution of Herbaceous Flora of High Altitude Grasslands at Bandipora. Ph D Thesis. Pondicherry University, Pondicherry, India, 2011.
  41. Jain SK, Rao RR. A Handbook of Field and Herbarium Methods. Today's and Tomorrow's Printers and Publishers, New Delhi, India, 1977.
  42. Devogel EF. Manual of Herbarium Taxonomy. Theory and Values, 1995; 12(2), 52-80
  43. BSI, Flora of India. Botanical survey of India Kolkata, 1996.
  44. Kaul MK. Weed flora of Kashmir valley. Scientific publishers Jodhpur India, 1985.
  45. Hooker JD. The Flora of British India. 1872-1897; 1-7. BSMPS, Dehra Dun.