



# Ethnomedicinal plants of Bhupdeopur Reserve forest used for the treatment of venoms

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## Abstract

Bhupdeopur reserve forest is located in District Raigarh Chhattisgarh. The tribal community lives in the area are Gond, Kanwar, Dhanwar, Sanwara, Bhaina, Khadiya and Uraon. Many of the plants are used by tribal as medicine. In present study, survey was performed for documentation of ethnomedicinal plants and herbal drug preparation methods for the treatment of venoms. The information was collected with the help of questionnaires and personal interviews. The information regarding the drug preparation and administration was gathered from 160 Baidhyas and Baigas of 16 villages in Bhupdeopur reserve forest area of district Raigarh, Chhattisgarh. The drug was found to be prepared from independent plant or from plant parts in combination. In some of the drugs other ingredients were also noticed to be mixed for the drug preparation. Most of the drugs were prepared by using traditional methods like mortar and pestles. Ethnomedicinal plants belonged to 25 families were found to be used by tribal for the treatment of Venoms. The largely used plant part as medicine against venoms were Roots and Leaves while minimum used part was Bulb. The widely used method of drug preparation was 'Drying and Grinding' of plant parts. Drug preparation and administration method for the treatment of venom was documented.

**Keywords-** Ethnomedicinal plants, venom, Bhupdeopur reserve forest, drugs.

## Introduction –

In the intricate tapestry of the natural world, the existence of venomous creatures has long posed a formidable challenge to human societies. The enigmatic creatures, ranging from snakes and spiders to scorpions and marine organisms, wield potent venom as their defensive or predatory arsenal. The intricate biochemistry of venoms, composed of an intricate cocktail of proteins, peptides, and enzymes, has evolved over millions of years to

incapacitate or kill prey, making venomous bites and stings a source of mortal peril for humans and other animals alike. Throughout human history, the battle against venomous enigmas has been relentless. Indigenous cultures and traditional healers in various parts of the world have turned to the bountiful array of medicinal plants for respite from the potentially lethal effects of venom. These age-old practices, steeped in traditional wisdom, have yielded a treasure trove of remedies that harness the natural world's healing potential. In recent decades, as scientific inquiry has delved deeper into the intricacies of venom and the therapeutic properties of medicinal flora, a fascinating convergence of ancient wisdom and modern science has emerged. The allure of medicinal plants, which have been integral to humanity's pharmacopeia for millennia, now holds promise as a critical component in the quest to develop effective treatments for venomous bites and stings. This thesis embarks on a journey through the lush landscapes of Ethno-medicine, traditional healing practices, and contemporary scientific exploration to elucidate the potential of medicinal plants in countering venomous enigmas. It seeks to unravel the intricate interplay between the natural world and the human quest for survival, health, and well-being. Through a multidisciplinary approach that combines Ethno-botany, pharmacology, and molecular biology, this study endeavours to shed light on the therapeutic efficacy of medicinal plants against venomous assaults.

## **Materials and Methods –**

In the chapters that follow, we will exploring the wealth of botanical resources that indigenous cultures have long relied upon to mitigate the devastating effects of venom. We will delve into the mechanisms through which these medicinal plants act on venom components, seeking to unlock the secrets that could pave the way for innovative venom antidotes and therapies. We So far have discovered Medicinal Plants belonging to 25 families. The remedies and data for the treatment of the Venom are given in (Table 1).



**Table-1: Medicinal plants used by the Tribals of Bhupdeopur Reserve forest area of district Raigarh for health security.**

S. no.	Name of the disease	Botanical name of the plant	Vernacular name of the plant	Family	Habit	Plant Parts used
1	Scorpion bite	<i>Albizia lebeck (L.) Benth.</i>	siris	FABACEAE	Tree	Root
		<i>Alangium salvifolium Linn. f.</i>	Thelkajani	ALANGIACEAE	Herb	Root
		<i>Celastrus paniculatus Willd</i>	Kujur	CELASTRACEAE	Shrub	Dried seeds
		<i>Cirtus aurantifolia (Christm) Swingle</i>	Van Nimbu	RUTACEAE	Tree	Seeds (kernel)
		<i>Citrullus colocynthis (L.) Schrad.</i>	Indrayan	CUCURBITACEAE	Herb	Root
		<i>Curcuma amada Roxb.</i>	Jungli Haldi	ZINGIBERACEAE	Herb	Leaves
		<i>Datura metel L.</i>	Dhatura	SOLANACEAE	Shrub	Leaves
		<i>Madhuca indica J.F. Gmel.</i>	Mahua	SAPOTACEAE	Tree	Root
		<i>Mucuna pruriens (L.) DC.</i>	Kewanch	FABACEAE	Climber	seeds
		<i>Rubia cordifolia Linn.</i>	Mangita	RUBIACAE	Climber	fresh leaves
		<i>Tamarindus indica Linn.</i>	Imli	FABACEAE	Tree	Seed
S. no.	Name of the disease	Botanical name of the plant	Vernacular name of the plant	Family	Habit	Plant Parts used
2	Snake bite	<i>Abrus precatorius Linn.</i>	Ratti	FABACEAE	Shrub	Root, Bark
		<i>Alangium salvifolium Linn. f.</i>	Thelkajani	ALANGIACEAE	Herb	Leaves

		<i>Albizia lebbbeck (L.) Benth.</i>	Siras	FABACEAE	Tree	Leaves
		<i>Andrographis paniculata (Burn)</i>	Bhuineem	ACANTHACEAE	Herb	whole plant
		<i>Butea monosperma (Lam) Taub</i>	Palas	FABACEAE	Tree	Seeds, Bark
		<i>Citrullus colocynthis (L.) Schred.</i>	Indrayan	CUCURBITACEAE	Herb	fruit,Root
		<i>Cleroderdrum inerme (L.) Gaertn.</i>	Bharangi	VERBENACEAE	Herb	leaves
		<i>Euphorbia thymifolia Linn.</i>	Choti Dudhi	EUPHORBIACEAE	Herb	whole plant
		<i>Ficus religiosa Linn.</i>	Peepal	MORACEAE	Tree	fresh root
		<i>Gloriosa superba Linn.</i>	Jhagdaphool	LILIACEAE	Herb	fresh root
		<i>Rauvolfia serpentina (L.) Benth. ex Kurz</i>	Sarpagandha	APOCYNACEAE	Shrub	whole plant
		<i>Thevetia peruviana (Pers.) K. Schum.</i>	Kaner	APOCYNACEAE	Tree	whole plant
		<i>Vertiveria zizanioides Linn.</i>	Brini	POACEAE	Herb	whole plant
<b>S. no.</b>	<b>Name of the disease</b>	<b>Botanical name of the plant</b>	<b>Vernacular name of the plant</b>	<b>Family</b>	<b>Habit</b>	<b>Plant Parts used</b>
3	Spider bite	<i>Ocimum sanctum Linn.</i>	Tulsi	LAMIACEAE	Herb	Leaves

Research Through Innovation

## Results & Findings -

### 1. Scorpion Bite

#### a. *Albizia lebbek* (L.) Benth. (Siras)-

- (i) Its root's bark, seeds and flowers are grinded to form powder. This powder is given with cow's urine, thrice a day. It cures all types of illness due to any types of poison.
- (ii) Its root, bark, leaves, flowers and seeds are grinded in cow's urine and applied the paste on affected area. It cures all type of venom effects.

The cost of treatment per episode is noted Rs. 30.

#### b. *Citrus aurantifolia* (Christm.) Swingle (Nimbu)- 9gm kernel of lemon seeds with 8gm. Rock salt is taken and given this to the patient. It eliminates the venom from body. The cost of treatment per episode is noted Rs. 20.

#### c. *Citrullus colocynthis* (L.) Schrad.(Indrayan)- Betel leaves & Root of *Citrullus* when chewed continuously the venom effect get destroyed. The cost of treatment per episode is recorded Rs. 30.

#### d. *Alangium salvifolium* Linn. f.(Ankol)- 15g root of Ankol is taken and prepared its decoction in 2 litre water. Strained the solution and at an interval of 15 minutes, given 50ml decoction with 50g heated ghee to the patient. It causes vomiting and stools which eliminates the poison from the body. This help in mellowing down the impact of poison. After this the decoction of Neems inner bark is prepared and added 2 ½ g tie bid root powder in it. Given this decoction to the patient. The cost of treatment per episode is told Rs. 70.

#### e. *Curcuma amada* Roxb.(Haldi)- Leaf paste of 3gm is mixed with a glass of water is taken orally twice, also apply the paste on the affected part. The cost of treatment per episode was recorded Rs.15

#### f. *Datura metel* L.(Dhatuara)- Applied the cake of its leaves on the affected area. The cost of treatment per episode is recorded Rs.20.

#### g. *Madhuca indica* J.F. Gmel. (Mahua)- Root paste with that of *Diospyros melanoxylon* Roxb. is applied externally. The cost of treatment per episode is recorded Rs. 20.



- h. *Tamarindus indica* Linn. (Imli)-** The seed is rubbed on a stone with few drops of water and paste is applied in the stinged part. The cost of treatment per episode is told Rs.10
- i. *Mucuna pruriens* (L.) DC.(Kewanch)-** seed paste is applied. The cost of treatment per episode is recorded Rs. 10.
- j. *Rubia cordifolia* L. (Manjita)-** Either fresh leaves of *Rubia cordifolia* L.is directly consumed by the person or fresh leaves are crushed and extract is taken in one teaspoon with pinch of black salt in every half an hour interval. The poison of scorpion is excreted from the body. The cost of the treatment is recorded Rs. 25/- episode
- k. *Celastrus paniculata* (Willd.)(Peng)(Malkangani)-** The dried seeds of *Celastrus paniculata* (Willd.) are grinded and paste is formed with little water. Paste is applied in stung part of the body, for twice in one hour. The cost of treatment is recorded Rs. 20/- episode .

## 2. Snake Bite

- a. *Albizia lebbek* (L.) Wild .(Siras)-**
  - (i) Its root's bark, seeds and flower are grinded to form powder. This powder is given with cow's urine, thrice a day. It cures all types of illness due to any types of poison.
  - (ii) Its root, bark, leaves, flowers and seeds are grinded in cow's urine and applied the paste on affected area. It cures all type of venom effects.  
The cost of treatment per episode is noted Rs. 30.
- b. *Citrullus colocynthis* (L.) Schrad.(Indrayan)-** 3 g powder of its root is given with betel leaf. The cost of treatment per episode is noted Rs.20
- c. *Euphorbia thymifolia* Linn.(Choti dudhi)-** Its 15g leaves are grinded and mixed with 5 pieces of black pepper. This is given to the patient who has been bitten by snake. It nullifies the venom immediately. The cost of treatment per episode is told Rs. 15.

- d. ***Thevetia peruviana* (Pers.) K. Schum.(Kaner)**- 250mg of its root bark or 2 leaves is repeatedly given to the patient, after a short interval. It causes patient to vomit, and in this way poison is released from the body. The cost of treatment per episode is told Rs.25.
- e. ***Alangium salvifolium* Linn. f.(Ankol)**- 15g root is taken and prepared its decoction in 2 litre water. Strained the solution and at an interval of 15 minutes, given 50ml decoction with 50g heated ghee to the patient. It causes vomiting and stools which eliminates the poison from the body. This help in mellowing down the impact of poison. After this prepare decoction of Neems inner bark and add 2 ½ g tie bid root powder in it. Give this decoction to the patient. The cost of treatment per episode is told Rs. 70.
- f. ***Butea monosperma* (Lam.) Taub.(Palas)**- The bark or seed decoction is taken once. The cost of treatment per episode is noted Rs.20.
- g. ***Clerodendrum inerme* (L.) Gaertn.(Bharangi)**-
- (i) 1tsp. of fruit/ root extract is taken through nose the patient vomits out the poison. Overdose is fatal. This treatment gives complete relieve in our hour of the snake bite.
  - (ii) Beside this Baidyas take leaves of *Madhuca indica* J.F. Gmel. and rub over the snake bite poison from top to bottom for 5-10 times, this also give relief in case of snake bite.
- The cost of the treatment is recorded Rs.120/ episode.
- h. ***Ficus religiosa* Linn.(Pipal)**- In case a medical practioner is not available, for immediate treatment, 2 tea spoon full juice of its leaves is given, 3 times. The leaves are also given to the victim to chew. It reduces the impact of venom. The cost of treatment per episode is recorded Rs. 15.
- i. ***Vetiveria zizanioides* Linn. (Khas) *Abrus precatorius* Linn. (Gunja)**- The whole plant of *Vetiveria zizanioides* Linn. and *Abrus precatorius* Linn. are crushed with water to remove extract. One teaspoon of extract is taken with hot water in every half an hour interval, it gives relief in case of snake bite. The cost of treatment per episode is told Rs. 25.
- j. ***Gloriosa superba* Linn.(Jhagrini)**- Fresh roots of *Gloriosa superba* Linn. is chopped into small pieces and boiled with water and filtered in cotton mesh, filtrate is mixed with sugar/ jiggery. One teaspoon of this decoction is given

with one tea spoon of ghee, in interval of one hour. Snake poison is completely getting removed with in 2 hours. The total cost of treatment is noted Rs. 70/- episode.

- k. ***Andrographis paniculata* (Burm. f.) Wall. ex Nees(Bhuineem) and *Rauwolfia serpentina* (L.) Benth. ex Kurz (Sarpagandha)**- An equal quantity of *Andrographis paniculata* (Burm.f.)Wall.ex Nees. plant and fresh roots of *Rauwolfia serpentina* (L.) Benth. ex Kurz is crushed with water to make paste. One part of paste is used directly while second part is boiled with water for 15 minutes. One cup of this decoction is taken and paste is applied over the snake bite part of the body. Simultaneously baidya perform snake bite test by giving the fresh leaves of *Rauwolfia serpentina* (L.) Benth. ex Kurz for chewing. If it tastes bitter then poison has completely excreted from the body and if it does not taste bitter the poison is in the body. The cost of treatment per episode is noted Rs. 50.

### 3. Spider bite

- a. ***Ocimum sanctum* Linn.(Tulsi)**- The leaf juice mixed with turmeric is applied to remove the poison. The cost of treatment per episode is noted Rs. 40.

### Conclusion –

In conclusion, the study of medicinal plants used for the treatment of venomous bites and stings is a journey that unites the wisdom of the past with the promise of the future. It calls upon us to tread carefully, to honour the traditions of indigenous cultures, and to strive for a harmonious coexistence with the enigmatic creatures that share our world. It challenges us to continue exploring the potential of nature's pharmacy with unwavering dedication and ethical responsibility. In doing so, we may unlock not only new remedies for venomous enigmas but also a deeper understanding of the intricate connections between humans, nature, and the healing power of the plant kingdom.

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