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Ethno-Veterinary Plants For Animal Health Used By Tribal Community Of Baihar, Balaghat, Madhya Pradesh, India.

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Abstract: This study was carried out to evaluate the use of plants of different habit for the treatment of different animal diseases in Baihar area of Balaghat. Data were randomly collected from 12 different sites through well-structured questionnaires and oral interview. There was very less documentation on ethno-veterinary formulations, therefore, an assessment was conceded in a precise area of Baihar Balaghat to obtain the knowledge on ethnoveterinary medicines amongst the inhabitants of district Balaghat of Madhya Pradesh. Overall, 68 ethnic veterinary therapeutic species belonging to 58 genera and 35 families were recorded. The medicinal preparations include powder, extract, decoction, paste and among the plant parts usage of leaves was maximum. The Fabaceae family was the most prominent, represented by nine species, followed by Asteraceae, with six species. Data collection involved interactions with local informants, notably experienced elderly medicine practitioners and Vaidyas, who provided detailed insights into the medicinal plants utilized in livestock healthcare. The various ethnoveterinary plant species are effectively used for treating kind of ailments e.g. retention of placenta, diarrhoea, dysentery, galactogogue, foot and mouth diseases, skin diseases, gastrointestinal disorders. The findings underscore the importance of preserving this rich traditional knowledge and the associated plant biodiversity. Active community participation is vital for conserving these resources and ensuring their sustainable use for future generations.

Index Terms **-** Ethnoveterinary, Tribal community, Baihar, Balaghat, Animal Health.

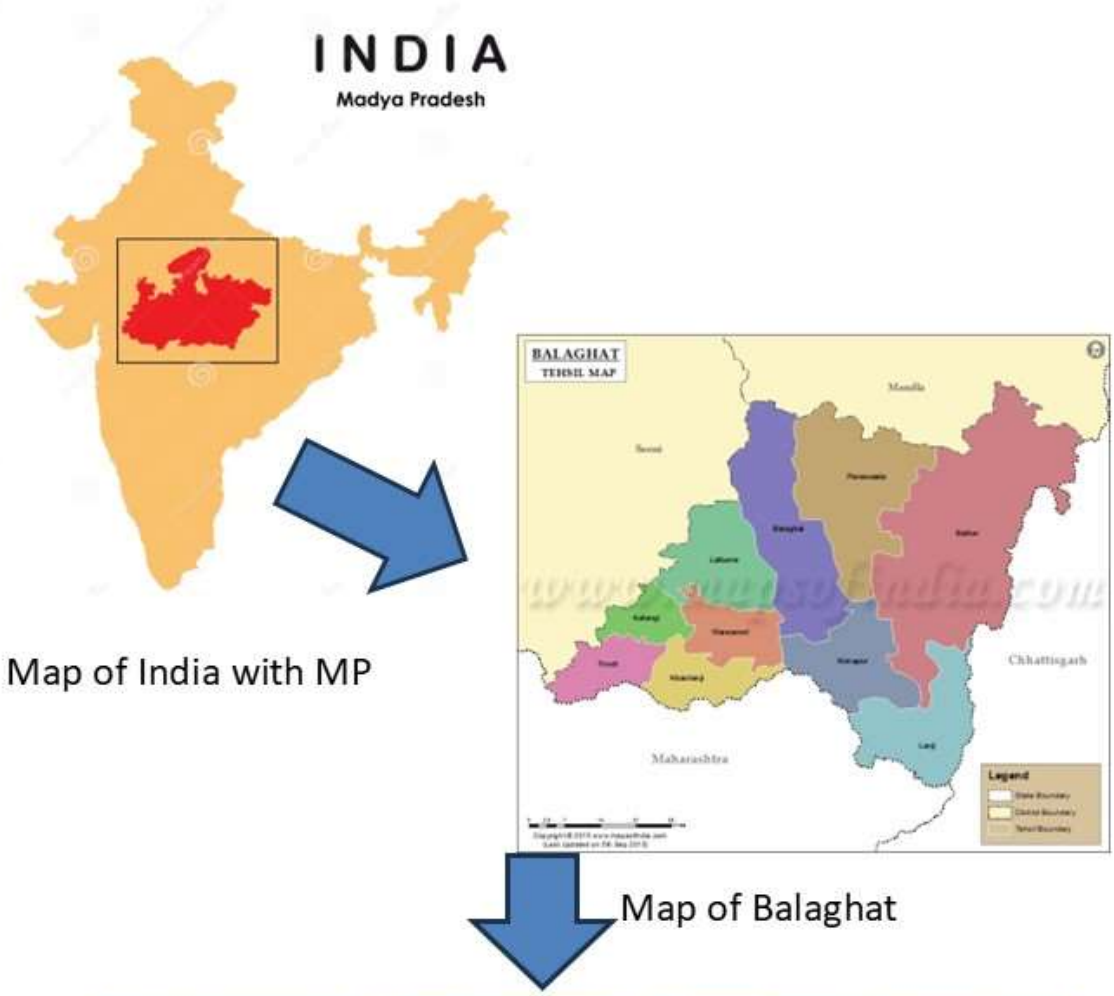
I. INTRODUCTION

A large number of rural people use locally available plants for treatment of their domestic animals and their role for ethnoveterinary development is beyond dispute (Tiwari and Pande, 2009; Mallik *et al*., 2012; Adedeji *et al*., 2013; Galav *et al*., 2013). Ethnoveterinary information is in danger of extinction because of current rapid change in air and water quality all over the world (Kubkomawa *et al*., 2013). It is now realized that this kind of complementary medical approach is crucial and necessary to boost livestock production at community level (Abebe *et al*., 2003). Since natural compounds are frequently the focus of alternative medicine, it is thought to be safer, gentler or more suited to the needs of the animal and poultary than manufactured conventional drugs Santhivimalaran, (2014). *Azadirachta indica mostly* reported in Baihar Balaghat region reported to have anthelminthic activity Jamra et al., (2015) and wound healing activity Alzohairy, (2017). There are currently over a hundred thousand plants that are either unknown or have not yet been examined and analyzed for their ethnoveterinary properties Mohammad, (2019). Ethnoveterinary science is a comprehensive field that encompasses people's perspectives on veterinary healthcare, including their beliefs, skills, knowledge, and practices Abbasi et al., (2013), Gwalwanshi et al. (2017), Dandre et al. (2025). Medicinal herbs, which have been used for centuries to treat animal ailments, play a crucial role in local health practices. In remote areas, particularly in the Himalayan region, where access to modern veterinary services is limited, the use of medicinal plants by local healers is vital for the wellbeing of animals Haq et al, (2022). The present study provides a comprehensive documentation of each plant, detailing their local names, botanical families, plant parts utilized, and specific ethno-veterinary applications. The findings contribute to the preservation and understanding of traditional ethno-veterinary practices in the region, offering valuable insights for future research, sustainable use, and conservation of medicinal plant resources.

II. METHODOLOGY

STUDY AREA

Balaghat is one of the districts in the south eastern portion of the state of Madhya Pradesh. The district is situated within 21.19' to 22.24' North latitude and 79.31 to 81.3' East longitude. The people in the rural areas of Baihar, Balaghat are primarily involved in farming and cattle rearing. This district covers an area of about 910.50 sq.km. To identify the livestock owners and herbalists with erudite expertise in ethnoveterinary knowledge, several visits were made to the study areas (Gwalwanshi and Bishwas, 2023). Semi- structured interviews were conducted with the herbalists and livestock owners, who were willing to share their knowledge in animal health care.



Map of India with MP

Map of Balaghat

Map of Field Area Baihar, Balaghat

III. Survey, Data Collection and Identification

Around 12 field visits were made between July 2024 and November 2025 in and around Baihar Balaghat. A non-random sampling technique was used to study the livestock owners and herbalists. So, the study has been conducted among the tribals in the study areas who have been selected for the collection of information on ethnoveterinary plants. The data has been collected and documented through field visits, surveys, questionnaires and semi-structured interviews Martin *et al*., (2004). Semi-structured interviews have been conducted through the vernacular language Hindi. The ethnobotanical data has been collected using the methodology suggested earlier Jain, (2000). Nearly 20 reference cattle men have been identified and their traditional knowledge has been recorded. They were interviewed on information like local names of the plants,

diseases treated, the parts used, mode of preparation and administration and dosage of the drug. Plant photographs were taken and voucher specimens were collected for herbarium preparation. For the identification of all collected plant species during the study were using the Flora of Madhya Pradesh, ((Khanna, 2001; Mudgal et al., 1997), regional herbaria viz., Department of Botany, Dr. Harisingh Gour Vishwavidyalaya, Sagar. Also check the World Flora Online (www.worldfloraonline.org accessed in August 2024) and www. https://www.flowersofindia.net/ were used to determine the currently accepted botanical names and author citations for the identified plant species.

IV. RESULTS & DISCUSSION

In the study, 68 plant species belong to 58 genera of 35 families have been recorded (Table 1). The ethnic healers use locally available plant species for the treatment of livestock aliments and diseases. Out of total reported species, family Fabaceae is dominant which have 9 species followed by Asteraceae have 6 species, Euphorbiaceae, Moraceae and Lamiaceae which have 5 species each, Solanaceae have 3 species, Menispermaceae, Poaceae, Ranunculaceae, Rutaceae, Verbenaceae, Zingiberaceae which have 2 species while rest families have single species. Out of the 68 medicinal plants, 28 species belong to herbs, followed by 22 trees, 10 shrubs and 8 climber species (figure 3). Recorded species used for various ailments such as Wounds, abdominal disorder, bloat, bone fracture, cough, diarrhea, snake-bite, dogbite, headache, toothache, laxative, diuretic, diabetes, skin diseases, piles, wounds, fever and inflammation. According to the study, the majority of the remedy preparations, leaves is the most common plant part used with 32 species (44%) fallowed by whole plants 9 (12%), fruits 8 species (11%), bark 6 (8%), flowers and tubers each 4 species (6-6%), Root 3 species (4%), and stem & seed 2 species (3%) respectively (Figure 5).

Figure 1: Field Area and Data Collection from Tribes

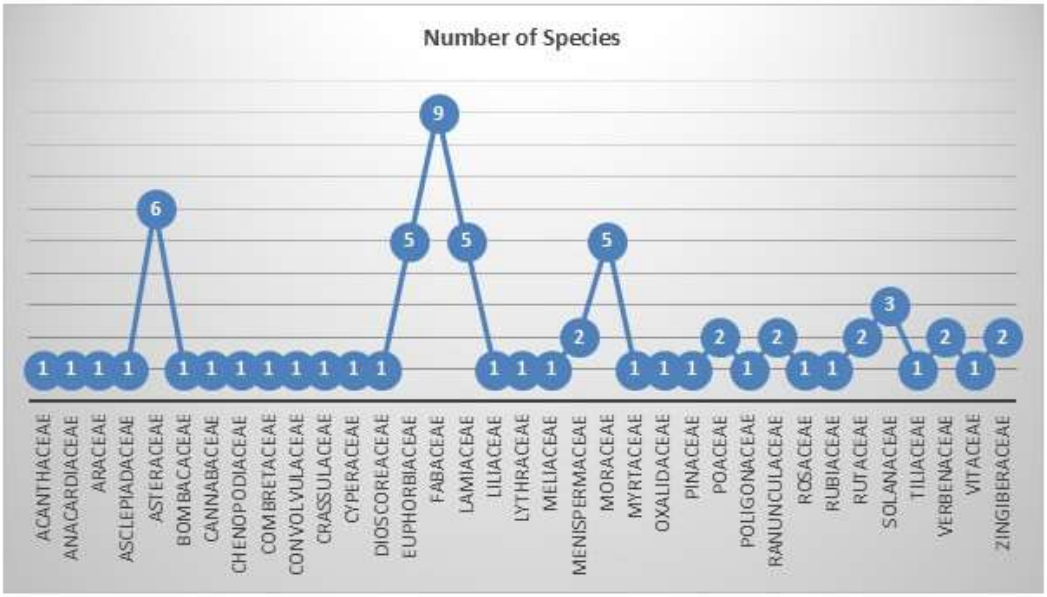


Figure 2:- Number of Species

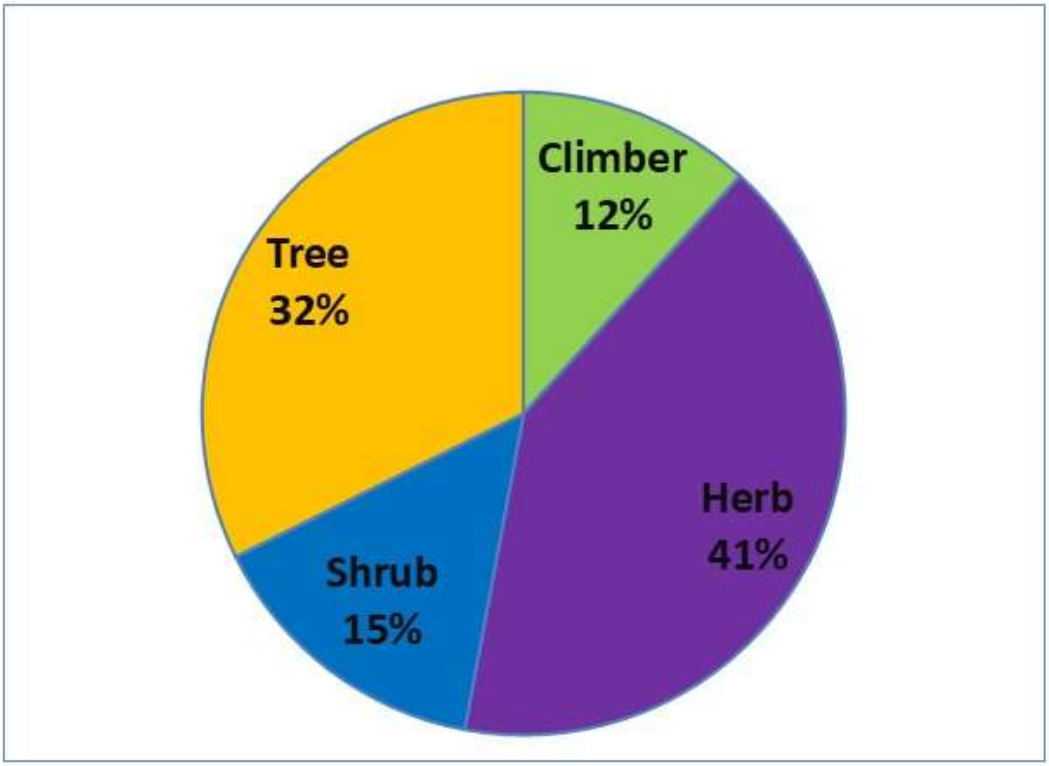


Figure 3:- Plant Habit

The objectives of this study were to collect the ethno-veterinary practices for cure of animal health and associated knowledge related to ethnoveterinary from tribal community of Baihar region. Local people of Baihar uses approximately 68 species of plants belonging to 35 families for prevention and cure of animal health conditions. The various tribal communities comprise about 24% population of Baihar Madhya Pradesh. Some plants documented during the current study are used in other parts of India and the world to treat livestock diseases. These include *Zingiber officinale, Tagets erecta, Dalbergia sisso, Cassiatora,Clitoria ternatea,Euphorbia herita,Tridex procumbens, Eclipta prostrate,Cnnabis sativa* etc. This study has documented various plants used against livestock prevalent in this region along with their botanical names, vernacular names of the plants, family, habit, name, plant parts used, mode of preparation, route of administration of drugs, animals treated and drug formulations.

Table 1: - Ethnoveterinary medicinal plants used by Tribal in study area

S. No	Botanical name	Family	Local Name	Life Form	Parts Used	Disease Treated	Mode of application	Ethnoveterinary medicinal uses
1.	*Acacia nilotica* Benth.	Fabaceae	Babul	T	Roots	Fever	Oral	Root is used in the form of powder with water
2.	*Acacia catechu* (L. f.) Willd.	Fabaceae	Khair	T	Bark	Foot and Mouth disease	Topical	Bark is used to treat foot and mouth disease
3.	*Aegle marmelos* (L.) Correa	Rutaceae	Bael	T	Fruits	Fever	Oral	Fruit juice is given orally two times daily till further recovery
4.	*Ageratum conyzoides* L.	Asteraceae	Neela phul	H	Whole Plant	Dog bite	Topical	After washing the bite parts whole plant juice is applied
5.	*Albizia lebbeck* (L.) Benth.	Fabaceae	Kala Siris	T	Leaves	Eye whiteness	Topical	2-3 drops of leaves juice are used 2-3 times daily
6.	*Aloe barbadensis* Mill.	Liliaceae	Gwar Patha	S	Leaves	Stomach problem	Oral	Whole plant is given to the animal daily in empty stomach
7.	*Azadirachta indica* A.Juss.	Meliaceae	Neem	T	Leaves	Skin Problem	Topical	Leaves are directly rubbed on skin
8.	*Bambusa arundinacea* Willd.	Poaceae	Bans	H	Leaves	Cough	Oral	Leaves are given orally
9.	*Bauhinia vahlii* Wight & Arn.	Fabaceae	Mahul Bel	C	Leaves	Cold and Cough	Oral	Leaves are used to cure cold and cough
10.	*Bauhinia variegata* L.	Fabaceae	Kachanar	T	Leaves	Reproductive problems	Oral	Leaves act as cooling agent and given orally to ensure successful pregnancy in cow and buffalo
11.	*Bombax ceiba* L.	Bombacaceae	Semal	T	Bark	Constipation	Oral	Milled the bark with water and make a solution and used to eat.
12.	*Bryophyllum pinnatum* (Lam.) Oken.	Crassulaceae	Pattharchatta	H	Leaves	Joint pain	Topical	Leaf of plant dipped in mustard oil slightly heated on flame and applied on the body part
13.	*Calotropis procera* (Aiton) Drynd.	Asclepiadaceae	Aak	H	Leaves	Hardness of neck	Topical	Leaves with deshi ghee applied as massage on neck
14.	*Cannabis sativa* L.	Cannabaceae	Bhang	H	Leaves	Insect bite	Topical	Massage with crushed leaves
15.	*Cassia fistula* L.	Fabaceae	Amaltas	T	Fruits	Constipation	Oral	fruits are boiled with water till 1/3 left and jaggery is added and given

								orally
16.	*Cassia tora* L.	Fabaceae	Chirota	S	Seeds	Dog bite	Oral	Seeds powder is mixed with 1-2 litres of lassi and given orally
17.	*Chenopodium album* L.	Chenopodiaceae	Bathua	H	Whole plant	Increase milk	Oral	Whole plant is used as fodder for milk enhancement
18.	*Clitoria ternatea* L.	**Fabaceae**	Aprajita	C	Root	**Fever**	Oral	Leaf paste was mixed with jaggery and buttermilk and given orally once a day for three days
19.	*Colocasia esculenta* L. (Schott.)	Araceae	Jangli Ghuyiya	H	Tubers	Digestive problems	Oral	Tubers are used to treat digestive problems
20.	*Curcuma aromatica* Salisb.	Zingiberaceae	Ban haldi	H	Rhizome	Miscarriage	Oral	Rhizome pieces mixed with feed is used
21.	*Cuscuta reflexa* Roxb.	Convolvulaceae	Akash bail	C	Whole part	Bone Fracture	Tropical	Whole plant in the form of paste is used
22.	*Cynodon dactylon* L.Cers.	Poaceae	Dhub grass	H	Whole plant	Urination problems	Oral	Whole plant juice is given orally twice a day
23.	*Cyperus rotundus* L.	Cyperaceae	Morla	H	Tubers	Fever	Oral	Tubers boiled with water is given two times a week
24.	*Dalbergia sissoo* DC.	Fabaceae	Shisham	T	Leaves	Blood in urine	Oral	Leaves are used as fodder to cure blood in urine
25.	*Datura stramonium* L.	Solanaceae	Datura	S	Flowers	Skin diseases	Tropical	Crushed flowers are used to treat skin problems
26.	*Dioscorea bulbifera* L.	Dioscoreaceae	Zimikand	C	Tubers	Dysentery	Oral	Pieces of tubers are used to treat dysentery
27.	*Eclipta prostrata* (L.) L.	Asteraceae	Bhrangraj	H	Whole Plant	Various animal ailments	Oral	Livestock, Snakebite, Health Problem
28.	*Erigeron annuus* (L.) Pers.	Asteraceae	Phuntha	H	Flowers	Skin problems	Tropical	Crushed flowers are applied on skin
29.	*Eucalyptus globulus* Labill.	Myrtaceae	Safeda	T	Bark	Cold and Cough	Oral	Bark is used to treat cold and cough
30.	*Euphorbia hirta* L.	Euphorbiaceae	Dudhali	H	Leaves	Respiratory problems	Oral	Leaves given to cure respiratory problems
31.	*Ficus benghalensis* L.	Moraceae	Bargad	T	Leaves	Abortion	Oral	Leaves are mixed with fodder to retain pregnancy in buffalos

32.	*Ficus carica* L.	Moraceae	Fegra	T	Leaves	Skin problems	Topical	Leaves paste is applied on skin
33.	*Ficus religiosa* L.	Moraceae	Peepal	T	Leaves	Digestive problems	Oral	Leaves cure digestive problems
34.	*Fragaria vesca* L.	Rosaceae	Wild strawberry	H	Fruits	Digestive problems	Oral	Fruits are used to curedigestive problems
35.	*Grewia tiliifolia* Vahl.	Tiliaceae	Dhawan	T	Leaves	Glactogogue	Oral	Fresh green leaves are directly applied to cure glactogogue
36.	*Hedychium coronarium* J.Koenig	Zingiberaceae	Shati	H	Rhizome	Fever	Oral	Paste of rhizome given with feed
37.	*Hevea brasiliensis* (Wild. ex A. Juss.) Mull.Arg.	Euphorbiaceae	Rubber	T	Whole plant	Skin problems	Topical	Milky juice is applied on skin
38.	*Justicia adhatoda* L.	Acanthaceae	Adusa	S	Leaves, Flower, Bark	Coughs, Asthma	Oral	Cough & Bronchitis, Respiratory Disorders, Fever, Wounds & Skins Issues problem Solve
39.	*Lantana camara* L.	Verbenaceae	Lal sage	S	Whole plant	Fever	Oral	Juice of whole aerial plant parts is used
40.	*Mentha longifolia* L.	Lamiaceae	Pudina	H	Leaves	Indigestion	Oral	Leaves are used to treat indigestion
41.	*Mentha piperita* L.	Lamiaceae	Pipermint	H	Leaves	Indigestion	Oral	Leaves are used to cure indigestion
42.	*Morus nigra* L.	Moraceae	Black Mulberry	T	Leaves	Cough and Cold	Oral	Leaves are given as fodder to treat cough and cold
43.	*Morus rubra* L.	Moraceae	Red Mulberry	T	Leaves	Kidney problems	Oral	Juice of leaves is given to treat kidney problems
44.	*Murraya koenigii* (L.) Spreng.	Rutaceae	Miti Neem	S	Leaves	Dysentery	Oral	Leaves are used to cure dysentery
45.	*Ocimum basilicum* L.	Lamiaceae	Bhabri	H	Seeds	Loose motion	Oral	Seeds are soaked in water and then given to the animal
46.	*Ocimum tenuiflorum*	Lamiaceae	Tulsi	H	Leaves	Supporting respiratory health	Oral	Leaves are used torespiratory health, Stress Relief, Immune System, Digestive Health.
47.	*Oxalis corniculata* L.	Oxalidaceae	Khat malori	H	Leaves	Stomachache	Oral	Leaves are used to treat stomachache

48.	*Phyllanthus emblica* L.	Euphorbiaceae	Ambla	T	Fruits	Digestive problems	Oral	Fruits are given to treat digestive problems
49.	*Phyllanthus niruri* Linn.	Euphorbiaceae	Bhumi ambla	H	Whole plant	Cough and Cold	Oral	It' juice is used to treat t cough and cold
50.	*Pinus roxburghii* Sarg.	Pinaceae	Chir	T	Stem	Skin problems	Topical	Resin obtained is used externally for the treatment of skin problems
51.	*Pistacia integerrima* Stew.ex Brand.	Anacardiaceae	Kakarsingi	T	Leaves	Wounds, Cuts	Topical	Leaves have Wound healing properties and are applied on wounds
52.	*Punica granatum* L.	Lythraceae	Anar	S	Bark	Cough and Cold	Oral	Dried bark is grounded and it' powder is mixed with feed and is used
53.	*Ranunculus sceleratus* L.	Ranunculaceae	Jal dhania	H	Leaves	Skin problems	Topical	Crushed leaves are applied on skin
54.	*Ricinus communis* L.	Euphorbiaceae	Arandi	S	Fruits	Placenta expulsion problems	Oral	Fruits are used for placenta expulsion problems after delivery
55.	*Rubia cordifolia* L.	Rubiaceae	Majishtha	C	Leaves	Wounds	Topical	Powder of dried leaves is mixed with honey is applied on wounds
56.	*Rumex hastatus* D.don.	Poligonaceae	Ambi	S	Leaves	Constipations	Oral	Leaves are used to treat bahan
57.	*Solanum nigrum* L.	Solanaceae	Makoi	H	Whole plant	Pneumonia	Oral	Whole aerial plant parts are used to treat pneumonia
58.	*Solanum surattense* Burm. f.	Solanaceae	Kantkari	H	Fruits	Cough	Oral	Fruits are used to treat cough
59.	*Stephania glabra* Roxb.	Menispermaceae	Bishkhaper	C	Tubers	Mouth ulcer	Oral	Tuber pieces are given with feed to treat mouth ulcer
60.	*Tagetes erecta* L.	Asteraceae	Genda	H	Leaves	Broken horns	Topical	Milled the fresh leaves and juice is applied externally
61.	*Tectona grandis* L.	Lamiaceae	Teak, Sagon	T	Flowers	Respiratory problems	Oral	Dry flowers are used to treat respiratory problems
62.	*Terminalia chebula* Retz.	Combretaceae	Harra	T	Fruits	Cough	Oral	Dried powder of fruits is used in cough
63.	*Thalictrum foliolosum* DC.	Ranunculaceae	Pili jadi	H	Leaves	Digestive problems	Oral	Fresh leaves as fodder
64.	*Tinospora cordifolia* Willd. Miers	Menispermaceae	Gurbel	C	Stem	Fever	Oral	It increases immunity and is used for the treatment of fever

65.	*Tridax procumbens* (L.) L.	Asteraceae	Ek dandi	H	Leaves	Mastitis in Livestock	Topical	Leaves are applied to cuts, bruises, and wounds to check hemorrhage
66.	*Vernonia anthelmintica* Wild.	Asteraceae	Brahmjiri	H	Leaves	Fever	Oral	Crushed leaves with wheat flour as Ladoo are used
67.	*Vitex negundo* L.	Verbenaceae	Nirgudi	S	Leaves, Roots, Bark	Dysentery, Diarrhea	Oral	Leaves are used for washing septic wounds, relieving body pain& reducing swelling
68.	*Vitis flexuosa* Thunb.	Vitaceae	Jangli angoor	C	Fruits	Cough	Oral	Dried fruits are used to cure cough

V. Conclusion

Present study reports of ethnoveterinary medicinal plants of Baihar, Balaghat district based on questionnaire of ethnic people. These remedies are helpful to cure several chronic Diseases of domestic animals. The list of folk veterinary medicinal plants and their utilization for treating various ailments will provide basic data for further studies aimed at conservation of indigenous knowledge, cultivation of traditional medicines and preparation of novel drugs.

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