



## ETHNOMEDICINAL PLANTS USED AGAINST SNAKEBITE BY TRIBAL PEOPLE OF DHAR DISTRICT OF MADHYA PRADESH, INDIA AND THEIR ROLE IN CONSERVATION

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### ABSTRACT

The present study of the ethnomedicinal plants for anti-snakebite that carried out during 2020-2021. The ethno medicinal plants used against snakebite by tribal people of Dhar district, Madhya Pradesh. The present paper exclusively deals with the tribal people medicinal plants which are used for treating snakebite. They are settled agriculturist and have a very rich knowledge on plant based resources utilization for their survival since time immemorial. During the survey a total of 38 plant species belonging to 29 genera and 24 families were identified as scientific name, local name, family, part used and mode of preparation of medicine. being used for treatment of snakebite. The plants were enumerated alphabetically according to their Most commonly used species for treatment of snakebite was *Achyranthes aspera*, *Ampelocissus latifolia*, *Azadirachta indica*, *Calotropis gigantea*, *Cassia fistula*, *Dioscorea bulbifera*, *Enicostema axillare*, *Madhuca longifolia* and *Opuntia elatior*. Further work is suggested to elucidate the possible mechanism of action of these plant extracts against snakebite and their role in conservation of study area.

**KEYWORDS:** Ethnomedicinal plants, conservation, snakebite, tribal people, Madhya Pradesh.

### INTRODUCTION

Dhar district is situated in the south-western part of Madhya Pradesh, India. The study area lies between 22° 00' to 23° 10' Northern latitude and 74° 28' to 75° 42' Eastern longitude. Out of the total area of 8153 Km<sup>2</sup>, this is 1.84 percent of the state and 1214.8 Km<sup>2</sup> of the total geographical area of the district. The total population of the district is 2184672 of which is 83.93 percent belongs to tribal respectively. Information on ethnomedicinal plants were collected from local communities viz. Bhil, Bhilala, Barela and Pateliya are the dominant tribal inhabiting in the study area. The Bhil people move around the forest for their day today requirements, cultural activities and performing rituals. These tribal live close to the forest and largely dependent on the wild biological resources for their livelihood. Dhar district is known as during the recent years, more attention have been paid to the ethnobotanical survey and pharmacological screening of medicinal plants traditionally used for the treatment of snakebite patients as well as isolation and characterization of active compounds possessing anti-ophidian property from natural resources. The present study is on the preliminary survey of medicinal plants for therapeutic application of snakebite and its extensive traditional use by the tribal people and traditional healers in Madhya Pradesh state in

India, is known as a genetic paradise for its diversity in plant genetic resources, notably the Dhar district is blessed with rich and diverse cultural heritage and the tribal people possess rich knowledge and wisdom regarding plants including their usage for treating common ailments. During the recent years, more attention have been paid to the ethnobotanical survey and pharmacological screening of medicinal plants traditionally used for the treatment of snakebite patients as well as isolation and characterization of active compounds possessing anti-ophidian property from natural resources. There are few reports on the ethnobotanical flora of the district in relation to various diseases and plants used against snakebite by the tribal people. The rich tribal areas of south-western part of Madhya Pradesh particularly Dhar district have received less attention in relation to ethnomedicinal plants used against snakebite. Hence, the focus of the present study is on the preliminary survey of medicinal plants for therapeutic application of snakebite and its extensive traditional use by the tribal communities and traditional healers in study area of Dhar district. Literature survey of ethnobotanical work was done (Jain 2004, Alawa *et al.* 2012; Alawa 2015, Alawa *et al.* 2016, Alawa 2021; Jadhav 2007, 2008; Jain *et al.* 2010, Wagh *et al.* 2010; Saswat *et al.* 2016). The present communication given

results of ethnobotanical survey done in south western part of Madhya Pradesh.

### MATERIALS AND METHODS

Ethnobotanical field work was carried out during 2020-2021. The information on herbal medicinal plants against snakebite was collected through questionnaire and personal interviews with traditional healers and knowledge holders. The medicinal plants were collected from the field. While collecting the plants one of the healers was accompanied to make sure that the correct. The medicinal uses and mode of administration were gathered from tribal medicine men and herbalists and compared with relevant literature. Each medicine practice was verified and cross checked. The plant specimens were collected, identified with the help of Herbarium and Floras (Mudgal *et al.*, 1997; Verma *et al.*, 1993; Jain, 1991). Herbarium following standard method (Jain and Rao, 1977). Deposited in the herbarium of the Department of Botany PMB Gujarati Science College, Indore (M.P.). Plants were enumerated alphabetically according to their scientific name, family, local name, parts used, and mode of preparation and medicinal uses (Table-1).

### RESULTS AND DISCUSSION

The present study on ethno medicinal plants used for snakebite showed that the tribal people of Dhar district

have very good knowledge and wisdom on plants and their medicinal importance. The present paper provides information and ethnomedicinal plants on the total 38 plant species belonging to 29 genera and 24 families, which were identified as being used for treatment of snakebite. Generally local medicine men are known as 'Badwa' or Vaidyas. The rich treasure of indigenous knowledge of local medicinal plant is also under serious threat in rural areas due to the availability of allopathic medicines and treatment of snakebite. The indigenous knowledge of the tribal communities must be properly documented and preserved so that their knowledge could be passed on the future generation. Such studies and documents provide important for understanding the complex heritage of tribal communities and their association with environment and nature. It is also observe that were uses roots of 15, leave of 8 species, bark of 5 species, seeds of 4 species, tuberous root & fruits of 2 species each and latex and pulp of one species. Such information should be spread among other societies living in urban and remote areas. Further work need to be carried out to conservation and possible mechanism of action of these plants extracts against snakebite of the study area.

**Table 1: List of Ethnomedicinal plants used against snakebite by tribal people of Dhar district, Madhya Pradesh, India.**

| S.No. | Scientific Name & Family                                       | Local Name | Part used | Made of Application   |
|-------|--|------------|-----------|---|
| 1     | <i>Acacia nilotica</i> (L.) Willd.ex Deli. (Mimosaceae)        | Babul      | Root      | Extract of root is effectively used as an antidote of snakebite                               |
| 2     | <i>Achyranthes aspera</i> L. (Amaranthaceae)                   | Andhijhara | Root      | Root is crushed and filtered juice is used in snake bite.                                     |
| 3     | <i>Acorus calamus</i> L. (Araceae)                             | Bach       | Leaves    | Fresh leaves care chewed with water is given for immediate relief to cure aquatic snake bite. |
| 4     | <i>Albizia procera</i> (Roxb.) Benth. (Mimosaceae)             | Gurad      | Bark      | Paste of stem bark is applied externally to cure snakebite.                                   |
| 5     | <i>Ampelocissus latifolia</i> (Roxb.) Planch. (Vitaceae)       | Panivela   | Leaves    | Paste of leaf is applied on wounds for abdominal pain and snakebite.                          |
| 6     | <i>Aristolochia indica</i> L. (Aristolochiaceae)               | Sapsan     | Root      | Root-paste is used as a antidote in snake-bite.   |
| 7     | <i>Azadirachta indica</i> A.Juss. (Meliaceae)                  | Neem       | Leaves    | Fresh leaves chewed daily against immunity to snakebite.                                      |
| 8     | <i>Butea monosperma</i> (Lam.) Taub. (Fabaceae)                | Palash     | Root      | Decoction of root as a antidote for snakebite.  |
| 9     | <i>Calotropis gigantea</i> (L.) R.Br. in Aid. (Asclepiadaceae) | Aakada     | Root      | Paste of root is applied on wound to cure snakebite.  |
| 10    | <i>Calotropis procera</i> (Ait.) R.Br. (Asclepiadaceae)        | Aakada     | Latex     | Latex is used against snakebite.  |
| 11    | <i>Capparis zeylanica</i> L. (Asclepiadaceae)                  | Kantar     | Root      | Root decoction is used as antidote to cure snakebite.   |
| 12    | <i>Careya arborea</i> Roxb. (Lecythidaceae)                    | Kumbi      | Bark      | Paste of bark is applied on wound to cure snakebite.  |
| 13    | <i>Cassia fistula</i> L. (Caesalpiniaceae)                     | Amaltas    | Seed      | Paste of seed is used on wounds to cure for snake bite.                                       |
| 14    | <i>Celosia argentea</i> L. (Amaranthaceae)                     | Kuiduk     | Root      | Root power is taken twice a day for a week as an antidote to cure snakebite.                  |

|    |   |              |               |  |
|----|---|--------------|---------------|--|
| 15 | <i>Cryptolepis buchanani</i> R.Br. (Periploaceae)           | Seta kawali  | Root          | Paste of root is applied on wounds externally in snake bite.                                       |
| 17 | <i>Dioscorea bulbifera</i> L. (Dioscoreaceae)               | Ratalu       | Tuberous root | The young tuberous roots are eaten during rainy season as a precaution against snakebite.          |
| 18 | <i>Dioscorea oppositifolia</i> L. (Dioscoreaceae)           | Chhinula     | Tuberous root | Paste of tuberous root is applied externally for snake bite.                                       |
| 19 | <i>Diplocyclos palmatus</i> (L.) Jeffrey. (Cucurbitaceae)   | Shivlingi    | Fruit         | Fruits are to eaten against snakebite.   |
| 20 | <i>Echinops echinatus</i> Roxb. (Asteraceae)                | Ontkatara    | Root          | Paste of root is given as antidote to cure snakebite.  |
| 21 | <i>Enicostema axillare</i> (Lam.) Raynal. (Gentianaceae)    | Naikui       | Leaves        | Extract of leaf is applied as an antidote against snake bite.                                      |
| 22 | <i>Euphorbia ligularia</i> Roxb. (Euphorbiaceae)            | Thuwar       | Pulp          | Chewed pulp and applied on wound to cure snake bite.   |
| 23 | <i>Ficus hispida</i> L.f. Suppl. (Moraceae)                 | Bhui gular   | Bark          | Paste of stem bark is given to a patient in snake bite.  |
| 24 | <i>Ficus racemosa</i> L. (Moraceae)                         | Gular        | Bark          | Decoction of bark is given against snakebite.  |
| 25 | <i>Ficus religiosa</i> L. (Moraceae)                        | Pipal        | Leaves        | Tender leaves are inserted in both the ears of patient during snakebite.                           |
| 26 | <i>Ipomoea pestigrades</i> L. (Convolvulaceae)              | Besharam     | Root          | Paste of root is used as an antidote in snakebite.   |
| 27 | <i>Leonotis nepetifolia</i> (L.) R.Br. (Lamiaceae)          | Bhimalgutta  | Root          | Paste of root is applied on wounds in snakebite.   |
| 28 | <i>Madhuca longifolia</i> (Koen.) Mac. (Sapotaceae)         | Mahua        | Seed          | Decoction of seed cake is given as antidote to cure snakebite.                                     |
| 29 | <i>Marsdenia tenacissima</i> (Roxb.) Moon. (Asclepiadaceae) | Chirri       | Root          | Paste of root and root of Neel ( <i>Indigofera tinctoria</i> L.) are mixed and given in snakebite. |
| 30 | <i>Moringa oleifera</i> Lam. (Moringaceae)                  | Sahjan       | Leaves        | Fresh juice of leaf is mixed with lime applied to wounds against snakebite.                        |
| 31 | <i>Ocimum americanum</i> L. (Lamiaceae)                     | Jangle Tulsa | Leaves        | Powder of dried leaf with butter is used for snake bite.   |
| 32 | <i>Opuntia elatior</i> Mill. (Cactaceae)                    | Nagaphani    | Root          | Paste of root is applied on wounds in snakebite.   |
| 33 | <i>Ougeinia oogeinsis</i> (Roxb.) Hockhr. (Fabaceae)        | Tinsa        | Bark          | Bark power and curd are mixed to prepare a paste is applied twice a day for swelling in snakebite. |
| 34 | <i>Sarcostemma viminale</i> (L.) R.Br. (Araceae)            | Somvel       | Leaves        | Paste of leaf is applied on wounds for dog bite and snakebite.                                     |
| 35 | <i>Senna occidentalis</i> (L.) Link. (Caesalpiniaceae)      | Kasmudi      | Seed          | Paste of seed is applied on against snakebite.   |
| 36 | <i>Senna tora</i> (L.) Roxb. (Caesalpiniaceae)              | Pumadiya     | Root          | Paste of root is applied on wound against snakebite.   |
| 37 | <i>Sterculia urens</i> Roxb. (Sterculiaceae)                | Kullu        | Root          | Extract of roots is given orally against for snakebite.  |
| 38 | <i>Tamarindus indica</i> L. (Caesalpiniaceae)               | Imali        | Seed          | Paste of seed is applied on wounds as antidote to cure snakebite.                                  |

## CONCLUSION

The present study of the ethno medicinal plants for anti-snakebite that carried out during 2020-2021. The ethno medicinal plants used against snakebite by tribal people of Dhar district, Madhya Pradesh. The present paper observation 38 plant species belonging to 29 genera and 24 families, which were identified as being used for treatment of snakebite. The indigenous knowledge of the tribal communities must be properly documented and preserved so that their knowledge could be passed on the future generation.

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