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Research Article

MEDICO-RELIGIOUS PLANTS OF DISTRICT KATHUA, JAMMU DIVISION (J&K), INDIA

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ABSTRACT
This study contributes to medico-religious knowledge of Kathua district, Jammu Division, J&K, India. The study of medico- religious plants was conducted to investigate the traditional medicinal knowledge of plants. Most of the area of the district is hilly and mountainous and the people, who live at such places are economically weak, are mostly dependent on the agriculture and the wild resources to cater their daily needs. A total of 25 medico-religious plants belonging to 21 families and 23 genera are listed in this paper. The botanical names, vernacular names, their respective family names, part of the plant used and their uses are indicated. Majority of the plants belong to herbs (13) followed by trees (10), whereas only 2 plant species belong to shrubs. The observations are based on local folklore and interview of various communities and tribes of the Kathua district. Therefore, the ethnobiological knowledge of people and listing of plants of particular region are important tools that help in understanding human environment interactions.

Keywords: *Medico-Religious, Traditional, Kathua, Jammu Province*

INTRODUCTION
Plant wealth of Indian Himalayan region is known for its unique, natural and socio-economic values. The Himalayas has an extraordinary diversity of plant species and has been regarded as a treasure groove of medicinal and religious plants. The people of Kathua have a high medicinal reverence on plants from the ancient time. Most of the population of the Kathua lives is the inhabitant of villages and are dependent on plant resources for medicine, fuel, food, fodder, fibre, timber and various other needs. The traditional use of plants as medicines is well known among the native communities of the Himalayas. The villagers have their own traditional remedies to cure various diseases by using specific plants present in their surroundings. It is also believed that in the ancient time, the people were healthier as compared to modern people, that is, only because of their way of life and harmony with the nature. The indigenous knowledge of medicines is transferred from generation to generation but it is mostly restricted to specific communities of a particular area.

Even today tribal and local people living adjoining to the forests are not only engaged in collection, processing and marketing of medicinal plants to boost their income but also use them to cure a number of diseases in interior villages where standard medical facilities are still unavailable.

Govindiah (1981), Jain (1991, 2005, 2006), Gupta (1995), Babu (1997), Chowdhery (1999), Jain and Mudgal (1999), Dutta and Pant (2003), Samant & Pant (2003), Uniyal *et al.*, (2006), Sharma and Khandelwal (2010), Kar (2011), Verma *et al.*, (2012) have worked in the field of ethnobotany in different parts of India.

Some researched who explored the ethobotanical plants from different parts of Jammu and Kashmir are Shah *et al.*, (2012), Dhar and Kachroo (1983), Sharma and Kachroo (1983); Kaul *et al.*, (1989); Singh and Kachroo (1994); Kapoor and Srivastava (1996), Kapur (1996) Singh *et al.*, (1996), Swami and Gupta (1996); Kaul (1997); Swami and Gupta (1996, 1998); Singh *et al.*, (2000); Kant and Dutt (2004); Pant and Verma (2008); Sharma and Khandelwal (2010); Kumar *et al.*, (2009); Kumar and Bhagat (2012), Mahmood (2012), Shah *et al.*, (2012), Slathia and Paul (2012); Bhushan and Kumar (2013); Mir and John (2014); Sharma *et al.*, (2015), Kumar *et al.*, (2015); Gupta (2016), Sharma and Raina (2016). The present investigation was carried out to study and document indigenous traditional knowledge of some important

herbal medicinal and religious plants being used by the local people from ancient time. The information regarding medico-religious plants was collected from Gujjar and Bakarwal tribes, and Dogra community of district Kathua, Jammu Province, J&K state of India. During the survey questionnaire and personal interview methods were adopted. This paper includes the description of 25 important medico-religious plants belonging to 21 families and 23 genera.

MATERIALS AND METHODS

The present investigation was aimed to study the indigenous traditional knowledge about the medicinal plants and their uses by local people of Kathua district. During the present study our team visited Sukrala, Parnala, Billawar, Basohli and Bani areas of district Kathua (J&K) several times in the span of two years *i.e.* 2011 and 2012 and collected important information regarding the use of various angiospermic plants used as herbal medicines and religious purposes by the Gujjar and Bakarwal tribes, and Dogra community. A list of questions was prepared before the survey of the study area. Contacts were made with senior persons to gather information regarding the points outlined in the questionnaire and also holding personal interviews with 'vaidys and hakims' regarding the medicinal use of various plants. Tribal doctors were often taken to the forest as guides and informants to identify the medico-religious plants in their natural habitat. After a long discussion along with the villagers the information were recorded and documented. Photographs of various taxa were taken when found necessary.

Study Area

District Kathua is the gateway of Jammu & Kashmir. Kathua lies in the South-East of the state. It is situated at 32^0 17' to 32^0 55' North Latitude and 75^0 70' to $76^0$16' East longitude and encompasses 2651 Sq Km area. The District is surrounded by Punjab in the S-E, Himachal Pradesh in N-E, Doda and Udhampur in North and N-W, Jammu in the West and Pakistan in the S-W (Figure 1). As per the 2001 census, the total population in the district is 544,206. Forest cover in the district is 1,158 km^2 (FSI, 2005). Altitude of the district varies from 253 to 4162m. The annual rainfall varies from 912 to1801mm while annual temperature varies from 9 to 23 °C.

The district has been divided into four tehsils namely Kathua, Hiranagar, Basohli and Billawar. The inhabitants of the district belong to different cultures and communities, including Gujjars, Bakarwals, Hindus and Muslims, who regularly use the plants for medico-religious purposes.

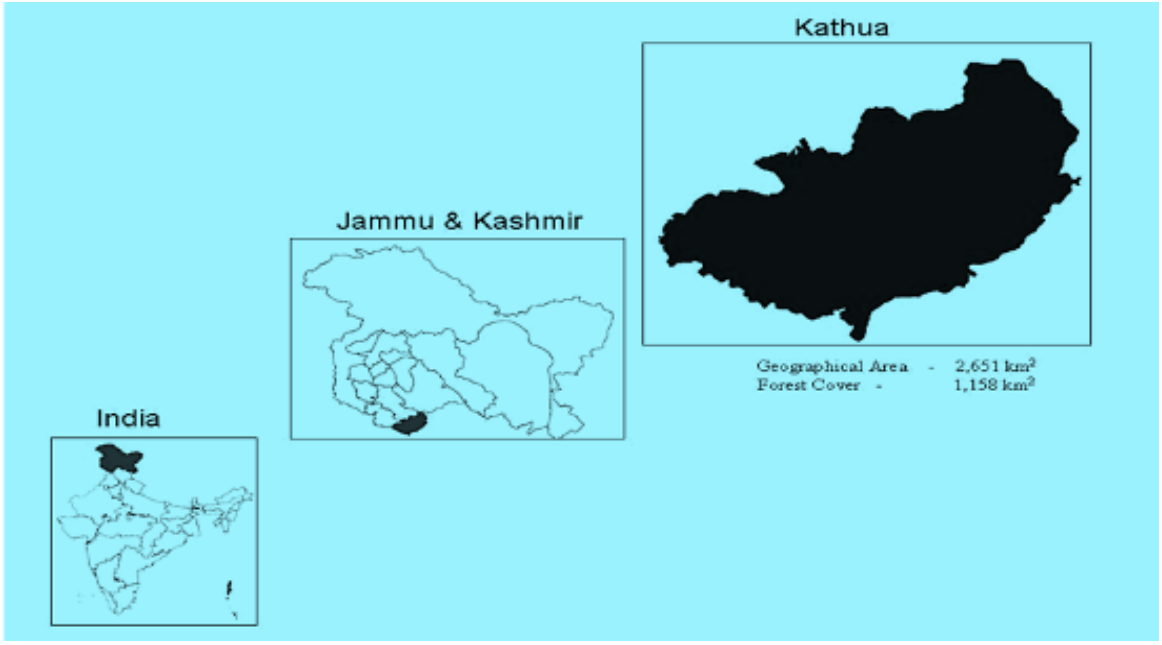


Figure 1: Location of the Study Area

Research Article

Taxonomic Enumeration

1. Achyranthes aspera Linn.
Local name: Parkanda
Family: Amaranthaceae
Medicinal plant part used: Leaves and seeds
Medicinal uses: The roasted seed powder mixed with honey is used during cough and throat irritations. Leaf juce is given to cure diarrhoea.
Religious plant part used: Whole plant
Religious Use: The plant parkanda along with bana (*Vitex negundo*) hangs on the doors and windows on eve of Diwali.

2. Aegle marmelos Corr.
Local name: Bel
Family: Rutaceae
Medicinal plant part used: Leaf, fruit and root
Medicinal use: The unripe or half ripe fruits improve appetite and digestion. The fruit juice along with water and sugar is used to cure diarrhoea. Root bark is used to cure fever. Leaf, fruit and root has antibacterial properties.
Religious plant part used: Leaves
Religious use: It is one of the sacred trees of India.
It is generally dedicated to Lord Shiva, whose worship cannot be completed without the leaves of this tree.
It is also believed that the planting of this tree by the way side gives long life.

3. Azadirachta indica A. Juss.
Local name: Neem
Family: Meliaceae
Medicinal plant part used: Leaves
Medicinal use: The leaves are applied on skin disease and boils. The decoction is also taken internally to expel out the germs and wounds.
Religious plant part used: Whole plant
Religious use: It is believed that when nectar was taken to heaven from the world below for the use of gods, a few drops fell on the neem; hence, Hindus eat its leaves in the hope that they acquire freedom from diseases.

4. Brassica campestris L.
Local name: Sarsoon, saryan
Family: Brassicaceae
Medicinal Plant Part Used: Leaves and seeds
Medicinal Use: The mustard oil is obtained from its seeds.
The warm mustard oil is rubbed over the swollen portion of the body to reduce the swelling.
Leaves are rich in vitamin A, so these are very useful for eye problems.
Religious Use: Seeds
Religious Plant Part Used: Seeds are used for yielding oil and this oil is considered as pure for lighting lamps (Deepak) on various religious ceremonies.

5. Brassica juncea (Linn.) Czern. & Coss.
Local Name: Rai
Family: Brassicaceae
Medicinal plant part used: Seeds
Medicinal use: Seeds are very effective against jaundice.
Religious plant part use: Seeds
Religious use: Seeds are used for the treatment against evil spirits during some religious activities.

***6. Butea monosperma* (**Lamak.) Taubert.
Local name: Pala, Palash
Family: Fabaceae
Medicinal plant part used: Gum, seeds and root bark
Medicinal use: The gum is valuable for treatment of diarrhoea. Seeds are useful against ringworms, roundworms and tapeworms. The root bark has been found to have some action on blood pressure.
Religious plant part used: Leaves and twigs
Religious use: The dried twigs are used for sacred fire in the ceremony, which goes under the name of navagrahas, celebrated to secure the pacification of the nine planets on the occasion of vastu shanti i.e., entrance of the newly built house. The Prasad (sacrament) is offered to god in the bowls made of palash leaves called "daunas". The dried twigs are used for sacred fire in the ceremony.
7. Calotropis procera (Ait.). R. Br.
Local name: Daryai aak
Family: Asclepiadaceae
Medicinal plant part used: Leaves and roots
Medicinal use: The smoke from the burning leaves is inhaled for the cure of asthma and cough. A paste of the charcoal prepared from roots mixed with some bland oil is applied over skin diseases.
Religious plant part used: Flowers and twigs
Religious use: The flowers are used in the worship of Hanuman. The twigs are also used for the feeding of sacred fires (Hawan).
8. Cannabis sativa R. Br.
Local name: Bhang
Family: Cannabinaceae
Medicinal plant part used: Leaves
Medicinal use: The main use of hemp is for easing pain and inducing sleep.
The tincture helps parturition and all painful urinary infections.
Religious plant part used: Flowers and leaves
Religious use: On the occasion of Mahashivratri, the Hindus dedicate bhang to Lord Shiva. On that day, the drink known as "shardai", in which bhang is added, is being taken by the Hindus.
9. Curcuma domestica Valeton
Local name: Haldi
Family: Zingiberaceae
Medicinal plant part used: Rhizome
Medicinal use: The rhizome powder (haldi) is very effective to stop bleeding from the wounds.
Religious plant part used: Rhizome
Religious use: The rubbing of turmeric and oil is an essential part of the Hindu marriage and the Mundan occasion.
10. Cynodon dactylon (Linn.) Pers.
Local name: Khabbal
Family: Poaceae
Medicinal plant part used: Roots
Medicinal use: Decoction of roots is diuretic in dropsy.
Infusion of roots for stopping bleeding from piles
Religious plant part used: Whole plant
Religious use: The young branches are washed with water or gangajal. Then, these are given to the devotees at the time of katha along with some flowers and after the completion of Kattha, these are offered to the god.
11. Emblica officinalis Gaertn.
Local name: Amla
Family: Euphorbiaceae

Medicinal plant part used: Fruit
Medicinal use: The fruits are very effective against jaundice. Dried fruits are good blood purifier. It is used for the treatment of vomiting and habitual constipation.
Religious plant part used: Whole plant
Religious use: This is one of the sacred trees of India. Kartik Mahatma orders the worship of this tree and that a Brahman couple should feed under it, whereby all their sins are washed off.

12. Ficus benghalensis Linn.
Local name: Bado
Family: Moraceae
Medicinal plant part used: Latex
Medicinal use: Its latex is used to expel out the thorns which are broken down inside the skin.
Religious plant part used: Whole plant
Religious use: According to Hindu mythology, the banyan tree is viewed as the male to the peepal. The women are ordered to worship this tree on jesht shudh, which comes in 15th May or June, to water it, to wind a thread round it and to worship it with Indian marigold flower and then to make pardakshinas i.e., to go round it a certain number of times and to pray it for the survival of their husbands and for the fulfillment of their wishes.

13. Ficus religiosa Linn.
Local name: Peepal, Barh
Family: Moraceae
Medicinal plant part used: Leaves, roots and fruits
Medicinal use: The roots are chewed to prevent gum diseases. Ripe fruits are antidote against poison or venom. The powder of fruits is used for asthma. The leaves are used to treat constipation.
Religious plant part used: Whole plant
Religious use: It is a large tree mostly planted near temples. This tree is especially worshipped on every Saturday and Monday. There is a myth that the Hindu who plants a peepal tree to provides shade to the fellow creatures in this world, after death he will not be scorched by excessive heat in his journey to the kingdom of Yama.

14. Hordeum vulgare Linn.
Local name: Jau, jav
Family: Poaceae
Medicinal plant part used: Seeds
Medicinal use: The seeds are used to produce a special type of wine called ‘shang’ which keeps the body warmth in the temperate regions.
Religious plant part used: Seeds
Religious use: Jau are considered pure. Jau is a compulsory item used in various religious ceremonies like havan, worshipping and other social customs.

15. Juglans regia Linn.
Local name: Ban Akhrot
Family: Juglandaceae
Medicinal plant part used: Bark
Medicinal use: Bark is effective against toothache and provides strength to the gums.
Religious plant part used: Fruit
Religious use: A mixture of five dried fruits (kaju, badam, kismis, chuwara and akhrot) called ‘panchmewah’ by the local people and is generally used in some religious ceremonies like Deepawali. The fruit is generally considered pure because it does not decay after it is being dried.

16. Mangifera indica Linn.
Local name: Aamb, Aam
Family: Anacardiaceae
Medicinal plant part used: Leaves and fruits

Medicinal use: The leaves which are dried in shade are more effective against diabetes
Fruit make the nervous system strong.
Religious plant part used: Leaves, fruits, flowers and wood
Religious use: The mango is held sacred by the Hindus. The flowers (baur) are used to worship Lord Shiva on Shivratri. The wood is used to perform the hawan. The leaves hang on the doors and the leaves of mango are for the control of evil spirits.

17. Musa paradisiaca Linn.
Local name: Kela
Family: Musaceae
Medicinal plant part used: Fruits
Medicinal use: The banana helps to relieve from constipation, by regaining the intestine's normal activity. The fruit is also used in the treatment of depression
Religious plant part used: Whole plant
Religious use: It is believed that the life of husband is being lengthened if his wife worships this banana plant. The fruits are always offered to god.

18. Nelumbo nucifera Gaertn.
Local name: Kamal
Family: Nymphaeaceae
Medicinal plant part used: Rhizome and leaves
Medicinal use: The rhizome or leaves are used with other herbs to treat vomiting of blood.
Religious plant part used: Flower
Religious use: The flowers of kamala are sacred to Lakshmi, the goddess of wealth and prosperity.

19. Ocimum sanctum Linn.
Local name: Tulsi
Family: Lamiaceae
Medicinal plant part used: Leaves
Medicinal use: The decoction of leaves is given in malaria, gastric diseases of children and liver disorders. The leaf juice is given in chronic fever and to check vomiting.
Religious plant part used: Whole plant
Religious use: The 'tulsi' is a sacred plant. The Hindus mostly plant it in front of their home. It is worshipped everyday in the morning and in the evening.

20. Pinus roxburghii Sar
Local name: Chir
Family: Pinaceae
Medicinal plant part used: Resin
Medicinal use: The resin is useful dressing for ulcers.
Religious plant part used: Wood
Religious use: The small pieces of wood are popularly used in havan.

21. Sesamum orientale Linn.
Local name: Til
Family: Pedaliaceae
Medicinal plant part used: Seeds
Medicinal use: Seeds are used to obtain oil which is called 'meetha tail' which gives relief from pain.
Religious plant part used: Seeds
Religious use: Mostly black tils are used in religious purposes like in havan, along with jau, ghee, dhoop, etc.

22. *Syzygium cumini* (Linn.) Skeels.
Local name: Jamun, jamnu
Family: Myrtaceae
Medicinal plant part used: Leaves and seeds

Medicinal use: The leaves give strength to tooth and gums. The dried powder of seeds of the fruit is used for the treatment of diabetes.
Religious plant part used: Whole plant
Religious use: It is sacred tree of the Hindus. The plant is worshipped and the leaves are used as platters and for pouring libations.
23. Vigna mungo (Linn.) Hepper
Local name: Urad, Maan, kali daal
Family: Fabaceae
Medicinal plant part used: Seeds
Medicinal use: Seeds are the rich source of proteins
Religious plant part used: Seeds
Religious use: A mixture of kali daal and rice locally called 'khichri' is offered to 'Shanidev' on the Saturday fast.
24. Vitex negundo Linn.
Local name: Bana
Family: Verbenaceae
Medicinal plant part used: Flowers and leaves
Medicinal use: The extract of the leaves is used to expel out worms in children. Fresh flower extract cures diarrhoea. Leaves are chewed in cough and associated colds.
Religious plant part used: Whole plant
Religious use: The plant bana (*Vitex negundo)* along with parkhanda (*Achyranthes aspera*) hangs on the doors and windows on the eve of Diwali.
25. Ziziphus mauritiana Lam.
Local Name: Ber
Family: Rhamnaceae
Medicinal plant part used: Leaves, roots and fruit
Medicinal use: The leaves promote hair growth. The root is made into powder and applied to wounds. The dried fruits are used against cancer.
Religious plant part used: Fruits
Religious use: The ber fruits are offered to Lord Shiva by the Hindus on Maha Shivratri.

RESULTS AND DISCUSSION

Present investigation provides comprehensive information on the diversity and indigenous uses of the medico-religious plant species commonly used by tribal people of Kathua district (J&K), India. The study reveals 25 plant species, belonging to 21 families and 23 genera of Angiosperms, as well as Gymnosperms. However, the use of Angiosperms is more than the Gymnosperms. The plant parts like leaves, flowers, fruits, roots, seeds, gum, bark, rhizome, and sometimes whole plants, are used for the purpose. Majority of plant species belong to herbs (52%) followed by trees (40%), whereas only 8% of the total plant species belong to shrubs (Figure 2).

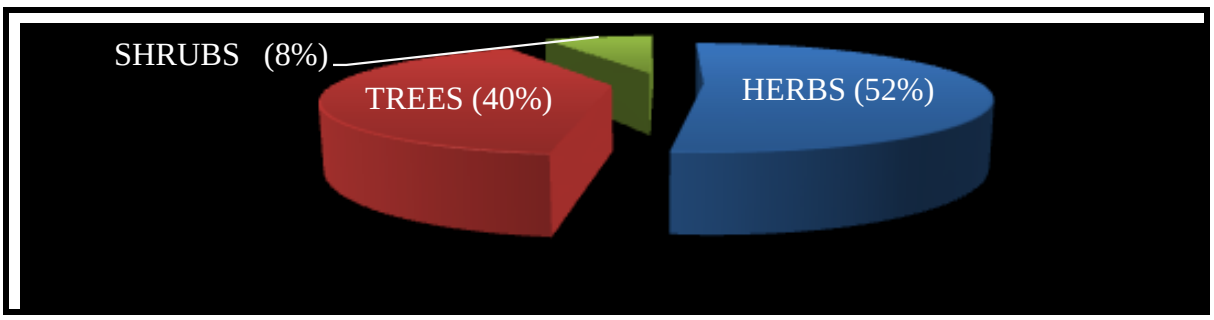
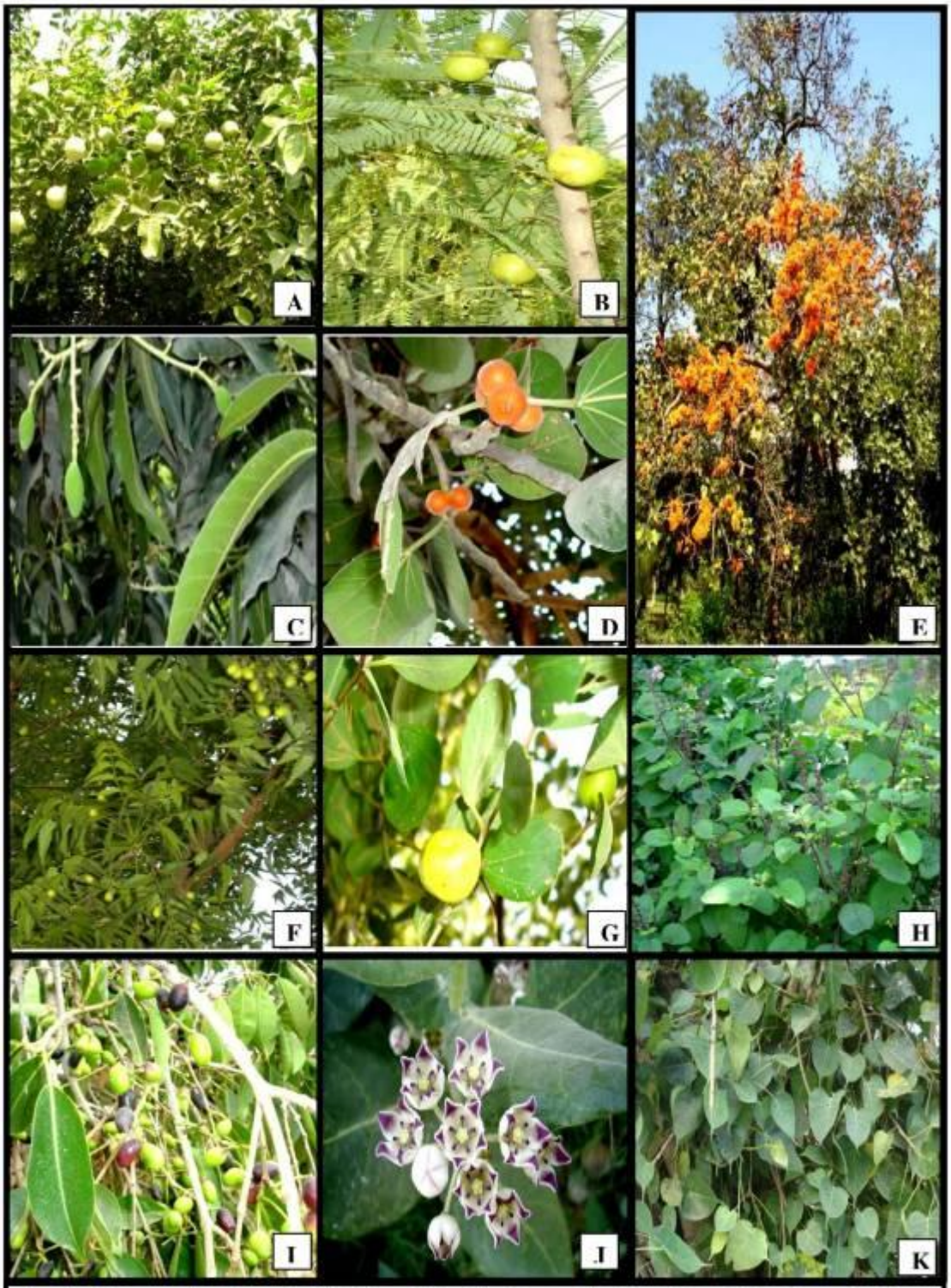
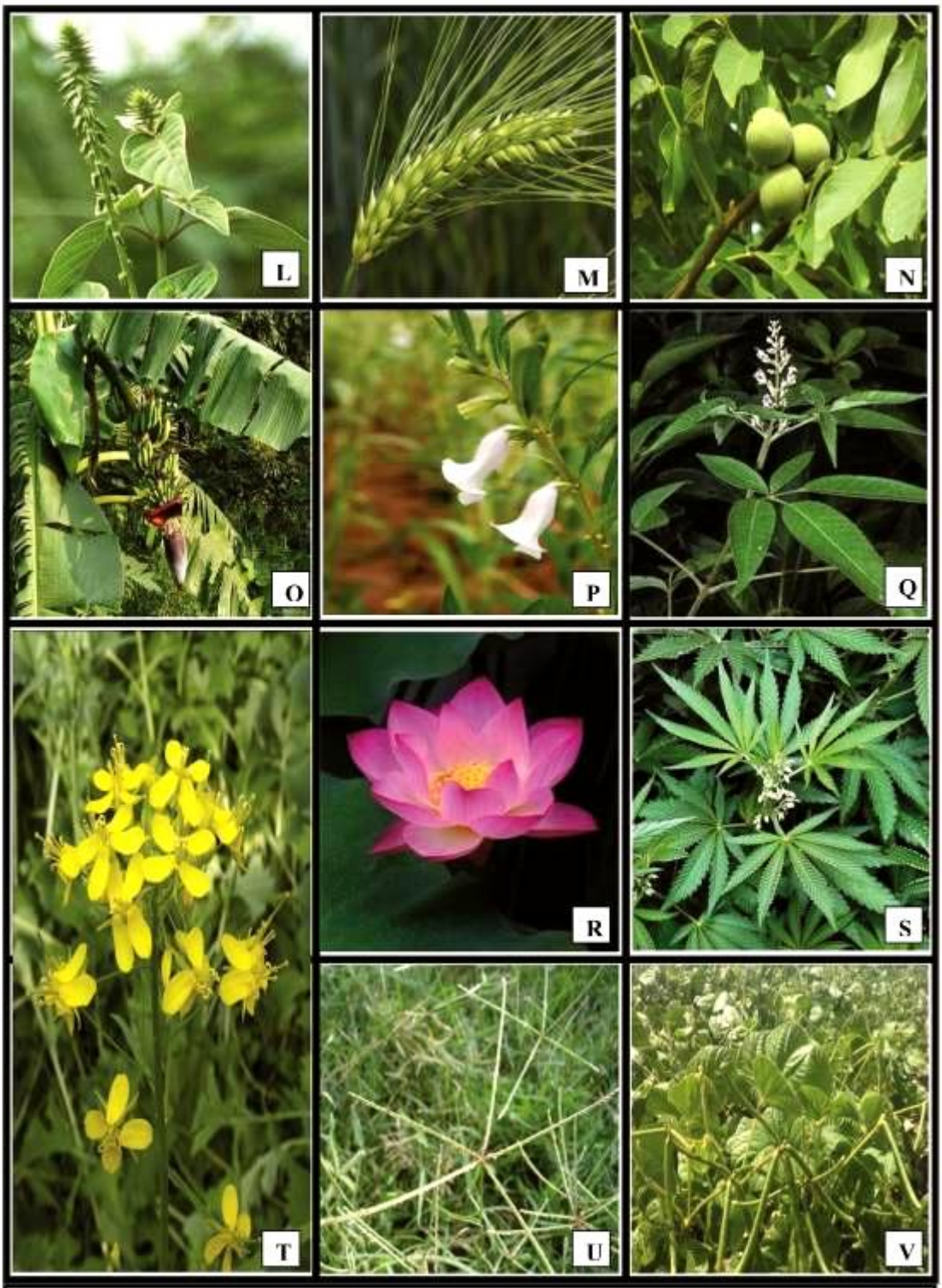


Figure 2: Percentage of Medico-Religious Plants of District Kathua (J&K) Based on their Habit



A. *Aegle marmelos* Corr. **B.** *Emblica officinalis* Gaertn. **C.** *Mangifera indica* Linn. **D.** *Ficus benghalensis* Linn. **E.** *Butea monosperma* (Lamak.) Taubert **F.** *Azadirachta indica* A. Juss. **G.** *Ziziphus mauritiana* Lam. **H.** *Ocimum sanctum* Linn. **I.** *Syzygium cumini* (Linn.) Skeels **J.** *Calotropis procera* (Ait.) R. Br **K.** *Ficus religiosa* Linn.

PLATE 1: Photographs of medico-religious plants reported from District Kathua, J&K, India.



L. *Achyranthes aspera* Linn. **M.** *Hordeum vulgare* Linn. **N.** *Juglans regia* Linn. **O.** *Musa paradisiaca* Linn **P.** *Sesamum arientale* Linn. **Q.** *Vitex negundo* Linn. **R.** *Nelumbo nucifera* Gaertn. **S.** *Cannabis sativa* R.Br.**T.** *Brassica campestris* Linn. **U.** *Cynodon dactylon* (Linn.) Pers. **V.** *Vigna mungo* (Linn.) Hepper

PLATE 2: Photographs of medico-religious plants reported from District Kathua, J&K, India.

The results of the present study reveal that most of the plant species have multiple uses in the treatment of various diseases as well as for the religious purposes.
Tribal and local people have remarkable knowledge of the identification, characteristics and use of different plant species.
In the present study, a total of 25 species of medico-religious plants are collected along with the documentation of significant information regarding their scientific names, common names, families and plant parts used for different purposes. The ethnobotanical use of herbs is followed by trees and shrubs, respectively.
These days, anthropogenic activities such as industrialization, deforestation, habitat destruction, urbanization, etc. pose a serious threat to the species. It is, therefore, very necessary to document the useful ethnobotanical flora and conserve it for future generations. Hence, the steps towards the conservation of the species with appropriate measures involving the participation of the local people has been adopted in the present research work.

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