

## Festival of flowers (Fulaich): Unique traditional culture and custom of Kinnaura tribes in Himachal Pradesh, North Western Himalaya, India

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Fairs and festivals are important parts of the lives of tribal communities living in the Indian Himalayan Region. For ages, the Kinnaura tribes of Himachal Pradesh have been highly dependent on locally available plant resources for fulfilling their daily livelihood needs and performing various cultural rituals. In Kinnaur district, 'Fulaich' is one of the most famous festivals celebrated every year during the 10<sup>th</sup> August-26<sup>th</sup> October to express respect and love towards high-altitude wild flowers, to pay homage to departed family members and to celebrate a new birth. According to local tradition, during the festival time, from every village 2-14 persons are selected by the villagers to visit alpine and sub-alpine areas and collect wild flowers, mainly *Aconitum violaceum*, *Bistorta affinis*, *Bergenia stracheyi*, *Carex nivalis*, *Delphinium* spp., *Hymenidium brunonis*, *Saussurea gossypiphora*, *Saussurea obvallata*, *Poa alpina*, etc., and offers them to local deities. It is believed that these flowers keep away evil spirits and bring good health, wealth and prosperity. Therefore, the study was conducted to gather information on different religious plants used by different customs and rituals practiced by Kinnaura tribes during the Fulaich celebration. The present study records 47 plants (Angiosperms 41 spp. and Gymnosperms 6 spp.) belonging to 38 genera and 20 families. The occurrence of 25 native shows the high conservation value of the plants. The study helps to understand how Fulaich is playing an important role in the solidarity and cultural identity of the Kinnaura tribes, along with the conservation of plant species. This festival also has great tourism potential, for which it should be declared an International level festival.

**Keywords:** Diversity, Fulaich, Indigenous Knowledge, Nativity, Threat status, Ukhyang

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Plants have been an integral part of human society since the beginning of time and our age-old beliefs reflect the close relationship between plants and human beings. Indigenous and tribal communities all over the world are strong believers in nature and accordingly use them in various traditional rituals, worshipping and conserving natural resources<sup>1</sup>. Plant use in rituals is a little-studied aspect of bio-cultural diversity that developed throughout time inside a complicated socio-ecological system<sup>2</sup>. Although rituals are complex and help in interactions between humans and biodiversity that contribute significantly to the history and cultural identity. In Western Ukraine, Orthodox Hutsuls of Bukovina and Greek Catholic rural inhabitants use 28 and 58 plant taxa, respectively in the form of bouquets in religious festivals and also for decorating churches and houses or in fruit baskets<sup>3</sup>. India is one of the nations that gives much importance to preserve the environment

and worships each tree and plant<sup>4</sup>. The plants also contribute to influencing the human culture, rituals, rites, customs, legends, ethos and myths, folk tales and folk songs, food and medicinal practices<sup>5</sup>. In addition, Indian people often relate cosmic beliefs for all happenings in their lives, including sickness and suffering, and show close association and respect for animals and plants in traditional rituals<sup>6</sup>. Many festivals are celebrated throughout the years which connect us with nature. The two greatest epics of the world, the Ramayana and the Mahabharata are live examples. Flowers are the most beautiful, on this earth, and from birth to death, these play indispensable role in the lives of human beings. Along with providing positive energy, they reduce stress, anxiety, and depression. Flowers also enhance the grace of festivals and celebrations. In India, *Azadirachta indica*, *Centella asiatica*, *Curcuma longa*, *Cynodon dactylon*, *Ficus religiosa* and *Ocimum tenuiflorum* are commonly used in religious activities, marriages, and other ceremonies<sup>7</sup>. In

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addition, *Azadirachta indica* is also used to keep away evil spirits<sup>8</sup>. The *Apatanis* tribe of Arunachal Pradesh use 20 plant species in festivals and other traditional rituals. Bamboos, Canes and *Castanopsis* spp., *Magnolia* spp., and *Pyrus* spp. were the major plants without which the traditional rituals of *Apatani* tribe cannot be completed<sup>9</sup>. In Telangana State, people use Tanner's Cassia, Celosia, Marigold, and Chrysanthemum flowers for making *Bathukamma* (floral conical mound) for the celebration of the Bathukamma festival<sup>10</sup>. The plant wealth of the Indian Himalayan Region (IHR) is known for its uniqueness, naturalness, representativeness, and socio-economic values<sup>11</sup>. The rhizomes of *Nardostachys grandiflora* and the flowers of *Morina coulteriana* and *M. longifolia* mixed with roots of *Jurinea macrocephala* are used as incense in Himalayan regions<sup>12,13</sup>. In IHR, 155 species of plants with sacred values are offered to various deities. Himachal Pradesh, one of the Himalayan States of India, is inhabited by 14 different tribal communities, *viz.*, Gaddi, Gujjar, Kinnaura, Bhot, Swangla, Lahaula, Pangwals, *etc*<sup>14</sup>. These tribal communities have a rich cultural heritage and are custodians of indigenous traditional knowledge associated with their surrounding biological resources due to their unique costumes, dialects, traditions, and customs<sup>15</sup>. In Tirthan Wildlife Sanctuary, Kullu, Himachal Pradesh, 45 species are associated with sacred beliefs and have religious importance<sup>16</sup>. In Kanawar Wildlife Sanctuary, Kullu 33 species (trees

06; shrubs 16; herbs 11) are used in numerous religious ceremonies and also as folk medicine by indigenous people<sup>17</sup>. The tribal communities of Kinnaur also have a rich cultural heritage because of their own unique culture, traditions, and customs. They believe that gods, local deities, and other supernatural powers reside in trees, forests, and alpine pastures. So, they give due regard to these plants and use them for various social, cultural, and religious functions. In Moorang tehsil of district Kinnaur, 21 plants are commonly utilized by Kinnaura tribes in traditional rituals and festivals<sup>18</sup>. The review of the literature revealed that detailed studies on plants used in traditional rituals, especially for birth, death, marriage, fairs, and festivals in district Kinnaur, have not been documented so far. Therefore, the present study is undertaken to document the unique traditional rituals and customs followed by the Kinnaura tribes of Himachal Pradesh, with an enumeration of plant species used during the Fulaich festival.

## Materials and Methods

### Study area

The Kinnaur district is a north-eastern tribal district of Himachal Pradesh that lies on both banks of the river Satluj from 31°55'50" to 32°05'15" North latitudes and 77°45'00" to 79°00'35" East longitudes, with an altitude arrange of 1320-6816m amsl and an area of 6401 km<sup>2</sup> (Fig. 1). The climate of the region is a dry temperate type characterized by a long winter

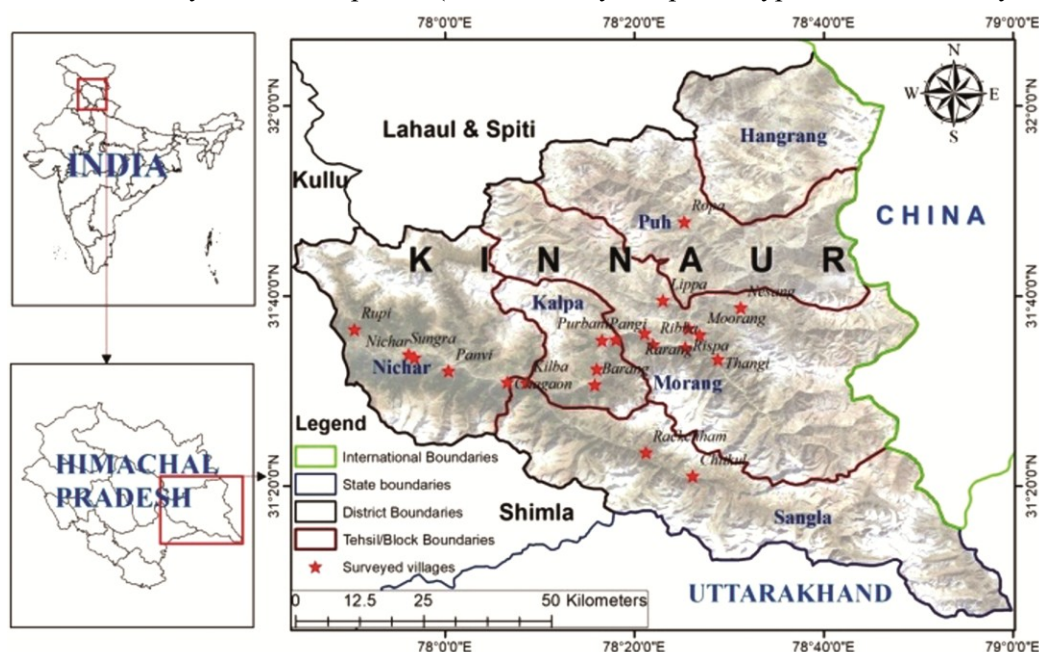


Fig. 1 — Map of the study area, Kinnaur district in Himachal Pradesh (Source: Prepared using ArcGIS 9.2)

from October to April and a short summer from May to August. Due to heavy snowfall during the winters, the region remains geographically isolated from other parts of the State. The main soil types in the region are sandy, sandy loam, clayey loam, gravel, *etc.* The wide ranges of altitudinal and climatic geospatial gradients have endowed the area with rich floristic diversity. The region is dominated by conifers, *viz.*, *Pinus gerardiana* (Chilgoza), *Pinus wallichiana* (Kail), *Cedrus deodara* (Devdar), *Picea smithiana* (Rai), *Pinus roxburghii* (Chil), *Abies pindrow* (Talispatra), *A. spectabilis* (Talispatra), *Quercus semecarpifolia* (Kharsu), *Q. oblongata* (Ban), *Q. ilex* (Brey), *Juniperus polycarpus* (Shur), *Aesculus indica* (Khanor), *Olea ferruginea* (Oyi), *Alnus nitida* (Nyu), *etc.* in the dry temperate region. Furthermore, medicinal and aromatic plants, and other herbaceous species were recorded in the alpine and sub-alpine regions.

#### Methodology

The present study is based on extensive and intensive surveys conducted from 2019-2020 in the representative 21 tribal villages/panchayats namely, Chhitkul, Chagaon, Rackchham, Rarang, Rispa, Jangi, Moorang, Nesang, Lippa, Kothi, Barang, Pangi, Nichar, Rupi, Panvi, Sungra, Kilba, Ropa, Ribba, Thangi and Purbani villages of Kinnaur district in Himachal Pradesh. The usual personal observations, oral interviews, and discussions with the tribal communities of respective villages were the basis of the collection of information about the utilization of plants in celebration of the festival of flowers 'Fulaich'. A total of 66 respondents were interviewed, of which 86% were males and 14% were females. From each village, 2-5 knowledgeable people were interviewed through a semi-structured questionnaire (Supplementary Table S1). Oral Prior Informed Consent was sought from every respondent. The informants included men, women, youths, and elders between the ages of 30-85. The questions were mainly for information generation on species used for the celebration of the festival of flowers 'Fulaich or Ukhyang'. For information generation, questions related to the Fulaich festival were asked in the local dialect and Hindi as well. The plant specimens were collected, dried using routine botanical collection and herbarium techniques, identified, and preserved<sup>19</sup> in the herbarium at Himalayan Forest Research Institute, Shimla, India. Samples of recorded herbs, shrubs, and trees were identified in the laboratory with the help of regional<sup>20</sup> and local floras<sup>21-25</sup>. For the nomenclature

of the species, World Flora Online (website: <http://www.worldfloraonline.org>) has been followed. The nativity of the species was identified<sup>26</sup> and threat status by following the IUCN red list<sup>27</sup>. The species which were found in sub-temperate and temperate regions, but utilized by the tribal communities in the Fulaich festival have also been included.

#### Results and Discussion

The present study revealed that a total of 47 plants (Angiosperms 41 and Gymnosperms 6 spp.) belonging to 38 genera and 20 families are being utilized in various ways during the celebration of the 'Fulaich' festival in Kinnaur district, Himachal Pradesh. Of these, thirty-two (32) species were herbs, 9 shrubs, and 6 trees. Asteraceae (10 spp.), Ranunculaceae (5 spp.), Fabaceae and Polygonaceae (4 spp., each), Poaceae, Cupressaceae and Pinaceae (3 spp., each), Rosaceae and Apiaceae (2 spp., each) were represented by the maximum number of species. A total of eleven (11) families were represented by one species only (Table 1). Among genera *Saussurea*, *Delphinium*, and *Juniperus* (3 spp., each) contributed the maximum species. Of the total 47 species, 25 species are recorded as native to the Himalayan regions, five species as native to the Himalayan and other biogeographical regions (*i.e.*, Africa, Europe, America, etc.) together and the remaining 17 species are non-native to the Himalayan region. Amongst the parts used, flowers (23 spp.) are used mostly followed by leaves (7 spp.), seeds/grains (6 spp.), twigs (4 spp.), branches, and straw (3 spp., each). Amongst the reported 47 species, five species fall under various threat categories. *Jurinea macrocephala* is critically endangered, *Saussurea obvallata* and *Betula utilis* are endangered, and *Aconitum violaceum* and *Skimmia laureola* are vulnerable<sup>28</sup>. As per IUCN red list, *Aconitum violaceum* is vulnerable<sup>27</sup> and *Pinus gerardiana* is near threatened<sup>29</sup> (Table 1). Therefore, the conservation and sustainable utilization of these species would help in conserving the ecosystem, ecosystem services, livelihood options, traditional culture and customs and overall environment of the region. The village wise use of plants in Fulaich festival is given in Supplementary Table S1.

The spiritual and cultural values of indigenous communities play an important role in conserving biodiversity<sup>30</sup>. Fairs and festivals have been an important part of human beings all over the world since ancient times. The different indigenous and tribal communities throughout the world follow their

Table 1 — Plants used in the celebration of the festival of flowers 'Fulaich' by the tribal communities in Kinnaur district, Himachal Pradesh

Family/Taxa	Local Name	Life Form	Altitude/ Altitudinal Range	Nativity	Part used
<b>ANGIOSPERMS</b>					
<b>Apiaceae</b>					
<i>Cortiella hookeri</i> (C. B. Clarke) C. Norman	Pau	H	4300-5500	Reg Himal	Leaves
<i>Hymenidium brunonis</i> Lindl.	Pagu	H	3300-4500	Reg Himal	Flowers
<b>Apocynaceae</b>					
<i>Wattakaka volubilis</i> Stapf	Bakhri Khan	Sh	1320-1600	Ind Or	Seeds
<b>Asteraceae</b>					
* <i>Chrysanthemum morifolium</i> Ramat.	Golbasi	H	1320-2900	China	Flowers
<i>Dahlia pinnata</i> Cav.	Halu Uh	H	1000-2500	Amer	Flowers
<i>Erigeron multiradiatus</i> (Lindl. ex DC.) Benth. & Hook.f.	--	H	2000-4500	As Trop	Flowers
<i>Himalaiella heteromalla</i> (D. Don) Raab-Straube	Khasbal	H	1320-4000	Reg Himal	Flowers
<i>Jurinea macrocephala</i> DC.	Guglang, Gulang	H	3000-4700	Persia	Roots
<i>Saussurea gossypiphora</i> D. Don	Khaspal	H	3500-5200	Reg Himal	Flowers
<i>S. simpsoniana</i> (Fielding & Gardner) Lipsch.	Bena Khaspal	H	3800-5600	Reg Himal China	Flowers
<i>S. obvallata</i> (DC.) Edgew.	Rongol,	H	3500-4800	Reg Himal	Flowers
	Shulo, Donger				
* <i>Tagetes erecta</i> L.	Kusumbur	H	up to 3200	Mexico	Flowers
<i>T. patula</i> L.	Thangra	H	up to 3000	Mexico	Flowers
<b>Betulaceae</b>					
<i>Betula utilis</i> D. Don	Shak, Padh, Bhojpra	T	2100-4200	Reg Himal Japan	Long sticks/ Branches
<b>Bignoniaceae</b>					
<i>Oroxylum indicum</i> (L.) Benth. ex Kurz <sup>#</sup>	Chamkha	T	500-1200	Indian subcontinent	Seeds
<b>Cyperaceae</b>					
<i>Carex nivalis</i> Boott	Rog Seelang	H	3800-4900	Reg Himal	Flowers
<b>Ericaceae</b>					
<i>Rhododendron anthopogon</i> D. Don	Tolo	Sh	3000-4900	As Bor Reg Himal	Flowers
<b>Fabaceae</b>					
<i>Glycine max</i> (L.) Merrill	Bothang	H	up to 2000	As Trop	Seeds
<i>Indigofera heterantha</i> Wall. ex Brandis	Kasting	Sh	1500-3000	Reg Himal	Twigs
<i>Lathyrus oleraceus</i> Lam.	Nyar	H	up to 4400	Europe As Bor	Straw
<i>Sunhangia elegans</i> (DC.) H. Ohashi & K. Ohashi	Mus	Sh	1320-3600	Reg Himal	Twigs
<b>Papaveraceae</b>					
<i>Meconopsis aculeata</i> Royle	--	H	3000-4050	Reg Himal	Flowers
<b>Plantaginaceae</b>					
<i>Lagotis kunawurensis</i> Rupr.	Papning, Tapning	H	3900-5600	Reg Himal	Flowers
<b>Poaceae</b>					
<i>Arundo donax</i> L.	Rajal	H	1320-3750	Reg Mediterr Oriens	Stem
<i>Hordeum vulgare</i> L.	Tak, Chak, Cha	H	1400-4000	Eurasia	Grains, Twigs
<i>Poa alpina</i> L.	Gyalchee, Yalchee	H	2400-4000	Amer	Leaves
<b>Polygonaceae</b>					
<i>Bistorta affinis</i> Greene	Shueg Seelang, Ramu	H	3050-4270	Reg Himal	Flowers
<i>Fagopyrum esculentum</i> Moench	Olgo, Ogl, Ogli	H	1320-4400	Europe As Bor	Grains, Straw
<i>F. tataricum</i> (L.) Gaertn.	Bras	H	1320-3650	Europe As Bor	Seeds, Straw
<i>Persicaria wallichii</i> Grauter & Burdet	Chuti	H	2500-2700	As Temp	Flowers
<b>Primulaceae</b>					
<i>Primula obtusifolia</i> Royle	Devizanks	H	3600-5300	Reg Himal	Flowers
<b>Ranunculaceae</b>					
<i>Aconitum violaceum</i> Jacquem. ex Stapf	Bangat Kaiser	H	3600-4800	Reg Himal	Flowers
<i>Delphinium cashmerianum</i> Royle	Loskarch	H	2700-4880	Reg Himal	Flowers
<i>D. glaciale</i> Hook. f. & Thomson	Loskarch	H	3300-6500	Reg Himal	Flowers
<i>D. brunonianum</i> Royle	Loskar, Donang Uch	H	4300-5500	Reg Himal	Flowers

(Contd.)

Table 1 — Plants used in the celebration of the festival of flowers ‘Fulaich’ by the tribal communities in Kinnaur district, Himachal Pradesh

Family/Taxa	Local Name	Life Form	Altitude/ Altitudinal Range	Nativity	Part used
<i>Ranunculus hirtellus</i> Royle Rosaceae	Chip-Chi	H	1800-4800	Reg Himal	Flowers
<i>Potentilla atrosanguinea</i> G. Lodd. ex D. Don	--	H	2100-4000	Reg Himal	Flowers
<i>Prinsepia utilis</i> Royle Rutaceae	Bhekal	Sh	1320-3000	Reg Himal	Twigs
<i>Skimmia laureola</i> (DC.) Decne. Saxifragaceae	Shushur	Sh	2600-3200	Reg Himal	Leaves
<i>Bergenia stracheyi</i> (Hook. f. & Thomson) Engl. Vitaceae	Rachu Kanang	H	3300-4000	Reg Himal	Leaves
<i>Vitis vinifera</i> L. GYMNOSPERMS	Dakhang	Sh	up to 2800	Oriens Ind Bor Occ	Fruits
Cupressaceae					
<i>Juniperus indica</i> Bertol.	Shur, Shukpa	Sh	2600-5200	Reg Himal	Leaves
<i>J. excelsa</i> subsp. <i>Polycarpus</i> (K. Koch) Takht.	Shur, Shukpa	T	2400-4300	Persia Reg Himal	Leaves
<i>J. squamata</i> Buch.-Ham. ex D. Don	Shur, Shukpa	Sh	1600-4500	Reg Himal China	Leaves
Pinaceae					
<i>Cedrus deodara</i> (Roxb. ex D. Don) G. Don	Kyalbang	T	1320-3500	Reg Himal	Branches
<i>Pinus gerardiana</i> Wall. ex D. Don	Ree, Neoza	T	1800-3300	Reg Himal	Flakes of stem
<i>P. wallichiana</i> (Wall. ex D. Don) A.B. Jacks.	Lim	T	1800-4300	Reg Himal	Branches

Abbreviations used: T=Tree; Sh=Shrub; H=Herb; \*=Ornamental; #=Collected outside of Kinnaur; Reg=Region; Himal; Himalayan; As=Asia; Trop=Tropical; Temp=Temperate; Bor=Borealis (Northern); Ind Or=Indian Oriental; Oriens=Oriental; Amer=America; Mediterr=Mediterranean; and Occ=Occidentalis

own traditional beliefs, culture, customs, and rituals and use various parts of plants to perform traditional rituals during fairs and festivals. These festivals not only strengthen their social bonding and relationships but also help in maintaining mutual harmony among the communities. All the species used in the rituals and cultures are taken care of by the community in their natural habitat indicating the impacts of the tradition and culture on forest and plant conservation<sup>9</sup>. The State Himachal Pradesh is known as ‘Dev Bhumi’ all over the State, native people celebrate many festivals throughout the year. The Kinnaur district of Himachal Pradesh is one of the remotest tribal districts of Himachal Pradesh, and natives of the area are known as ‘Kinnaura or Kinners’. The Khoshiya, Chamang, Domang and Ores are socio-cultural groups of Kinnaura tribe. They have their own local Kinnauri dialect (Jangshung, Chitkuli, Sumcho, Sunnam, Bhoti and Chhoyuli) and their dialects change from village to village and Valley to Valley. Because of this, these native people are the custodians of unique indigenous traditional knowledge associated with their surrounding biological resources. The Kinnaura tribes are highly dependent on natural plant resources to perform various traditional rituals, especially for birth, death, marriage, fairs, and festivals. They are also very fond of music, dance, and singing. They celebrate many

festivals throughout the year in which many plants (cultivated and wild) are used in performing various rituals. *Fulaich* is one of the most important annual festivals celebrated in different valleys all over Kinnaur district viz., Sutlej, Bhaba, Baspa, Tidong, Jangram Valley, Gonyul (Ropa), Gymthing, and Hangrang Valleys for 4-7 days. This festival is celebrated to express respect and love for high altitude wildflowers, to pay homage to departed family members and to celebrate a new birth. Perhaps, it is the only festival throughout the world that is celebrated for expressing love towards high-altitude wildflowers. *Fulaich* festival is also known as ‘*Ukhayang*’ and the word is made of two words: ‘U’ means ‘flower’ and ‘*Khyang*’ means ‘festival’ or ‘to see a flower’. During the festival, people congregate in massive numbers in temples, streets, roads and high-altitude sacred places including alpine and sub-alpine pastures. The date, pattern, and duration of the celebration of this festival differ from place to place, but the significance of this annual festival is the same all across the Kinnaur district. It is celebrated during the months of Kartik, Sawan, Bhado, and Asauj (i.e., August to October). In the lower Kinnaur, this festival is celebrated during August, in the middle Kinnaur it is celebrated during September, and in the upper Kinnaur it is celebrated during October. The *Fulaich* festival first commences in Rupi village in Nichar

tehsil on Bhadra (10<sup>th</sup> August) and ends in Ropa village in Pooh tehsil in Kartika (26<sup>th</sup> October). Every village has its own deity for the celebration of this important festival. According to the local tradition, from each village, two to fourteen individuals are chosen by villagers during a planning meeting for the Fulaich festival visit alpine and sub-alpine meadows to gather flowers. The flowers that they collect are *Aconitum* spp., *Bistorta affinis*, *Bergenia stracheyi*, *Carex nivalis*, *Delphinium* spp., *Hymenidium brunonis*, *Saussurea gossypiphora*, *Saussurea obvallata*, *Poa alpina*, etc. (Fig. 2). Among all plant species, *Saussurea obvallata* (Brahma Kamal) is used in all villages for performing *Fulaich* rituals. The consumption of alcoholic beverages by locals during this festival occasion is also quite common. Traditional alcoholic beverages made of fruits of Chuli (Chul Rak), Bemi (Bemi Rak), Grape (Angoori), Apple (Pale Rak), and Plum (Lucha Rak) are commonly used for performing different rituals during flower collection and *Fulaich* celebration. According to local belief, the worship of deities remains incomplete without offering liquor. Salted halwa (Dhu) made from *Fagopyrum esculentum* flour; sweet halwa (Posat) made from *Triticum aestivum* flour; and Knead flour of *Hordeum vulgare* (Pya) with local alcoholic beverages are used by flower gatherers and local people to please mountain gods and goddesses by performing religious chants and rituals. The flower gatherers offer the first flower to the mountain gods/goddesses as a token of respect, and thereafter, collected flowers are kept in 'Baskets' made of *Arundo donax* (Rajal) and *Ototropis elegans*

(Mus). After spending the night in caves or on the same day, the flower gatherers return without looking back, as per the strict instructions of the village deity.

After reaching the outskirts of the village, the flower gatherers cut a branch of the *Betula utilis* (Bhojpra) and decorated the collected flowers on it. The women also assist them in making garlands of flowers collected from the hilltops. They also wear flowers on caps and pockets of coats and then move to the village temple with women folk dancing folk songs at the Fulaich festival. After reaching the temple, the flowers collected from the hilltops are offered first to the local deity and then distributed to the village people. The entire village people wear the flowers on their caps and pockets of woolen coats and celebrate the Fulaich festival with great pomp and show by singing and dancing in the village temple along with the local deity. In Thangi, Moorang, Nesang and Ribba villages of district Kinnaur, all the villagers along with their local deities goes to high altitude areas locally known as 'Kanda' and live there for 5-6 days. After 5 - 6 days of celebrations at the hilltop, the local deity adorned with flowers is brought back to the village temple accompanied by village folk. The Fulaich festival of Ribba village is celebrated as a district-level festival for seven days (16<sup>th</sup> September to 22<sup>nd</sup> September). People of the village spend 6 days in small huts at *Sharpo Santang*, which is about 12 km from the main village. People start building their huts about 10 days before the commencement of Fulaich. Twelve Rajputs (10 = *Uho Changan*' and 2 = *Senapala*) of the village, go to the sub-alpine and alpine areas to collect high-altitude flowers and roots of *Jurinea macrocephala* (Gugalang)

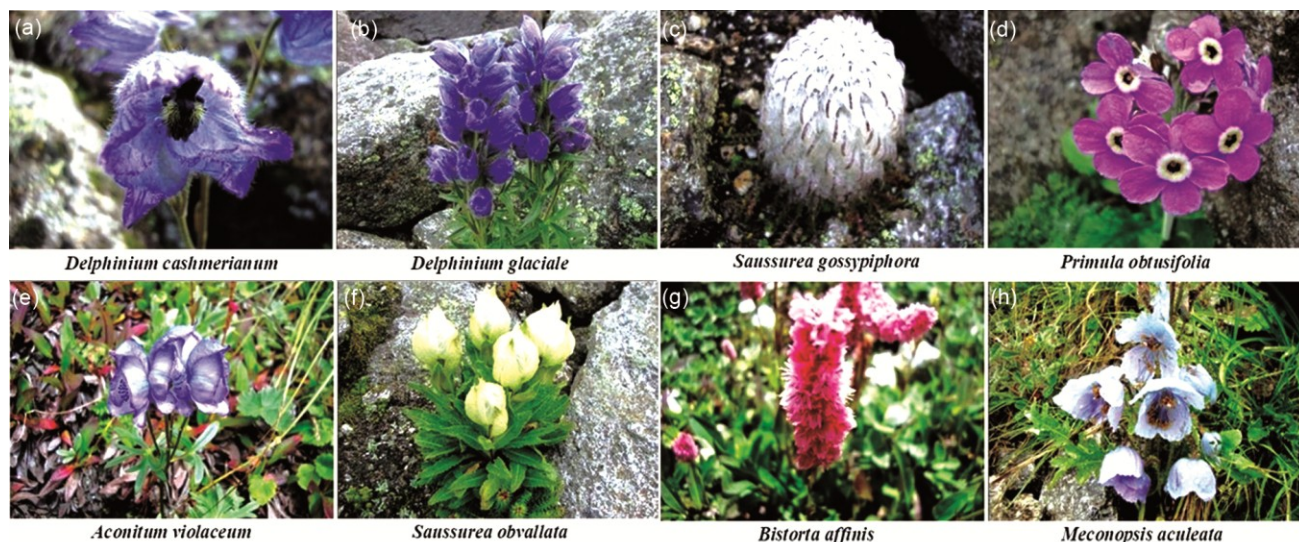


Fig. 2 — (a-h) Plants used in the celebration of the Fulaich Festival by Kinnaura Tribes in Kinnaur district, Himachal Pradesh

three days before the commencement of Fulaich. Furthermore, with common understanding the age-old practice of rotation wise flower collection by Rajput family members were generally performed. Before plucking the flowers, different sacred rituals are performed, which includes offering grape wine (Angoori) and 'Pya' made from the flour of *Hordeum vulgare* to local deities and mountain fairies. Earlier the sacrifice of sheep was also done to please the goddess *Teeken Nagin*. But now-a-days, this type of sacrifice of goats and sheep is totally banned by the government. After difficult ascents and a three-night stay in the hilly caves, bouquets and garlands of flowers are prepared to offer the local deities. On the 15<sup>th</sup> of September, all the flowers are stored by flower gatherers in the cave called 'Udabro' just above the festival celebration place 'Sharpo Santang'. Then, they reach the village by dancing to the tune of a special song known as 'Ukhayang geethang' which is sung to praise the flowers, local deities and mountain fairies. On 16<sup>th</sup> September, all villagers including the old and young climb up towards the hilltop with all their basic items and live in huts made of branches of *Cedrus deodara* (Kyalbang) and *Pinus wallichiana* (Lim) and straw of *Pisum sativum* (Nyar), *Fagopyrum esculentum* (Olgo) and *Fagopyrum tataricum* (Bras). In the evening, all male members of the village bring the palanquin of the local deity 'Kasuraj ji' to Sharpo Santang temple, and thereafter the festival starts. The *Jurinea macrocephala* (Guglang) doop is distributed by two Rajputs 'Senapala' to every household of the village before the deity reaches the festival place. The female folk of the entire village welcome the local deity with the incense of *Juniperus indica* (Shur) and *Jurinea macrocephala* (Guglang) along with apricot, bemi, and grape wine. Then the whole area becomes scented with the aroma of Juniper and Gugal dhoop. At midnight, 12 Rajputs of the village perform special torch wood dances known as 'Sangpuling Chasham' in which long resinous wooden flakes of *Pinus gerardiana* tied with twigs of *Indigofera heterantha* are used for illumination after making fire. They burn the top of the bundles at midnight and start dancing and later other villagers also join them. On the 2<sup>nd</sup> day, 12 Rajputs along with the priest (Gorakh) and caretakers of deity (Kardars) dance with a bouquet (Chaira) known as 'Uo Changan Chasham' and praise the flowers and local deity by singing a special Fulaich song known as 'Ukhayang geetang'. Bouquet 'Chaira' is considered complete only when nine high altitude flowers viz.,

*Aconitum violaceum*, *Bergenia stracheyi*, *Carex nivalis*, *Cortiella hookeri*, *Delphinium brunonianum* or *Delphinium glaciale*, *Poa alpina*, *Bistorta affinis*, *Saussurea gossypiphora*, and *Saussurea obvallata* are present. They first offer the garlands made from *Poa alpina* (Gyalchee) to the local deity and then distribute flowers to the entire villagers. The people also wear the flowers in their caps and upper pockets of their woolen coats to give regard to these flowers. At dusk, two flowers of *Saussurea obvallata* are also distributed to every household and villager, to keep in their houses till next year. Local villagers believe that it keeps away evil spirits and brings good health, wealth and prosperity to the villagers. A special death ritual, 'Sheezo nu khau ran' is also performed by female folk in which food items and wine are offered to 12 Rajputs to please the souls of the dead members of their families. In addition, for the new birth celebration, the sacrifice of sheep and goats was also done earlier as a special ritual known as 'Tashulub'. This festival lasts for 7 days and on the 6<sup>th</sup> day early in the morning, a special dance 'Yam Kayang' is performed by villagers. At that time locals wear needles of *Cedrus deodara*, *Pinus gerardiana* and *Pinus wallichiana* on their caps. After that, except for male members and deities the entire village returns to the village, which is known as 'Ukhayang Jababm'. In the evening, male members of the village bring back the palanquin of the deity. The final day of the event is known as 'Homaring'. Every third year, the 'Jagro' event takes place on the same day. One large-sized bread known as 'Mahasu roti' is also prepared from the flour of *Fagopyrum esculentum* to perform a special dance known as Jagro dance to worship Mahasu Devta. At the end of the festival, *Saussurea obvallata* and *Poa alpina* were also distributed among the villagers. In the district Kinnaur, different folk stories and songs are also prevalent about the Fulaich Festival. During the festival, local elderly men and women folk also describes the importance of wild plants, their interconnection with local deities, and the magical powers they exhibit. Few important lines of the Fulaich song in which the high altitude flowers are praised by Kinnaura tribes of Kinnaur district are mentioned as: "Ring-2 Bima Khona Rang Santang, Thote Li Kaye Gui Sagang Ooa, Aanta Ruza Ganam Ta Rootho, Aanta Ruza Pabang Chayagyoish, Nijrang Khule Bangat Kesare, Ganmi Khugyosh Pau Chores, Rongolu Kheching Gotar Panango, Shobche Pabangho Rachu Kanangu Mandyal, Bangi Pabon Gyalchi Umandhyal, Gyalchiyu Kheching Parakha Fashio,



Fig. 3 — (a-g) Celebration of Fulaich Festival by Kinnaura Tribes in Kinnaur district of Himachal Pradesh

*Phite Li Kain Guisagang Ua, Dkhenang Shete Ho Khona Rang Santang, Jilim Milim Oopaikasu Chagaon, Kyalbang Dalsu Kutiya Lim Dalangu Dwarang, Dhomboru Rangyosh Gyalchi Oo Mandayal, Guiniza Rangyosh Rongolu Ua, Ukhyang Bada Kisho Ukhyang-Sharpo Santango Guinijau Ukhyang, Sheema Li Sharpo Shangma Li Sharpo*". The song summarizes that in the Fulaich festival the nine flowers of high altitude alpine flowers are very important to please local deities and mountain fairies then only they will get blessings for the prosperity of the entire village. The present study clearly revealed that the Kinnaura tribes known for their rich culture and tradition are closely associated with the forest resources for socio-cultural needs. It is not only a most famous festival of district Kinnaur contributing in keeping intact their cultural heritage, but also contributing in conservation of unique species biodiversity of the region. Some photographs of the celebration of the *Fulaich* festival have been presented in Fig. 3.

### Conclusions

The festivals and rituals are cultural performances that serve to keep alive the spirit of social communication. The Kinnaura tribes have strong faith in their traditional beliefs and due to fear of local deities and other supernatural powers, they follow all their traditional rituals without any change and contribute to the conservation and management of natural resources in a nature-friendly manner. Since time immemorial, due to their taboos, self-imposed restrictions, and extra care, they are plucking these flowers only after the seed

set. In addition, fear of the curse of supernatural powers of that area, they avoid plucking these flowers except during festive times and if anybody plucks the flowers then they first offer the flowers to respective deities. In addition to these, many folk stories and songs related to these flowers are also prevalent among them in which their importance, interconnection with deities, and magical powers are mentioned. These facts reflect that this festival is not only playing important role in mutual harmony, but also playing important role in preserving these plants intact and significantly contributing to conserving the forest biodiversity of the region<sup>31</sup>. Hence, the efforts of locals in organizing this festival and their participation in the celebration should be appreciated and promoted. They celebrate festivals due to their firm determination and successfully following their ancestor's beliefs and getting successful in upholding their unique traditions and culture. Hence, it is necessary to preserve and promote this festival for maintaining their culture and customs and to conserve valuable bio-diversity, as a whole environment and nature of the area. In view of the above, the Fulaich Festival can be declared as an international level festival. Besides sacred use, some of the high-altitude plants *viz.*, *Cassiope fastigiata*, *Bergenia stracheyi*, *Rhododendron anthopogon*, *Meconopsis aculeata*, *Cortiella hookeri*, *Saussurea* spp., *Betula utilis*, *Aconitum violaceum*, *Delphenium brunonianum* are also used by locals to cure various ailments since ancient times and the species *viz.*, *Juniperus indica*, *J. excelsa* subsp. *polycarpus*, *J. squamata* and *Jurinea macrocephala* have huge potential in the incense sticks industry<sup>32,33</sup>. Thus, keeping this in view, various *ex-situ*



as well as *in-situ* conservation efforts need to be initiated to explore the pharmaceutical and industrial potential for which population studies, the development of cultivation techniques and ecological niche modelling are required.

### Supplementary Data

Supplementary data associated with this article is available in the electronic form at [https://nopr.niscpr.res.in/jinfo/ijtk/IJTK\\_23\(07\)\(2024\)628-637\\_SupplData.pdf](https://nopr.niscpr.res.in/jinfo/ijtk/IJTK_23(07)(2024)628-637_SupplData.pdf)

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### Conflict of Interest

The authors have no conflict of interest to declare.

### Author Contributions

SL originally formulated the idea, developed the original idea, conducted field work, identified the flora, and wrote the manuscript. SSS gave necessary input while writing the manuscript and finally edited it. SP worked on data analysis and manuscript writing. PSN provided necessary input while writing the manuscript and conducted field work.

### Prior Informed Consent

Prior Informed Consent was sought from every respondent. Additionally, the first/corresponding author (SL) and last author (PSN) belong to the same tribe (Kinnaura tribe) and region.

### Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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