Short Communication _____Chapter- 01

ETHNO VETERINARY PLANTS OF UTTARKASHI DISTRICT

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ABSTRACT

Livestock is the main component of a farmer's life. Livestock provide farm power, rural transport, manure, fuel, milk and meat. It enhances the economy by providing income and employment to the small hold farmers. Ethno veterinary practices include the use of local medicinal plants to cure diseases in domestic animals. The documents revealed the wide use of ethno veterinary medicines among the people of Daang, Pokhari, Ladari and Bonga. A total of 45 species of ethnoveterinary belongs to 32 families and 40 genera were recorded in the study with the help of ethno veterinary traditional healers.

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Introduction

Ethno veterinary medicine is a scientific term for traditional animal health care that encompasses the knowledge, skills, method, practices and beliefs about animal health care (C.M. Mc Corckle 1989). Ethno- veterinary practices include the use of local medicinal plants to prevent, cure or treat various ailments in animals. It can be considered as traditional knowledge which is used for the well being of animals. Ethno-veterinary practices cover people's knowledge, skill, methods, practices and belief about the care of their animals. (M. C. Corkle, 1986). Ethnoveterinary medicine is a holistic interdisciplinary study of the local knowledge and the sociocultural structures and environment associated with animal health care and husbandary (Tiwari 2010). Hence to keep animals healthy, traditional healing practices have been applied for centuries and have been passed down orally from generation to generation (Toyang*et;al.*2007 and Phondani 2010). Ethno-Veterinary medicine is the knowledge developed by local livestock holders. Traditional veterinary knowledge is comprised by a collection of beliefs and practices regarding animal welfare that involves the use of natural resources and other materials. This knowledge is generally transmitted orally from generation to generation and as other traditionally beliefs, is currently threatened by technological development, socio-cultural changes and environmental changes. Most of the people depend on traditional or folk medicines or household remedies for the treatment of diseases. It is a age old practices.

The aim of the study was to analyze the use of medicinal plants and other traditional therapeutic practices for healing domestic animals and cattle.

(1) To study Ethnoveterinary medicinal plants used by the local people to cure animal disease.
(2) To study traditional method of treating domestic animals.
(3) To document and analyze the knowledge of medicinal plants for healing domestic cattles.

Study Area

The study was conducted in four villages of Uttarkashi district i.e. Daang, Pokhri, Ladariand Bonga. The area is located between (30°442 N 78°172 E and 30.73°N 78.45°E).The district covers a total area of 8,016 sq. kms, with a total population of 330,086 (2011 Census). More than 92% of the population lives in rural areas.The district comprises 6 Tehsils, 6 blocks, 677 revenue villages & 427 Gram-Sabhas. This paper deals some commonly used ethnoveterinary medicinal plants used by the local community to cure animal disease in Uttarkashi District of Garhwal Himalaya.

Materials and Method

Random sampling was carried out for collection of data. Field surveys were conducted for collection of data on the traditional uses of medicinal plant species used to cure animal diseases across selected villages. Information about the type of diseases and method of treatment of these diseases were collected by questionnaire. Plant specimens

were collected and then identified with the help of local flora. The people were also asked about their knowledge about the plant. The old people and women were consulted for the medicinal uses of plants.

Fig. 1. (A) Location of Uttarakhand in India (B) Map of Uttarakhand
(C) Map of Uttarkashi District.

Results and Discussion

The present study shows that the local native people of Uttarkashi are using several ethnoveterinary practices for curing animals. All these medicinal plant species are collected by local communities from the surrounding areas, forest and alpine meadows and are being used as remedies for various ailments.Today this traditional knowledge is confined to only the elder and old people of the area. Young generations are very far from the traditional knowledge and thus itis a very big problem for our traditional culture, heritage and biodiversity. We should conserve this knowledge by awaring the young generation and promoting them to inculcate this traditional knowledge.

Total 200 villagers (30 from each village) were interviewed in four selected villages. Out of these plants some are herbs (47%), some are shrubs (18%), climbers (4%) and some are trees (31%). Herbs are most commonly ethnoveterinary medicinal

plants. A total of 45 species of Ethnoveterinary belongs to 32 families and 40 genera were recorded in the study with the help of ethnoveterinary traditional healers. During the survey, it was noted that these ethno veterinary plants used to treat various veterinary diseases such as food poisoning, indigestion, snake bite, bone fracture, anti-bacterial, antifungal activity over cuts and wounds, insect repellent, deworming, diarrhea, reproduction and to increase cattle lactation.

 A. *Lantana camera*	 B.Oxalis *corniculata*	 C. *Urtica dioca*	 D. *Grewia optiva*
 E.*Hippophae rhamnoides*	 F. *Murrya koenigii*	 G. *Bergenia ligulata*	 H. *Berberis aristata*
 I. *Aloe barbadensis*	 J. *Ficus roxburghi*	 K.*Perilla frutescens*	 L. *Xanthoxylum armetum*
Ethnoveterinay Medicinal Plants			

Table.1: Details of ethno - veterinary plants and their application

S.No.	Plant Name	Habits/ life forms	Common name	Family	Ethnoveterinary practices and mode of application
1	*Aloe barbadensis*	Herb	GhritKumari	Asphodelaceae	Paste prepared by fresh leaves of ghritkumari, fresh root of shatawari, fresh leaves of tulsiis applied on udder and teat swelling twice daily for ten days
2	*Asparagus racemosus*	Climber	Shatawari	Asparagaceae	Shatawari root powder 100 gm and 50 gm ghritkumari pulp offer once a day after mating for a week to increase the chance of conception
3	*Berberis aristate*	Shrub	Kilmori	Berberidaceae	Root extract of Berberis used as eye drop 2-3 times daily to cure eye diseases
4	*Bergenia ligulate*	Herb	Paashaanbhed	Saxifragaceae	Powder of paashanbhed root 100 gm drench with one litre lukewarm water once daily for fifteen consecutive days to cure urinary disorders
5	*Bombaxceiba*	Tree	Semal	Bombacaceae	An infusion of the semal bark is fed to cattleafter calving for easy expulsion of placenta.
6	*Brassica compestris*	Herb	Sarson	Brassicaceae	Brassica oil 500 ml mixed with 50 ml of turpentine oil drench to the animal to cure ruminal tympany.
7	*Cannabis sativa*	Shrub	Bhang	Cannabaceae	Fresh leaves are kept in water for 1-2 hours and then grinded and fed twice a day to cure dysentery
8	*Capsella bursa-pastoris*	Herb	Torighas	Brassicaceae	*Capsella* whole plant decoction used for sikka disease

9	*Carumcopticum*	Herb	Ajwaine	Apiaceae	Fumigation of Ajwain seeds near the mouth of animals affected galghontu to pull off cough and provide relief in respiration.
10	*Centellaasiatica*	Herb	Brahmi	Apiaceae	Apply paste of Brahmi leaves on forehead during fever
11	*Citrus limon*	Tree	Neembu	Rutaceae	50gm red chilli powder with 1 teaspoon lemon juice mixture rubbed inside the swelled throat of affected animal by hand to cure galghontu.
12	*Myricaesculenta*	Tree	Kaphal	Myricaceae	Bark of this plant and leaves of Bhang are crushed together and made in to paste and this paste applied on vagina 2 times a day for a week during the prolepses of uterus
13	*Colebrrookeaoppositifolia*	Shrub	Binda	Lamiaceae	The leaves are grinded and the decoction thus obtained is filled in syringe and sprinkle is made to eye of cattle to cure redness of eyes
14	*Curcuma longa*	Herb	Haldi	Zingiberaceae	Haldi powder mixed with water and then applied to udder and teats for one week to overcome the problem of udder swelling and mastitis
15	*Dendrocalamus spp.*	Shrub	Baans	Poaceae	Young leaves of bamboo fed to cows and buffaloes after calving for easy expulsion of placenta.
16	*Eleusinecoracana*	Herb	Mandua/Ragi	Poaceae	The seeds of ragi boiled and add jaggery fed to cows and buffaloes after calving for easy expulsion of

					placenta.
17	*Euphorbia heterophylla*	Herb	Milk weed	Euphorbiaceae	Leaves and seeds are grounded together and mixed in water and given to a livestock in case of food poisoning
18	*Ficusroxburghi*	Tree	Timla	Moraceae	Fruits of Timla crushed and dissolved with one litre water, add 10 gm salt and given to the animal to cure dysentery.
19	*Grewiaoptiva*	Tree	Bhimal	Tiliaceae	The bark decoctions are used as vermifuge in animals
20	*Hedichium spicatum*	Herb	Van Haldi	Zingibaraceae	Powder of van haldi with lukewarm water given twice a day for one week to cure respiratory problems and pneumonia.
21	*Hippophaerhamnoides*	Shrub	Aamil	Elaeagnaceae	Juice of Aamil ripe fruits used as an antidote agent against poisonous grass eaten by domestic animal
22	*Juglansregia*	Tree	Akhrot	Juglandaceae	Extract of akhrot leaves applied thrice daily on cleft of the hooves to cure foot and mouth diseases
23	*Lantana camera*	Shrub	Lantana	Verbenaceae	The tender leaves and twigs are grinded and then decoction of leaves are given to cattle for relieving joint pain.
24	*Melia azedarach*	Tree	Pahadi Neem/Chin berry	Meliaceae	50 gm resins of neem and 50 gm of molasses mixture (50 gm/day) fed daily for a week to cure teat block, hardness of teat and udder.
25	*Menthaarvensis*	Herb	Pudina	Lamiaceae	A fresh leaf of this plant used for digestive disorder.

26	*Murrayakoenigii*	Tree	Karripatta	Rutaceae	The crushed bark and roots are used externally to treat skin eruptions and bites of poisonous animals
27	*Ocimum americanum*	Herb	VanTulsi	Lamiaceae	Whole plant of vantulsi and tulsi are crushed and their juice twice a day for one week given to cure animal suffered from respiratory problem and pneumonia
28	*Oryzasativa*	Herb	Dhaan	Poaceae	Rice and ragi flour cooked and make paste and applied over bone fracture with the help of wood splinters and bandage
29	*Oxalis corniculata*	Herb	Khattibuti	Oxalidaceae	Green leaves of khattibuti crushed and used few drops twice a daily to cure eye disease.
30	*Perillafrutescens*	Herb	Bhangjira	Lamiaceae	Bhangijira seeds are grinded with water and fed to affected animals for the cure of diarrhea.
31	*Pinusroxburghii*	Tree	Cheed/pine	Pinaceae	5 ml Pine oil poured in one tub boiled water and offer vapour treatment to the sick animal to cure pneumonia.
32	*Populusnigra*	Tree	Black Poplar	Salicaceae	Leaves are used for digestive disorder.
33	*Pyruspashia*	Tree	Himalayan pear	Rosaceae	Fruits are boiled with a 2-3 pinches of sindur in water for 15 minutes, after cooling sprayed to cure eye diseases.
34	*Rubuspaniculatus*	Shrub	Kala hinsar	Rosaceae	Two cup leaves decoction in ½ liter water is useful in pregnancy pain of ruminant animals.
35	*Rhusparviflora*	Herb	Samakdana	Anacardiaceae	The fresh leaves are grinded and paste applied to cure wound and cut.

36	*Sasureacostus*	Herb	Kuth	Asteraceae	Powder of kuth with wheat flour fed to animal affected with respiratory problems and pneumonia
37	*Sweritachirayita*	Herb	Chirayata	Gentianaceae	Whole plant dried in shade and make a fine powder. 100 gm powder drench with 1 litre lukewarm water twice a daily for fever
38	*Termenaliabellarica*	Tree	Bahera	Combretaceae	Powder of bahera fruit used to cure loss appetite and also proved anti diarrheal.
39	*Tinosporacardifolia*	Climber	Giloya	Menispermaceae	Stem of this plant and Glycine max are grinded together and prepared in to thick paste. This paste is applied to skin of livestock to cure skin disease.
40	*Prunuspersica*	Tree	Aaru	Rosaceae	Leaves of this plant are grinded with water is mixed to make paste and then applied twice a day to cure hooves diseases
41	*Urticadioca*	Herb	Kandali, Nettle	Urticaceae	Boiled nettle leaves fed to lactating animals commonly for buffaloes to enhance milk production
42	*Viola odorata*	Herb	Vanapsa	Violaceae	Two tea spoon whole plant twice a day to avoid heart attack in calf.
43	*Xanthoxylumarmatum*	Shrub	Timru	Rutaceae	Leaves and seed uses as vermifuge for animals
44	*Zingiberofficinalis*	Herb	Adruk	Zingiberaceae	30 gm Powder of dry ginger, 20 gm kali mirch When drench to animals, it acts as purgative
45	*Zizyphusmauritiana*	Tree	Ber	Rhamnaceae	Bark of ber boiled with water and used few drops twice a daily to cure eye disease

Discussion

The survey indicated that Garhwal Himalaya region has a number of medicinal plants treat a wide spectgrum of livestock diseases. The people of this area have a rich and age old plant related culture and knowledge base. In general, eye diseases, urinary disorder, udder and teat swelling, easiest expulsion of placenta, sikka disease, fever, galghontu, deworming, diarrhea, reproduction and increase lactation are different condition of animals for which ethnoveterinary medicinal plants are usually being used in the area. The information provided in this paper would bring new insights on the development of environment friendly, effective medicine to control veterinary diseases future. In adddition this study may be highly useful to protect and conserve medicinal plants as well as traditional knowledge of farmers of Uttarkashi District, of Garhwal Himalaya.

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