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## Ethnoveterinary Practices in Jawalamukhi, Himachal Pradesh, India

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Jawalamukhi shakti peeth is located in district Kangra Himachal Pradesh, endowed with a diverse plant wealth. The present study highlights the traditional knowledge on the ethnoveterinary medicinal plants used by the gujjar community of Jawalamukhi. They live with their livestock and their economy is dependent on selling milk. They use surrounding medicinal plants for the treatment of various ailments of their livestock. Documentation of such knowledge is required in view of the day by day disappearing knowledge among the new generations. Therefore in the present study, an attempt has been made to document some locally available plants utilized traditionally by the tribal community of this area. The study includes plant species, belonging to families commonly employed in ethnoveterinary practice by community.

**Keywords:** Jawalamukhi, Medicinal plants, Ethnoveterinary

Since prehistoric period medicinal plants have been used to cure various diseases. Knowledge of medicinal value of plants is recognized by almost every society on earth. The Gujjar, a semi-nomadic tribe mainly depend on the livestock rearing for their livelihood. From very ancient time, they have learned and practiced the medicinal usage of plants for treating various ailments of their livestock. The tribals have preserved a huge knowledge of traditional medicinal uses of plants growing around them. The tribal people throughout the world have evolved their own cultures, customs, religious rites, taboos, legends and myths etc. They are the store house of accumulated experiences and knowledge about the native vegetation. They use different plant species in treatment of various diseases, using the roots, stem, leaves and bark of the plant (Mibang and Choudhuri, 2003). This

knowledge is transmitted exclusively through oral communication from one generation to next using scriptless language. The knowledge accrued by tribal people through generations shows the in-depth understanding of the forest resources (Choudhary *et al.*, 2011).

Himachal Pradesh is rich reservoir of medicinal plants. There are few reports on the use of plants in traditional healing by tribal people in Himachal Pradesh (Singh and Kumar, 2000; Sehgal and Sood, 2013). Jawalamukhi shakti peeth is situated in district Kangra (Himachal Pradesh). The population of Jawalamukhi is entirely rural; few people are engaged in local jobs and trade. Principal tribe is 'Gujjar', which is dependent upon their local livestock for most of their needs especially for agriculture production. They rear cows, buffaloes and sheep and use several plants for the treatment of various diseases in

animals. They communicate in pahari dialect. Living close to the nature, these tribals have acquired unique knowledge about the use of medicinal flora. Considering the importance of herbal medicines, the present study was undertaken to study the ethnoveterinary medicinal plants of Jawalamukhi used by 'Gujjar' tribe.

### Methodology

The study area, Jawalamukhi is located in the Kangra district, Himachal Pradesh (Figure 1). It lies between 76°32' East longitudes and 31°88' North latitudes. Ethnoveterinary data was obtained from tribal people of different age groups mainly elder women using the methodology suggested by Jain and Goel (1995). Field

surveys were conducted during 2012-2013 among Gujjar tribe to collect information on medicinal plants used to cure various veterinary problems. Authentic information was collected through interviews and discussion by approaching the local people in their agriculture fields and houses. The plants were identified with help of floristic literature (Collett, 1921; Polunin and Stainton, 1984). The photographs of the plant were also taken and used for identification and record. The Department of Biosciences, Himachal Pradesh University (Shimla), Institute of Integrated Himalayan Studies, Himachal Pradesh University (Shimla) and Himalayan Forest Research Institute, Shimla were also visited for verification of identified plants.



Figure 1. Location Map of Jawalamukhi (District Kangra, Himachal Pradesh)

### Results and Discussion

The present study revealed that, a total of 25 plant species belonging to 18 families are used to cure various livestock diseases

(Table 1, Plate 1). Among different families of the plants used in ethnoveterinary practices, maximum species (3) belongs to family Caesalpiniaceae and Lamiaceae

followed by Poaceae (2sp.), Euphorbiaceae (2sp.), Fabaceae (2sp.), Amaranthaceae, Asclepiadaceae, Menispermaceae, Brassicaceae, Tiliaceae, Moraceae, Rutaceae, Bignoniaceae, Myrtaceae, Ranunculaceae and Lythraceae (1sp. each) (Figure 2). The different plant parts are used for preparation of medicine, but the most frequent used plant part is leaves (60%) followed by seed (8%), bark (8%), fruit (8%), whole plant (8%), root (4%) and flower (4%)

(Figure 3). Among 25 plant species, 3 plants are used to cure stomachache and use of 2 plants ensures successful conception in cattle, 4 plants enhance lactation. Cough and cold is cured by (3sp.), fever by (1sp.), gastric troubles by (2sp.), throat problems and dysentery by (1sp. each). Other diseases namely, shivering, worms, conjunctivitis, grinding of teeth, stoppage of chewing the cud is cured by (5sp.). 3 plant sp. are used as fodder.

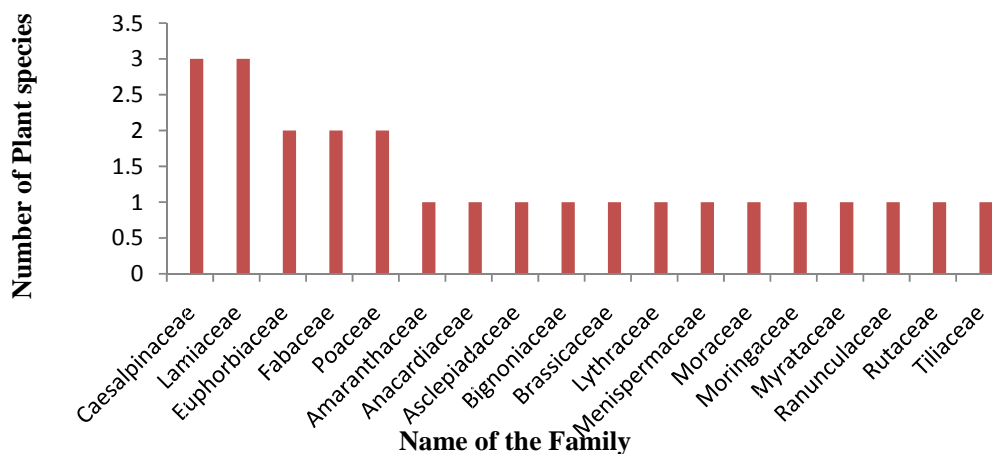


Figure 2. Family wise distribution of ethnomedicinal plant species recorded from Jawalamukhi (H.P.)

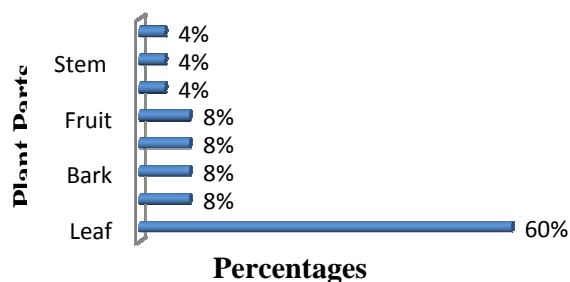
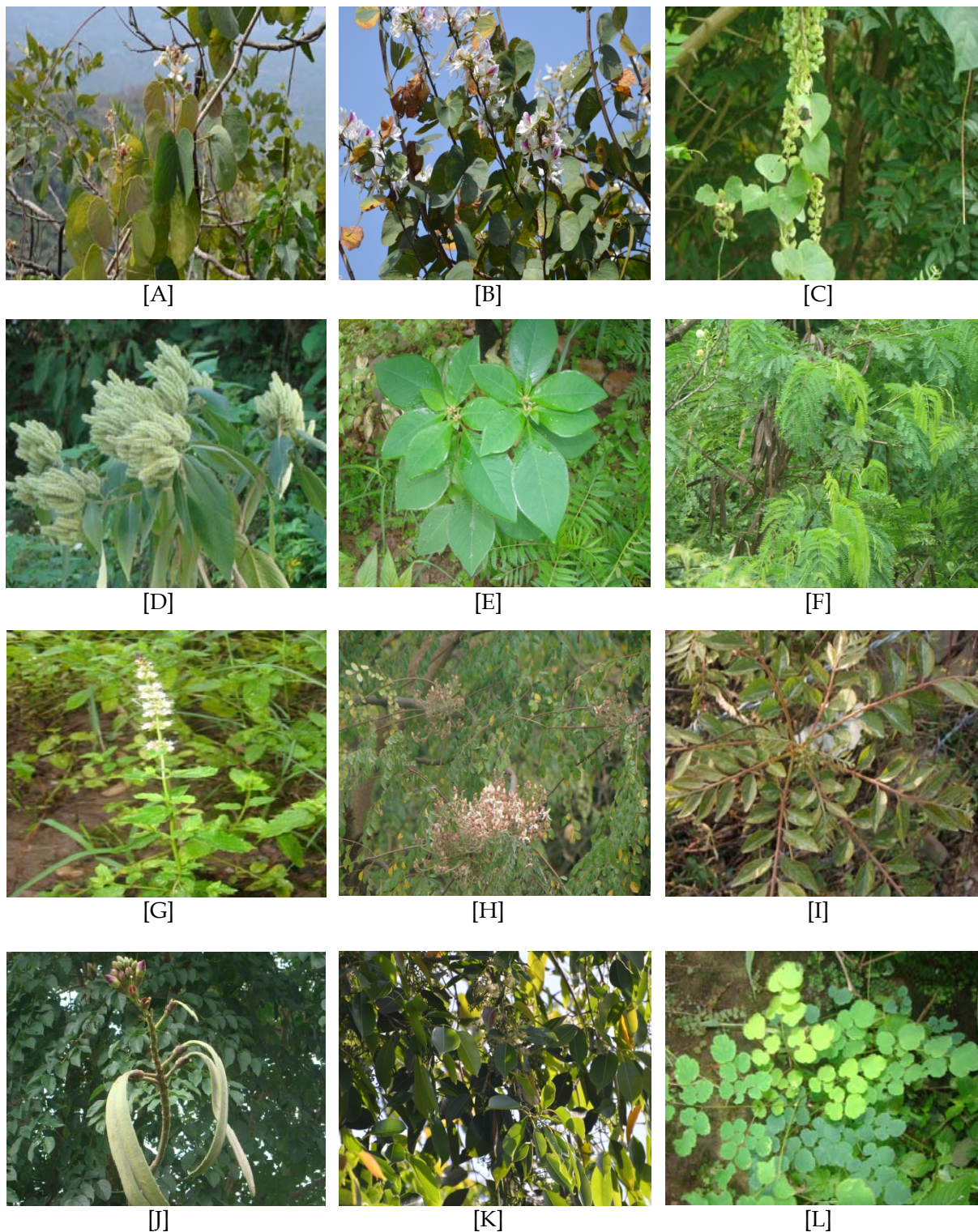


Figure 3. Plant parts used in the preparation of ethnomedicines recorded from Jawalamukhi (H.P.)

Thus the observation of present study showed that the traditional medicine plays significant role in tribal community. Now a days ethnoveterinary knowledge is decreasing day by day due to modernization and urbanization. Therefore it is necessary to document such information in a systematic manner so that future generation can implement this for the well being of livestock.





**Plate I.** (A) *Bauhinia vahlii*, (B) *Bauhinia variegata*, (C) *Cissampelos pareira*, (D) *Colebrookia oppositifolia*, (E) *Euphorbia geniculata*, (F) *Leucaena leucocephala*, (G) *Mentha spicata*, (H) *Moringa oleifera*, (I) *Murraya koenigii*, (J) *Oroxylum indicum*, (K) *Syzygium cumini*, (L) *Thalictrum foliolosum*

Table 1: List of Ethnoveterinary plants recorded from Jawalamukhi (H.P.)

Sr. No.	Botanical Name	Vernacular Name	Family	Part Used	Ethnoveterinary uses
1	<i>Achyranthes aspera</i> Linn.	Puthkanda	Amaranthaceae	Root	Root along with turmeric used to cure shivering in cattle
2.	<i>Bauhinia vahlii</i> Wight and Arn.	Taur	Caesalpiniaceae	Leaf	Leaves used against cold in buffalo
3.	<i>Bauhinia variegata</i> Linn.	Karal	Caesalpiniaceae	Leaf	Leaves act as cooling agent and ensure the successful conception in cow
4.	<i>Calotropis procera</i> (Ait) R.Br.	Aak	Asclepiadaceae	Leaf	Leaves used to cure throat problem, locally called 'sukmalua'
5.	<i>Cassia fistula</i> Linn.	Kaniar	Caesalpiniaceae	Fruit	Fruit decoction used to cure stomachache, locally known as 'maror'
6.	<i>Cissampelos pareira</i> Linn.	Patindu	Menispermaceae	Leaf	Leaves used to cure stomachache, locally known as 'butt'
7.	<i>Colebrookia oppositifolia</i> Smith	Dushane	Lamiaceae	Leaf	Leaves given to cure cough in cattle
8.	<i>Dendrocalamus strictus</i> Nees.	Baans	Poaceae	Leaf	Leaves given to cure dysentery
9.	<i>Eruca sativa</i> Lamk.	Taramira	Brassicaceae	Seed	Seeds given to increase lactation in cattle
10.	<i>Euphorbia geniculata</i> Ort. ex Boiss.	Badi dudhli	Euphorbiaceae	Whole plant	Whole plant given to increase lactation in cattle
11.	<i>Grewia oppositifolia</i> Roxb.	Beul	Tiliaceae	Leaf	Leaves used as fodder
12.	<i>Hordeum vulgare</i> Linn.	Jau	Poaceae	Stem, Seed	Stem and Seed given to increase lactation
13.	<i>Leucaena leucocephala</i> (Lam.) de Wit.	Alsenia	Fabaceae	Leaf	Leaves used as fodder
14.	<i>Mangifera indica</i> Linn.	Amb	Anacardiaceae	Bark	Bark mixed with jaggery (Gudd) given to cure the stoppage of chewing the cud
15.	<i>Mentha spicata</i> Linn.	Pudina	Lamiaceae	Leaf	Leaves along with <i>Piper nigrum</i> and jaggery used to cure stomachache
16.	<i>Moringa oleifera</i> Linn.	Sunana	Moringaceae	Leaf	Leaves act as cooling agent and ensure the successful conception in buffalo
17.	<i>Morus alba</i> Linn.	Toot	Moraceae	Leaf	Leaves used as fodder
18.	<i>Murraya koenigii</i> (Linn.) Spreng.	Gandhla	Rutaceae	Leaf	Leaf decoction given to cure gastric troubles
19.	<i>Ocimum sanctum</i> Linn.	Tulsi	Lamiaceae	Leaf	Leaf decoction useful for cold and cough
20.	<i>Oroxylum indicum</i> Vent.	Tatpalanga	Bignoniaceae	Bark	Bark decoction along with <i>Moringa oleifera</i> given to cure gastric troubles
21.	<i>Phyllanthus emblica</i> Linn.	Amla	Euphorbiaceae	Fruit	Boiled fruits mixed with mustard oil used to cure fever
22.	<i>Syzygium cumini</i> (Linn.) Skeels	Jamun	Myrtaceae	Leaf	Leaves used to expel worms
23.	<i>Thalictrum foliolosum</i> DC	Bhamrol, Pijari	Ranunculaceae	Leaf	Leaf juice used to cure conjunctivitis in cattle
24.	<i>Trifolium alexandrinum</i> Linn.	Barseem	Fabaceae	Whole plant	Whole plant given to increase lactation in cattle
25.	<i>Woodfordia fruticosa</i> Kurz.	Dhavi	Lythraceae	Flower	Powdered flower used to cure grinding of teeth in cattle

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