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# ETHNOBOTANY OF MUKUNDARAS - PLANT REMEDIES USED AGAINST POISONOUS ANIMALS

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Mukundara ranges a recontinuation of "Vindhyana Series" bifurcate from Malwa region of Madhya Pradesh and enter in Hadoti region of South - East Rajasthan through Jhalawar district. These are favourite shelters for the tribals of the area viz. *'Bhils', 'Sahariyas'* and *'Moghiyas'* along with many more minor as well as nomadic tribes who utilize the plants found in their vicinity for diversitied purposes. The present communication deals with enumeration of 40 plant species, which are either used as remedies against poisonous animals or act as repellent of poisonous animals and some harmful arthropods. Efforts have also been made to discuss their comparative utility by other tribals of state as well as difference of opinion and concurrence amongst these tribals.

**Keywords :** Ethnobotany; Poisonous; Tribals.

## Introduction

Ethnobotany is an interesting discipline of Economic botany which deals with the plant usage by tribal and aboriginal people in various ways of life. Perhaps use of certain plants by the animals like apes and monkeys, specially eating these plants to fulfil their needs of nourishment and for getting rid of their pains, and diseases, to heal up their wounds since ancient times, should be a cause of prime importance about the existence of ethnobotany.

The wonderful theme of Ethonomedicine is perhaps the most significant aspect of ethnobotany which envisages the studies and informations about the plants of medicinal importance utilized by the tribles and rural folk and aboriginal sects of human society residing for away from urban civilization in remote corners of the country. In real sense these tribles are sons of the nature as they have get strong association with the soil and their habitat.

Like other regions of our country such as Chhota Nagpur, Bastar, Sarguja, Abujhamarh, Western Ghats, Khasi, Jayantia, and Naga hills of the north east, the Aravallies (which almost lie wholly in Rajasthan) and the vindhyan complex (which appears in the south eastern part of the state in the form of Mukundara ranges, are also the regions of high concentration of the tribal population. All the areas mentioned above have a common factor i.e. their remote nature which has barred development and progress of human societies residing there.

The south-eastern part of Rajasthan form the core territories of the Sahariyas, Bhils, Moghiyas, and Meena tribes, along with adjoining regions of neighbouring states. Besides these some nomadic tribes such as Gadia lohars. Kalbelias, and Raibaris also visit and pass through the area from time to time. All these tribals since reside in remote area, or in constantly moving state, therefore these are self sufficing people. They are centainly aware of the plants which are having medicinal value the ailments in which these are used, their parts which are used for the treatment and their mode of application. Because these tribals either reside in dense forests and remote places or travel through jungles and lonely places, hence are under continuous threat of poisonous animals such as snakes, scorpions centepedes, and wasps etc. Kalbelias are directly exposed to snakes. Therefore intense efforts were made to collect some important informations about plants which are used as antedotes for snake bite and stings of other arthropods. Besides this, efforts were also made for having an information about the repellent plants for snakes and other venemous animals, as this could be much useful for the modern society as a preventive measure, against snake bike in their fields and houses, particularly in rainy season.

*Study area* - The Mukundara hills which derive their name from famous "Dara" pass of Kota district (S.E. Rajasthan) are the continuation of "Vindhyan series", which bifurfacte from Malwa region of Madhya Pradesh and enter in Rajasthan through Jhalawar district at the border of Aklera and Bakani. However, main range passes north wards to Jhalrapatan and its subsidiary ranges proceed east wards along the northern boundries of Manoharthana. Main ranges leave the district Jhalawar and enter in Kota district near village Khokanda on the Ahu river. Shahbad upland

**Table 1.** Plant used and antidotes/repellants.

| S.No. | Name | Family | Local Name | Plant part used | Administration | Tribe |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. | *Abrus precatorius* L. | Fabcee | Chirmu/Ratti | Roots for snake bite | Paste of fresh or dried roots is applied on bite. | Bhills Banjaras |
| 2. | *Achyranthes aspera* L. | Arnaranthaceae | Aandhijhada | Leaves for snake bite treatment | Extract or juice of leaves given orally Paste of leaves applied locally | Bhils Meena Sahariyas |
| 3. | *Ailanthus excelsa* Roxb. | Simaroubaceae | Ullu/Arru | Stem bark for snake bite | Extract of bark given orally with water | Bhils |
| 4. | *Alangium salvifolium* (L.F.) wang | Alangiaceae | Ankol | Root bark used for snake bite | Crushed root bark is given orally | Bhills Banjaras |
| 5. | *Allium cepa.* L. | Liliaceae | Kanda | Fleshy leaves of bulb, for relief in scorpion sting | Paste of the bulb mixed with equal amount of lime and applied locally | Bhils Moghiyas |
| 6. | *Amaranthus viridis* L. | Amaranthaceae | Chaulai | Root and stem along with leava for centepedsting | Paste of root, tender twigs and leaves given orally with water | Sahariyas Banjaras |
| 7. | *Albizia procera* (Roxb) Benth | Mimosaceae | Gurad | Seeds in snake bite | Crushed paste is applied locally | Bhils Sahariyas Meena |
| 8. | *Argemone mixicana* L. | Papaveraceae | Pilikateli | Leaf paste in scorpion sting | Fresh paste of the leaves is applied locally | Moghias Bhils |
| 9. | *Arisaema Tortuosum* Schott | Araceae | Sanpkikumb | Paste of corms for snake bite treatment | Fresh paste of corms applied locally | Sahariyas |
| 10. | *Aristolochia bracteelata* lamy | Aristolochiaceae | Kalipaad | Fresh root for the treatment of snake bite | Fresh root paste is applied locally on the spot. The plant also acts as rebellent of snakes | Saharyas Meenas |
| 11. | *Azadirachta indica* A. Juss. | Meliaceae | Neem | Stem bark, leaves in snake bite and scorpion sting | Poultice of leaves is applied on the spot paste of bary is applied locally | Sahariyas Bhils |
| 12. | *Barlaria prionites* L. | Acanthaceae | Kalabans | Seed for the treatment of of snake bite | Crushed seeds are given orally with water | Sahariyas Kalbelias |
| 13. | *Boswellia serrata* Roxb. | Burseraceae | Salar | Leaves and root for scor-pion and centepede sting | Poultice of leavs is applied locally Root paste may also be applied locally | Bhils Banjaras |

**Table 1. Contd.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| 14. | *Calotropis procera* W. Ait | Asclepiadaceae | Aankda | Latex of plant, Roots, for scorpion sting | Latex is applied on the spot or root paste is applied locally also | Bhils Sahariyas |
| 15. | *Celastrus paniculatus* willd. | Celastraceae | Banmaala | Stem bark Leaves for snake bite treatment | Paste of leaves applied on the spot Paste of bark applied locally | Moghiyas Bhils |
| 16. | *Cassia occidentalis* L. | Caesalpinaceae | Kusumbi | Whole plant as snake repellent | The plants are grown around the huts and houses. It is said to be having snake repellent quality | Bhils Godia Lohars |
| 17. | *Ceropegia bulbosa.* Roxb. | Asclepiadaceae | Mastaan | Tuber for scorpion sting | Fresh paste of tuber is applied locally for the treatment of scorpion sting | Sahariyas Godia lohars |
| 18. | *Cissampelos pariera* L | Menispermaceae | Pata | Root and leaf for snake bite | Root paste and leaf extract both are given orrally | Bhils Meena |
| 19. | *Cirullus colocynthus* L. Schrad | Cucurbitaceae | Tumba | Fruit pulp for snake bite | Fruit pulp is applied locally on the spot | Sahariyas Bhils |
| 20. | *Cocculus histsutus* L. Diel | Menispermaceae | Jal jamni | Leaves and roots for scorpion sting | Paste of leaves or root is applied locally on the spot. | Bhils |
| 21. | *Cucurbita moschata* Poir. | Cucurbitaceae | Mithakaddu | Fruit pulp for scorpion sting | Fruit pulp is applied locally | Bhils |
| 22. | *Curaculigo orchioides* Gartin | Zingiberaceae | Kali Moosli | Root paste for snake bite | Fresh root paste is applied locally | Sahariyas Bhils |
| 23. | *Corallocarpus epigaeus* Clarke | Cucurbitaceae | Mirchikand | Root paste or piece of root for snake bite | Root paste is either applied locally or piece of root equal to maize grain grain given orally. | Moghias Kalbelia |
| 24. | *Cyperus rotundus* L. | Cyperaceae | Nagarmotha | Root and rhizome for snake bite | Root and rhizome extract with water is given orally | Sahariyas Bhils |
| 25. | *Dichrostachys cinerea* L. Wight | Mimosaceae | Kunali | Leaves used for scorpion sting | Leavs powdered to paste and applied locally on the spot | Bhils |

**Table 1. Contd.**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| 26. | *Desmodium gangeticam* L DC | Fabaceae | Kareti | Seed for centepede sting | Powder of seds, mixed with water to form a paste and applied locally | Sahariyas Bhils |
| 27. | *Euphorbia hirta* L. | Euphorbiceae | Lal dudhi | Roots for snake bite | Fresh root paste is applied locally | Bhils Banjaras |
| 28. | *Gloriosa superba* L. | Liliaceae | Kalihari | Roots/tubers for snake bite | Roots and tubers are crushed with water to make a paste, this is applied locally on snake bite | Sahariyas Banjaras |
| 29. | *Leonotis nepetifolia* (L) R. Br. | Lamiaceae | Raibola | Floral buds for dog bite | Paste of the buds applied locally | Bhils Kalbelias |
| 30. | *Mangifera indica* L. | Anacardiaceae | Aambo | Powdered Gum for scorpion sting | Powdered gum is given orally for relief in scorpion sting. | Sahariyas |
| 31. | *Martynia annua* L. | Martyniaceae | Bichchu buti | Leaves for scorpion sting | Paste of the leaves is applied locally | Bhils Kalbalia |
| 32. | *Maerua areneria* H. K. F. | Capparidaceae | Orapa | Roots for snake bite | Rot paste applied locally poweder with water given orally | Banjaras |
| 33. | *Nicotiana tobacum* L. | Solanaceae | Tamakoo | Leaves for relief in centepede sting | Fresh leaves are rubbed locally on the spot | Bhils |
| 34. | *Ocimum basillicum* l. | Lamiaceae | Kalitulsi/ Marua | Whole plant | The plant is grown near the hutments it is said to have repellent properties for snakes, and other harmful poisonous insects. | Bhils Banjaras |
| 35. | *Oroxylum indicum* (L) Vent | Bignoniaceae | Sonapatha | Roots for snake bite | Root paste is applied locally | Sahariyas Banjaras |
| 36. | *Peristrophe bicalyculata* Forsk. | Acanthaceae | Kagjangha | Complete plant in snake bite | The extract of complete plant parts, (two spoons) is given orally with rice, in case of snake bite | Sahariyas Bhils |
| 37. | *Pergularia extense* Forsk. | Asclepiadaceae | Godaria bel. | Leaves for the treatment of snakebite | 1/2 teaspoon ful of leaf extrait is given orally | Sahariyas klbelias |
| 38. | *Pentanema indicum* DC | Asteraceae | Jadasali | Flowers and fruit for snake bite | Fresh paste of flowers and fruits applied locally | Bhils Sahariyas |
| 39. | *Sterculia urens* Roxb. | Sterculiaceae | Kadaya | Roots and stem bark peelings for snake bite | Powedered roots, and bary peeling extract is given orally | Lodhas Santiyas |
| 40. | *Wrightia tinctoria.* R. Br. | Apocynaceae | Dudhi | Leaves for the scorpion sting | Paste applied locally leaves chewed orally | Banjaras Bhils |

of these ranges is the far eastern part of the state having an area about 2900 kms. It has got an higher altitude in comparision to the neighbouring areas.

*Preveiw* - During last two decades, however note worthy contributions have been made about the ethnomedicinal plants in comparision to other aspects[1-29].

During the course of present studies major stress was put on collection the information about those plants which are used by the tribals of the area either as poison antidote, or as repellents for the poisonous animals.

*Methodology* - In the present course of study besides personal observations, first hand data on the role of plants in folklores folk songs and proverbs, prevailing amongst tribals were collected during ethnobotanical investigations, carried out by authors in last two decades[1-29]. Numerous species were studied and collected during these investigations. Out of these, 39 species were sorted out, which were having poison antidote / poisonous animals repelling properties. These species of high ethnomedicinal importance are enumerated in Table 1, along with their, local names, family, plant part used, mode of drug administration, and tribals which utilize them. These plant species, were duly identified and deposited in the Herbarium, Department of Botany University of Rajasthan Jaipur (RUBL).

**Discussion**

As the tribal societies have evolved away from modern civilization, therefore it is quite possible that they are mostly unknown of the events which are going on in the modern world. Because of their life long association with nature and their thorough knowledge of forest plants even today, they depend upon the traditional and inherited method for the treatment of different diseases. Not only this in lonely places and in forests they are under continuous threat of poisonous animals, specially Kalbelias are directly exposed to snakes.

After thorough investigations in the bribal localities, it was evident that 40 plant species belonging to 39 genera, and 29 families, were found to be used by the tribals of the area as poison antidotes against snake bite / scorpion sting centepede/wasp sting or as snake repellents. Out of these 40 species, only two *i.e. Cyperus rotundus* (Cyperaceae) and *Gloriosa saperba* (Liliaceae) belonging to monocotylendons, remaining 38 species are of dicot families. This may be attributed to their, easier identification, and availability in the area. Family Asclepiadaceae and Cucurbitaceae have maximum contribution with three species each as poison antidotes, while families viz. Amaranthaceae, Fabaceae, Memosaceae, Liliaceae, Menispermaceae, and Acanthaceae, are represented by two species each. Rest of the families are how ever represented by single species. This may perhapes be attributed to the presence of some chemical compounds in their plant bodies / parts, which can effectively antagonize, the poison. However, plants of two families viz. *Cassia Occidentalis* (Caesalpinaceae) and *Ocimum basillicum* (Lamiaceae), are considered as snake repallents by the tribals and rural societies of the area, this may be attributed to strong aromatic smell of *ocimum basillicum* (Marua, Lamiaceae) and production of some aeroallergens by the flowers of *Cassia occidentalis* (Kusumbi; Caesalpinaceae), which cause allergy in some animals and human beings also on vertification in was found the 5 plant species viz *Ailanthus excelsa, Coculus hirsutus, Curculigo orchioides, Dichrostachys cinerea,* and *Nicotiana tabacum* are used as antedotes by Bhils only, while rest of 34 spcies are used by other tribals also. The seven species viz. *Boswellia serrata, Cissampelos pariera, Calotropis procera, Celastrus paniculatus, Corallocarpus epigeus, Martynia annua, Sterculia urens* and *Wringhtia tinctoria* are used as poison antidotes in other parts of the state also[28] while 22 species out of the 39 plant species tabulated are also well known in Aravallis and Mewar[12,13] with the same interpretation. This may be attributed to the common source of thier traditional knowledge. Out of the 39 species tabulated in Table, species are used as antidotes for scorpion sting two for centepede sting, one species for both scorpion and centepede sting, one for dog bite (against Hydrophobia) one for wasp sting, and remaining 24 species are used as antidote/repeleint for snake bite. This may be attributed to their degree of effectiveness against poison (or effectiveness as snake repellents in case of *Ocimum basillicum* and *Cassia occidentalis).* The use of maximum number of species (Three) from the families, Asclepiadaceae, and Cucurbitaceae perhapes may be attributed to their alkloid properties or presence of specific types of turpenoids in the members of Cucurbitaceae. Now it is for the pharmacologists to find out the exact nature of plant drugs, and their made of action as antedotes, so that cheap and effective antivenom drugs can be prepared for the welfare of present day society also.

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