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RESEARCH ARTICLE

PLANTS USED IN ETHNO-VETERINARY MEDICINE BY HALAM TRIBE SETTLED IN  
HAILAKANDI DISTRICT OF SOUTHERN ASSAM, INDIA

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ABSTRACT

A survey work was carried out to study the Ethnoveterinary uses of plants by the Halam tribe of Hailakandi district of Southern Assam. Field visits have been conducted from January 2013 to July 2013. Ethnoveterinary information was gathered through individual interviews and observations with the tribe under study. A total of 30 species of Ethnoveterinary importance medicinal plants belongs to 23 families were recorded in the study area with the help of Ethnoveterinary traditional healers. Among the plant parts used by the selected tribe, leaves, flower, fruit, bark, bulb, rhizome, roots are most commonly used for the preparation of medicine for the treatment of domestic animals. The present paper deals with the some of the common plant species with their scientific name, family, local names, parts used, mode of preparation and medicinal use for curing diseases.

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INTRODUCTION

Ethno veterinary medicine was practiced as early as 1800 B.C at the time of King Hamurabi of Babylon who formulated laws on veterinary fees and charged for treating cattle and donkeys (Schillhorn Van Veen 1996). Cattle are the common livestock in India and occupy a prominent position in agricultural system and economy of the country. Their products are indispensable in our daily life. The traditional drugs for animals based on both plant and animal products have received less attention. Ethnoveterinary medicine often provides cheaper options compared to western drugs and the products are locally available and more easily accessible. In the face of these and other related factors there is increasing interest in the field of Ethnoveterinary research development (Zschocke *et al.*, 2000; Masika *et al.*, 2000; Reshma Khatoon *et al.*, 2013). An earlier study done by Bhatt *et al.*, 2001 recorded various Ethno veterinary plants used by the tribal's of Gujarat, again reported so many plants in India for the treatment of various diseases in livestock (Girach *et al.*, 1998, Harsha *et al.*, 2005; Yadhav 2009, Rahman *et al.*, 2009). The ethnic people frequently depend on traditional knowledge for the management of animal health problems and to improve their productivity. The exclusive Ethno veterinary exploration has not been done so far in Hailakandi district of southern Assam.

Ethno veterinary methodologies are adopted by the traditional non-literate people. These practices have been percolating from one generation down to the next by oral transmission. Due to lack of proper records and over exploitation of these plants by local people; the natural resources along with the related indigenous knowledge are depleting day by day ( Farsworth, 1993). Therefore, there is a need to document the traditional ethno veterinary knowledge of various ethnic groups. Keeping this in view, an attempt has been made to explore and document the traditional knowledge used in veterinary practice of the Halam tribe of Hailakandi district. So far 30 numbers of plant species have been recorded, which are used by the Halam tribal people for various veterinary diseases and disorders.

Study Area

Hailakandi district is located in the southern part of Assam. Earlier the district was a sub-division of un-divided Cachar district of Assam, which was declared as a newly formed district (1989). The district Cover an area of 1326.10 sq.km is situated between 24° 40' 53" N and 92° 33' 38" E. It is surrounded by the Cachar district in east and north, on the west by Karimganj district and on the south by Mizoram state (Fig. 1&2). In summer Hailakandi district is characterized by high humidity, during winter the area remains cold and foggy. The district receives very heavy rainfall during the monsoon. The average rainfall is 2873mm. Paddy cultivation and Jhum

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cultivation occupies a major chunk of traditional agricultural system, the inhabitants of this district also produce a sizeable amount of ginger and pineapple. The population of Cachar district is composed of different communities namely Bengali (Hindu and Muslim), Assamese, Manipuri and Tea garden communities bearing the larger part of the population. While Riang, Mizo, Karbi, Hrangkhoh, Halam and Chori are living in the bordering areas of Hailakandi district with Mizoram, Cachar and Karimganj. In Hailakandi district, tribal and other communities use different plants or plant parts, traditionally for curing the ailments in their day to day life. Till date, only a few literatures are available on the traditional uses of medicinal plants of Hailakandi district. But ethno-veterinary investigation and information are still lacking.

## MATERIALS AND METHODS

The study was undertaken during the month of January 2013 to July 2013. Information of medicinal plants was gathered by conducting randomly surveyed in particular area where Halam tribes are settled. Ethno veterinary data were collected from two old men i.e. medicine men of the study area, who have much knowledge on the medicinal plants with semi-structural interviews. The interviews were conducted in the local language of the district i.e. Bengali. Ethno veterinary information is collected with the local name of the particular plant, parts used, medicinal uses and methods of preparation and administration on the basis of (Jain, 1999, Selvaraju et al., 2011).

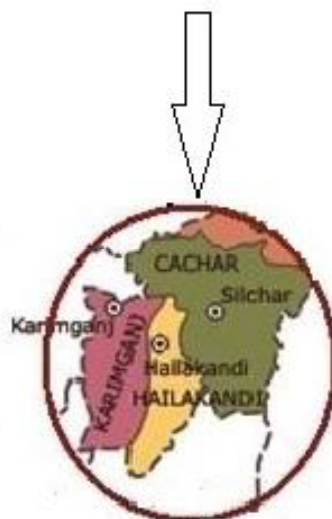
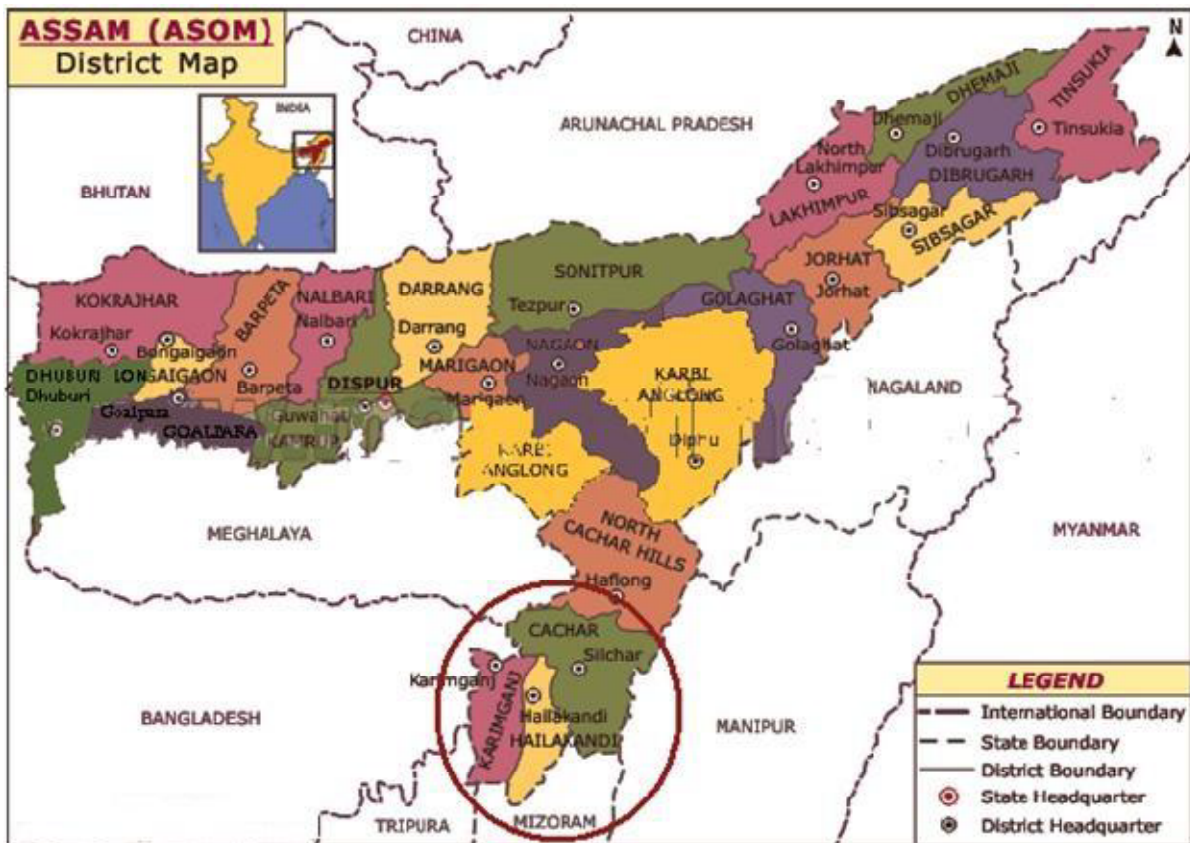


Fig.1: Map showing the location of study area.

## RESULTS

Table 1. Ethnoveterinary plants used by the Halam tribe of Hailakandi district as follows

Disease/ Disorders	Scientific name with Families	Local name	Parts used	Mode of preparation
Worms	<i>Leucas aspera</i> (Roth) Spreng. (Lamiaceae)	<i>Durbasi</i>	Leaf	The leaf juice 50ml given orally early hours in the morning against worm in case of Cow.
	<i>Moringa oleifera</i> Lam. (Moringaceae)	<i>Sajana</i>	Root	Root juice 20ml. given orally to treat worms for 2 days for better result in goat.
	<i>Mikania micrantha</i> H.B.K. (Asteraceae)	<i>Kalbay</i>	Young leaves	Young leaf juice (100ml) mixed with common salt is given orally against worms in cattle.
Cuts and wounds	<i>Tagetes patula</i> L. (Asteraceae)	<i>Thangrai</i>	Leaf	Crushed leaf paste is used with a bandage for 2-3 days for curing cuts and wounds in cattle.
	<i>Diplazium esculentum</i> (Retz) SW. (Athyriaceae)	<i>Paloi</i>	Root	Root juice mixed with leaf juice of <i>Tagetes patula</i> L. and applied externally for cuts and wounds.
Dysentery	<i>Syzygium cumini</i> (L.) Skeels (Myrtaceae)	<i>Jam</i>	Stem bark	Dry stem bark powder (100gm) mixed with curd and made into a paste is given to cure dysentery for 2 days in cow & goat.
	<i>Datura metal</i> L. (Solanaceae)	<i>Intholai</i>	Fruit	Roasted fruits are given once a day for 2-day to treat dysentery of Cow.
Dysentery	<i>Terminalia chebula</i> (Roxb.) Retz. (Combretaceae)	<i>Bukhalabuthai</i>	Fruit	Fruit decoction is given to cattle to control dysentery.
	<i>Spondias pinnata</i> (L.f.) Kurz. (Anacardiaceae)	<i>Thaitho</i>	Stem bark	Stem bark decoction is given orally twice daily for 3 days until cure.
Cold	<i>Ocimum gratissimum</i> L. (Lamiaceae)	<i>Ram Tulsi</i>	Leaf	The leaf juice (60ml) is given twice daily for three days to cure cold in cow and goat.
	<i>Adiantum philippense</i> L. (Adiantaceae)		Rhizome	Rhizome given in externally for the treatment of Pig.
Delivery	<i>Sacharum officinarum</i> L. (Poaceae)	<i>Masu</i>	Leaves	Leaves are given to hasten placental discharge of cow following delivery.
Fever	<i>Andrograpis paniculata</i> Nees. (Acanthaceae)	<i>Ansa</i>	Young leaves	Young leaf paste mixed with <i>Musa pardisiaca</i> L. and given orally for 3-5 days for getting better result.
	<i>Urena lobata</i> L. (Malvaceae)	<i>Bonokira</i>	Leaves	Fresh leaves juice (50ml) mixed with <i>Spondias pinnata</i> (40ml) is given orally for 3 days until cure of fever in Cattle.
Dog- bite	<i>Oroxylum indicum</i> (L.) Vent. (Bignoniaceae)	<i>Kaak-rakung</i>	Root	Root juice (10ml) mixed with <i>Ocimum sanctum</i> (10ml) is given orally, twice for 3-4 days against fever and cough.
	<i>Bombax ceiba</i> L. (Bombaceae)	<i>Impangpat</i>	Root	Roots are immersed in water for over- night then given orally against dog bite in Cattle.
Diarrhoea	<i>Cinnamomum tamala</i> L. (Lauraceae)	<i>Tejpati</i>	Leaves	Leaf juice (50ml) is given orally, twice for 3days in cow.
	<i>Psidium guajava</i> L. (Myrtaceae)	<i>Cobri</i>	Leaves	Leaf juice (20ml) is given orally early in the morning in goat to cure diarrhoea.
Skin infection	<i>Cassia occidentalis</i> L. (Caesalpinaceae)	<i>Meitherbi</i>	Leaf	Young leaves are crushed and applied for skin infection in cattle.
	<i>Phyllanthus acidus</i> L. (Euphorbiaceae)	<i>Lebur</i>	Leaves	Leaf juice (50ml) mixed with Coconut oil (100ml) is given on infected skin for 5-days.
Footache	<i>Urginea indica</i> L. (Liliaceae)	<i>Jaungli piaz</i>	Bulb	Bulbs paste mixed with garlic is used on affected part of the body skin.
	<i>Alstonia scholaris</i> (L.) R. Br. (Apocynaceae)	<i>Chatim</i>	Bark	Bark ash applied with Coconut oil to cure skin diseases and Leprosy, for 5-10 days to get better result.
	<i>Ricinus communis</i> L. (Euphorbiaceae)	<i>Hallu</i>	Root	Root juice (90ml) gently mixed with 150ml of mustered oil then kept in the close container for 15days, after these days mixture is applied against footache of Buffalo.
Fever and cold	<i>Justicia gendarussa</i> Burm. f. (Acanthaceae)	<i>Basok</i>	Leaf	Leaf juice (50ml) mixed with appropriate amount of curd is given orally early in the morning against cold & fever of pig.
Fracture	<i>Calotropis gigantea</i> (L.) R. Br. (Asclepiadaceae)	<i>Akondo</i>	Leaf	Slightly heated mature leaf paste mixed with Ghee then tighten with cotton on the fractured part of the animals for 21 days.
	<i>Cissus quadrangularis</i> L. (Vitaceae)	<i>Lepung</i>	Stem	Stem juice (40ml) along with ghee (100gm) is mixed and made into a paste and then applied on the fractured bone and tied with cotton for 15 days.
Snake bite	<i>Scoparia dulcis</i> L. (Scrophulariaceae)	<i>Naipungchewk</i>	Root	Root juice is mixed with <i>Bombex ceiba</i> roots in equal ratio then given twice a day for two days against Dog bite.
Asthma	<i>Cassia alata</i> L. (Caesalpinaceae)	<i>Dadmari</i>	Flowers	Flower juice (80ml) mixed with <i>Ocimum sanctum</i> (20ml) is given orally for Asthma in Cattle.
Cold and Fever	<i>Terminalia arjuna</i> (Roxb.) Wight & Arn. (Combretaceae)	<i>Kherging</i>	Stem Bark	Stem bark is ground with garlic and given twice for 3 days against fever in Pig.
Liver disorders	<i>Spilanthes paniculata</i> Wallich ex. DC. (Asteraceae)	<i>Ansha</i>	Leaf	Boiled leaves are given orally for 3 days for enhancing the liver functioning in domestic animals.

The information for Ethno veterinary of medication, purposes were recorded on field data book and specimens are also collected and identified using the standard approaches and methodologies (Jain, 1987, 1989), Flora of the presidency of Madras (Gamble, 1935) and Bengal Plants (Prain, 1963). Queries have been repeatedly made and help from the interpreters was also taken for confirmation of the information on each medicinal plant. For identification of the collected plants several floras and monographs were consulted i.e Flora of British India (Hooker, 1872-1897), Flora of Assam, vol. I-IV (Kanjilal et al., 1934, 1938, 1939 and 1940), Flora of Tripura (Deb, 1981 and 1983). The results gathered from Halam tribe are given as tabular form (Table-1).

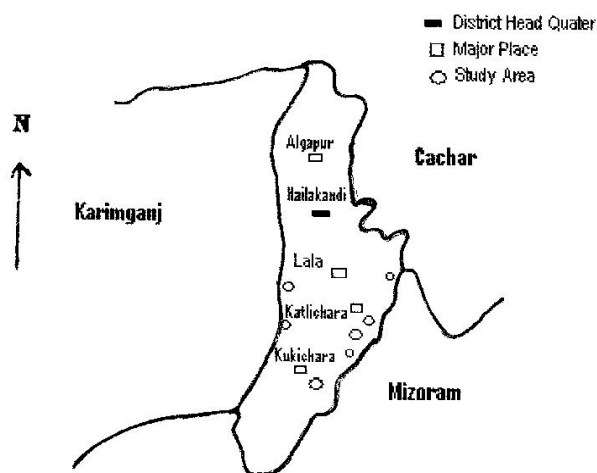


Fig.2. Map showing the study sites of Hailakandi district.

## RESULTS AND DISCUSSION

A total of 30 species of Ethno veterinary medicinal plants have been reported with present work, which belonging 23 families. The Asteraceae family is found to be the most often used. The leaf, root and bark are the predominant parts utilized in the treatment of veterinary diseases. Decoction, paste, mixture and power of the plants are the common methods employed for the preparation of medicinal plants. Most of the reported Ethno veterinary medicinal plants are used i.e. 3 species against Worm, 2 species on Cuts & wounds, 4 plant species against Dysentery, 7 plant species against Cold & fever, 4 species against skin infection, 2 plant species for the remedy from Diarrhea, for fracture bone 2 species are used

On the other hand only one species are used against each diseases viz. Toothache, Dog bite, Snake bite, Asthma and Liver disorder and for the easy delivery only 1 species were reported. The plants used by the Halam tribal people in the present study shows some relevance of the plants were reported to treat different types of diseases that the plant such as *Cissus quadrangularis*, *Phyllanthus acidus* are used by the Malayali tribals in kolli hills of Namakkal district. Traditional veterinary practices reported from Dindigul district (Ranjan and Sethuraman, 1997) and some southern districts of Tamil Nadu (Ganesan et al., 2008) showed some resemblance with the present study but most of the uses found to be different. (Reshma et al., 2013) reported that *Capsicum annum*,

*Coriandrum sativum*, *Nicotiana tabacum*, *Urtica dioica* etc. are used by the Kom tribe of Manipur.

## Conclusion

Traditional knowledge of plants in many tribal communities is changing because of rapid socioeconomic and cultural changes. This is particularly true for the Halam tribal people in Hailakandi district of southern Assam. Documentation of this knowledge in treating domestic animals is valuable for the community and their future generation. The low cost and almost no side effects of these traditional preparations with medicinal plants make them adaptable by the Halam community at large. The wealth of this ethnic knowledge of medicinal plants, which shows a great potential for research and the discovery of new drugs to cure the diseases of animals. At present, there is an urgent need to serious attention towards the medicinal plants for our domestic animal health and also to save the valuable medicinal plants from the threat of extinction.

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