

## Ethno-veterinary properties of some plants of Marathwada region, (Maharashtra) India

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**Abstract:** *The present paper deals with the belonging to documentation and validation of ethno veterinary medicinal plants by traditional healer of Marathwada region (M.S.) India. This ethno veterinary information collected through individual interviews and observations among the tribal people of the region. Total 40 species of ethno veterinary importance belonging to 49 different families and 49 genera were recorded. Plants found effective in gynecological problems like retention of placenta, some are very useful as insect repellents and anti worm, increases lactation in cows and buffalos, while some useful on bone fractures and arthritics in goats, sheep and cattle. Some plants are found very effective to improve fertility in cattle, cure blood dysentery in goats.*

**Key Words:** *Ethno –veterinary, Marathwada, gynecological, fertility.*

### 1. INTRODUCTION:

Ethno- veterinary Medicine refers to interdisciplinary and holistic study of traditional knowledge, skills, methods, practices and folk beliefs of the people about healthcare, production of livestock and animal husbandry. Animal healthcare has been an integral part of Indian tradition and indigenous knowledge. There are various ancient practices to prevent domestic and useful animal diseases. There is also very rich oral tradition among the folk medicine practices. Ethno veterinary practices are effective alternative to antibiotic and other chemical drugs in livestock management. Expensive cost and irrational use of antibiotics, other chemical veterinary drugs and their toxic chemical residues in the milk and other animal products are serious problems of present veterinary services in rural India. The presence of drug residues develops drug resistance ability in the animals (Nisha, A.R., 2008) Animal husbandry and other allied practices like poultry etc. have been integrated part of Indian agriculture. Ethno-veterinary knowledge gives information about animal diseases and their control, remedies and clinical practices for treatment and prevention, management, feeding, and breeding strategies, spiritual elements, and the human resources (Mathian, E., 2004) The people of the study area domesticate cattle, goats, sheep, poultry birds and other useful animals for agriculture practices, for the better healthcare of such animals, the knowledge of ethno veterinary developed by local livestock holders to treat various diseases of their domestic animals. In the field of livestock production and development, local ethno veterinary and animal management practices plays very important role. The present investigation is attempted to study various plants of ethno veterinary properties, which are practiced by the local people of the Marathwada region to cure their domestic animals. Collection, identification and documentation of ethno veterinary plants were made.

### 2. MATERIALS AND METHODS:

**2.1 Study area:** Marathwada region is one of the administrative divisions of Maharashtra state. It was a part of Hyderabad state before India's independence. The region forms the vast Deccan plateau of India, it consists of eight districts viz. Aurangabad, Beed, Jalana, Latur, Osmanabad Parbhani, Nanded and Hingoli extend from 70°51' to 78°51' east longitudes. Climate of Marathwada region is generally hot and dry, rain fall is less and short duration, the average annual rainfall over the division is 882 mm. the gravelly soil is of somewhat less fertile in nature, alluvial soil is more fertile. Geographically area of Marathwada is 64525 sq. km., Godavari, Manjara, Purna, Painganga are major rivers, Hadgaon, Gautala, Aundha, are major forest areas.

**2.2 Data Collection:** The present data were collected from resource persons of different areas of Marathwada region, mostly the tribal people (Andh, Adiwasi, Bhill, Paradhi, Vaidu, and Faseparadhi etc.) and farmers, persons which are involved in the practices, such as cattle farming, agriculture, collection of fuel wood, collection of Tendu leaves, honey, and other forest resources like herbal medicines, some wild edible fruits, tubers etc. Such persons get identified from different stations throughout the Marathwada region likewise, Mahur forest area, Hadgaon, Kalamnuri, Aundha Nagnath forest, Bhokardan, Ajantha hill ranges, Gautala forest, Chakur, AUSA, Udgir, Georai, Majalgaon Gangakhed, Jintur etc. In these locations different ethnic community persons gave lot of information about ethno veterinary plants and their uses. These resource persons mostly belonging to male group with average age of 65 years. The interviews were conducted in local language, Marathi. This information included with local names of the useful plants, plant part useful in ethno veterinary and methods of preparation and administration. This ethno veterinary information collected

from different hilly ranges and forest areas of Marathwada was thoroughly recorded on field note books with ethno medicinal botanical method (Jain and Shrivasthava, 1987) plant specimens were identified with the help of Flora of Maharashtra, Vol. I and II (Singh and Karthikayen, 2000) and Flora of Marathwada Vol. I and II (Naik, V. N., 1996). Photographs of plants and plant parts were taken. Herbarium were prepared and deposited to Department of Botany, Karmveer Abasaheb Sonawane A. S. C. College Satana, Nashik. Voucher number is given to every Herbarium.

**2.3 Enumeration of plants used for ethno veterinary treatment:** The present investigation enumerate the correct botanical names, family, local name, part used, method of preparation and mode of administration of the drug against the ailments, the plant species are arranged alphabetically.

**1. *Abrus precatorious* L.**, Family – Fabaceae, Local Name- Gunj, Voucher No.- KRK2081

Leaf paste is applied on affected places to treat swellings while the small amount of powder is given in the stomach problems and retention of placenta.

**2. *Annona squamosa* L.**, Family- Annonaceae, Local Name Seetaphal, Voucher No.- KRK2082

Leaf paste and decoction is applied on wounds of animals to expel worms, leaves are boiled in water for few minutes and rubbed on floor of hens nest to repel lice.

**3. *Annona reticulate* L.**, Family- Annonaceae, Local Name Ramphal, Voucher No.- KRK2083

Seeds and leaves are crushed in water and the pest is applied externally on animals to remove ticks and mites. Leaf poltice used in wound healing.

**4. *Anogeisus lactifolia* (Roxb.ex.DC.)** Family- Combretaceae, Local Name- Dhawada, Voucher No.- KRK2084.

Seed powder is boiled and decoction is used for domestic animals, bath or sprayed in cattle shade. About 50 gm of fresh stem bark is boiled with 1-2 tea spoon Nilgiri oil in 2-3 glassful of water for 2-3 minutes.

**5. *Asperagus racemosus* Wild.**, Family- Liliaceae, Local Name -Shatavari, Voucher No.- KRK2085.

Root powder prolonged lactation period and quality in buffalo, 2-3 spoon of root powder is mixed in the mixture obtained is given twice a day for 12-15 days to the cattle.

**6. *Argemone Mexicana* L.** Family- Papavaraceae, Local Name –Pivala dhotara, Voucher No.- KRK2086.

Paste of young leaves mixed with young twigs of *Maytenus emarginata* and equal quantity of salt is applied externally on injured bone and in arthritics.

**7. *Achyranthus aspera* L.** Family-Amranthaceae, Local Name -Aghada, Voucher No.- KRK2087.

Leaf juice filtered through clean cloth is used to cure eye problems and also used to cure ear troubles in some animals.

**8. *Azadiracta indica* L.** Family-Meliaceae, Local Name -Kaduneem, Voucher No. – KRK2088

The leaves are used directly for treating the high fever in cow, buffalo, goat, sheep, donkey etc. Paste of leaves and bark is applied on the skin for the worm and skin infection.

**9. *Adhatoda vasica* Ness.** Family-Acanthaceae, Local Name -Adulsa, Voucher No. – KRK2089

Decoction of leaves and stem is given to treat fever.

**10. *Aegle marmelos* (L.) Corr.** Family-Rutaceae, Local Name -Bel, Voucher No.- KRK2090.

Paste of fresh leaves mixed with half amount of Castor oil applied on skin burn in cattle.

**11. *Allium cepa* Linn.** Family-Liliaceae, Local Name -Kanda, Voucher No.- KRK2091.

Bulb paste mixed with mustard oil administered thrice a day for a month for cough in animals.

**12. *Aristolochia bracteolate* Lam.** Family-Aristolochiaceae, Local Name -Kitmari, Voucher No.- KRK2092.

Warm leaves with Ginger oil applied on affected places to cure skin infections and wounds. Leaf paste with pepper is very useful on insect bite.

**13. *Acasia catechu* (L.F) Wild** Family-Mimocaeae, Local Name -Khair, Voucher No.- KRK2093.

Bark decoction is used for sore and cracked nipples of cow, goats and buffalo. Bark extract along with heart wood used to treat broken horn of domestic animals.

**14. *Andrographis paniculata* Nees.** Family- Acanthaceae, Local Name -Buinimb Voucher No.- KRK2094.

Decoction of whole plant is useful to treat fever and cough in animals.

**15. *Cissus quadrangularis* L.** Family- Vitaceae, Local Name – Hadjodi, Voucher No.- KRK2095.

Pieces of stem are used to treat the bone fractures and muscular pains in goats, buffalos and cows.

**16. *Cardiospermum helicacabum* L.** Family- Sapindaceae, Local Name- Kapalputi, Voucher No.- KRK2096.

Paste of leaves with pepper and garlic is useful to cure fever in domestic animals.

**17. *Cassia fistula* L.** Family- Caesalpinaceae, Local Name – Bahava, Voucher No.- KRK2097.

Legume paste is used to treat digestive problems in cats and goats.

**18. *Curcuma aromatic*** Family- Zingiberaceae, Local Name- Jangali halad, Voucher No.- KRK2098.

Rhizome powder is applied on the wounds due to injury and skin problems.

**19. *Calytropis procera* (L.) R. Br.**, Family- Asclepediaceae, Local Name- Rui, Voucher No.- KRK2099.

The paste of flowers with double amount of jaggary is very useful for easier delivery; milky latex of plant is applied externally on snake bite to neutralized poison.

**20. *Clematis gauriana* Roxb. ex.** Family- Ranunculaceae, Local Name-Morvel, Voucher No.- KRK2100.

Stem decoction is used to wash domestic animals. Leaf paste and stem boiled in water used to treat lice and other parasites on animals, leaves are rubbed and applied on wounds of domestic animals

**21. *Crinum asiatica* L.** Family- Amaryllidiaceae, Local Name-Kumbhai, Voucher No.- KRK2101.

Leaves are kept in cattle shades to repel insects and parasites. Leaves smoke have very good results for insect repellents in cattle shades.

**22. *Datura metel* L.** Family- Solanaceae, Local Name-Dhotara, Voucher No.- KRK2102.

Roasted fruits are given once a day for dysentery and cough.

**23. *Dolichandrone falcata* ( Wall ex. D.C.)** Family- Bignoniaceae, Local Name-Bandgul, Voucher No.- KRK2103.

Crushed leaves mixed with water is given to animals in severe diarrhoea or dysentery.

**24. *Gliricidia specimum* ( Jacq) Kunt,** Family- Fabaceae, Local Name-Undirmari, Voucher No.- KRK2104.

Leaves are crushed and paste is used to wash livestock to remove external parasites. Green leaves are burnt in cattle shade for fumigation to repel mosquitoes.

**25. *Gardenia resinifera* Linn.** Family- Rubiaceae, Local Name-Dikimali, Voucher No.- KRK2105.

Gum of the plant (secretion) is warmed and applied for the treatment of skin problems on mouth, legs.

**26. *Holoptelia integifolia* ,** Family- Ulmaceae, Local Name-Papadi, Voucher No.- KRK2106.

Bark and stem powder is useful on healing wounds, bark paste mixed with coconut oil and garlic applied externally to treat inflammation, ring worms and other skin diseases. Leaf poultice applied externally to cure swellings.

**27. *Ipomia mauritiana* Jack.** Family- Convolvulaceae, Local Name-Dudhavel, Voucher No.- KRK2107.

Tuber extract is useful to increase milk flow in cattle, leaf and root paste used externally to treat breast infections in cattle.

**28. *Indigofera linifolia* (l.f.) Retz.** Family-Fabaceae, Local Name-Pithundi, Voucher No.- KRK2108.

Leaves are useful in dehairing of tails in goats and sheep.

**29. *Jatropha curcas* L.** Family- Euphorbiaceae, Local Name-Mogali erand, Voucher No.- KRK2109.

Twigs with fodder is given to animal for digestion, roots are tags to tail of goats and sheep for removing external parasite.

**30. *Leonotis nepatofolia* (L.) R. Br.** Family- Lamiaceae, Local Name-Deepmal, Voucher No.- KRK2110.

Seeds are useful for cattle for sterility.

**31. *Moringa oleifera* Lam.** Family-Moringaceae, Local Name-Shevaga, Voucher No.- KRK2111.

Root juice useful on ulcer in cattle, it also remove larvae of insects. Leaf paste twice in a day is gives quick relief from diarrhoea and dysentery.

**32. *Pulmeria rubra* L.** Family- Apocynaceae, Local Name-Sonchafa, Voucher No.- KRK2112.

Boiled pods are good for lactation in cows and buffalos, seeds are used on snakebites.

**33. *Pergularia daemia* (Forsk) Family- Asclepiaceae,** Local Name-Utranvel, Voucher No.- KRK2113.

Decoction of fresh and young leaves made in water is mixed in ground nut cake (fodder) fed to cows after caving to relieve post natal pain.

**34. *Semicarpus anacardium* L.F.** Family-Anacardiaceae, Local Name-Bibba, Voucher No.- KRK2114.

Seed powder with water is useful to cure foot and mouth infection diseases in animals.

**35. *Terminalia bellerica* (Gaertn) Roxb.** Family- Combrataceae, Local Name-Behada, Voucher No.- KRK2115.

Bark decoction with Nilgiri oil given orally to goats to cure blood dysentery.

**36. *Tephrosia perpurea* Pers.** Family-Fabaceae, Local Name-Diwali, Voucher No.- KRK2116.

Root pieces boiled with sheep's milk improve muscular strength in male goats.

**37. *Tribulus terrestris* Linn.** Family-Zygophyllaceae, Local Name-Gokharu, Voucher No.- KRK2117.

Juice of fresh leaves are given to animals in case of chronic cough.

**38. *Vitex negundo* L.** Family-Verbenaceae, Local Name-Nirgudi, Voucher No.- KRK2118.

Tender leaves grinded with pepper, garlic is useful to cure infectious diseases and muscular pain in animals.

**39. *Woodfordia fruticosa* (L.) Kurz.** Family-Lythraceae, Local Name-Lokhandi, Voucher No.- KRK2119.

Flowers and stem bark extract of Neem is useful in dysentery.

**40. *Wrightia tinctoria* (Roxb) R. Br.** Family- Apocynaceae, Local Name-Kalakuda, Voucher No.- KRK2120.

Extracts of bark is useful to treat skin infectious diseases in animals.

### 3. RESULTS AND DISCUSSIONS:

There is a great importance of the traditional knowledge of tribal communities and people who are associated with agriculture practices and domestic animals, these people uses plants, plant parts and plant products to treating their domestic animal. This knowledge transfer from generation to generation. During this study, ethno veterinary data of 40 species of plants belonging to 39 families have been studied; out of these three families are Monocotyledons. Among the documented useful species of the families Fabaceae, Combretaceae, Acanthaceae, Solanaceae, Apocynaceae, Cucurbitaceae are found to be the most often used families in the present study. The leaves are the predominant plant

part used in the treatment of veterinary diseases; mostly it is used to treat fever in livestock. Most of the reported ethno veterinary uses of the medicinal plants are used to treat fever, wounds, gynecological problems, infections and dysentery. Use of different plant parts, such as root, stem, leaves, flowers, seeds, rhizomes, tubers, gum, bark are used for cure domestic animals. Decoction of bark, leaves, flowers, seeds and extractions of plant parts, paste, poultice etc. are the different modes of administration were observed. Leaf paste of *Abrus precatorius* is useful on swellings and seed powder is effective in gynecological problems like retention of placenta in domestic animals. Plant parts of *Annona squamosa* and *A. reticulata* are very useful as insect repellents and anti worm, root powder of *Asperagus rasemosus* increases lactation in cows and buffalos, while *Argimone mexicana* is useful on bone fractures and arthritics in goats, sheep and cattle. Plant parts of *Adhatoda vasica* cure skin infection and insect bites. Digestive problems of goats, sheep is treating with the legume paste of *Cassia fistula*. Seeds of *Leonotis nepatofolia* improve fertility in cattle. Bark decoction of *Terminalia bellerica* cure blood dysentery in goats. The rural farmers and traditional herbal healers of the region were using these plants to treat various diseases of their livestock like fever, foot and mouth infection, increasing lactation, arthritics, skin problems, dysentery, snakebite, swelling and wounds etc.

According to Pawar, N.B., (2020) Total 17 species of Bagalan region from Nashik (India) found very useful as ethno veterinary plants. The information suggest the documentation of the medicinal plants and associated indigenous knowledge can be use for conservation and sustainable use of medicinal plants in the area and the validation of this plants, plant preparations for veterinary treatment (Gadpayale, J. V. and *et. al.*, 2014). According to Salal Kulkarni and *et.al.* (2014) Rural tribal people generally depends on plants for curing their livestock, due to inadequate facilities provided by government agencies ethno veterinary remedies are found to be effective against a wide range of common disease conditions. The folk knowledge of medicinal plants is still prevent the animal diseases in rural areas, Eighty plant species from 44 families have been found useful as ethno veterinary medicines and their ailments treated as wounds, bone fractures, stomach and gynecological complains in Buldhana district, Maharashtra (Patil, D.A. and *et.al.*, 2010).

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