



ISSN (E): 2320-3862

ISSN (P): 2394-0530

[www.plantsjournal.com](http://www.plantsjournal.com)

JMPS 2022; 10(1): 139-143

© 2022 JMPS

Received: 28-09-2021

Accepted: 30-10-2021

**Dr. Shivamanjunatha MP**

Principal Investigator,

Aapyam Institute of Indigenous

Science and Research,

Bangalore, Karnataka, India

## Antidote: Medicinal plants

**Dr. Shivamanjunatha MP**

### Abstract

Plants are the sources of food, shelter and also medicine from the ancient time. Ethno medico botanical studies reveals the traditional, folklore and native practices about the medicinal uses of plants to treat the various ailments of human beings as well as domestic animals. Ethno medico botanical survey was conducted at Kanakapura taluk of Ramanagara district of Karnataka state of selected villages and hamlets from September 2019 to January 2022. Study was focused to document the medicinal plants and formulations, preparations and administrations of medicine by the Lambani, Eruliga tribal and other villagers. This research paper contain a twenty nine medicinal plants used as an antidote for snakebite, scorpion sting, insect bite, etc. Traditional herbal drug formulations and preparation is documented. Scientific evaluation of these plants through preclinical and clinical study is recommended after standardization these traditional and valuable medicinal procedure to serve the society.

**Keywords:** antidote, medicinal plants, tribal medicine

### 1. Introduction

Medicinal plants are the major sources of natural drugs used to treat the various ailments and also the sources for discovery of new drug for modern scientific community to serve the society. The active principles present in the plants are responsible to cure the diseases or prevent the diseases and enhance the health system. The medicinal plants having these property can be identified through systematic documentation of traditional, indigenous medicinal knowledge through ethno medico botanical studies. This study is an important tool for protection, conservation of botanical species and documentation of preparations, formulations and mode of administrations of herbal drugs. A report from WHO stated that nearly 80% of the world's population in developed and developing countries depends directly or indirectly on traditional medicine to treat various ailments<sup>[1-2]</sup>. The usage of medicinal plants as a traditional medicine is well known in rural areas as well as among the urban population<sup>[3-4]</sup>. The indigenous peoples of different localities have developed their own specific knowledge of botanical sources to use as a medicine<sup>[5]</sup>. There is a lot of interest from the last few decade to study the traditional system of medicine from different parts of the world<sup>[6]</sup>. The traditional herbal medicinal knowledge has been well documented, approximately 8000 medicinal plant species are found to have ethno medicinal importance<sup>[7]</sup>. Snake bites, scorpion sting, insect bite etc. are considered as an unexpected and also emergency threats to the human life especially in rural area where their daily activities are closely associate with nature. Snakebite is an important medical problem in both developing and developed countries<sup>[8-9]</sup> Snakebite is a major health hazard that leads to the mortality<sup>[10]</sup>. There is a feeling in many quarters that tribal medicine is not based on any pharmacological experiment or scientific testing<sup>[11]</sup>. But The plants which are used as an antidote are easily accessible to these peoples locally and they were prepare and formulate easy and administer to handle the emergency situation at minimum cost as a preventive and as well as curative medicine.

The research study was conducted in the selected villages and hamlets, where the Eruliga, Lambani tribal and other villagers having the knowledge of medicine to treat various ailments including the human beings and domestic animals. The study area is Kanakapura taluk of Ramanagara district of Karnataka state, India. This research paper contains Twenty nine medicinal plants exclusively used as an antidote for snake bite, scorpion sting, insect bite, bee stings, dog bite etc. The vast knowledge about the selection of medicinal plants and formulations are start declining due to ignorance, lack of faith due to modernization of society as the time passes. The present study is a positive steps to document the indigenous traditional

**Corresponding Author:**

**Dr. Shivamanjunatha MP**

Principal Investigator,

Aapyam Institute of Indigenous

Science and Research,

Bangalore, Karnataka, India

knowledge for sustainable utilization and further scientific investigation for standardization of natural drugs, pre-clinical and clinical study to serve the society.

## 2. Material and Methods

This research study was carried at the selected villages and hamlets of Kanakapura taluk of Ramanagara district of Karnataka state, India, from September 2019 to January 2022. During this ethno medico botanical study, information was collected from the local peoples specially Eruliga, Lambani tribal and rural peoples, having the knowledge of indigenous medicine in the study area. Documented the plant species which are used as a medicine and parts used as a raw drug, formulations, preparations and mode of administration. Classify the medicinal plants which are used to treat various ailments and sorted out only the medicinal plants which are being used as an antidote for snake bite, scorpion sting, insect bite, honey bee sting, caterpillar sting, rat bite and dog bite.

The plants are collected from the field, morphological characteristics are noted on spot and identified by their vernacular names with the help of medicine man. Collected plant specimens are tagged in the field. Selection of officinal part of the plants and adjuvants which are being used for preparations, formulations and application drug as an antidote are documented. The collected specimens are scientifically identified with the help of local and regional floras [12-17]. Herbarium has been prepared and deposited in AIISR Bangalore. Botanical specimens are arranged alphabetically according to the scientific name. Data about the family, habit, part used and antidote for different creatures, formulation, preparation and mode of administration was documented. Statistical analysis was done and documented in the table and graphs.

## 3. Results

**Table 1:** Enumeration of plant species

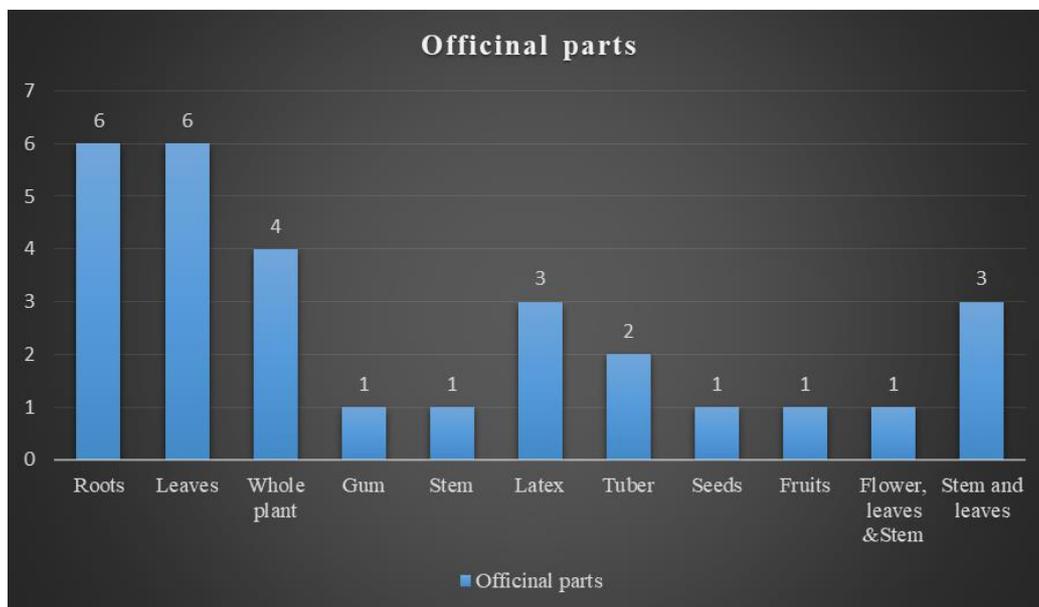
Sl. No	Botanical name	Family	Part used	Antidote for	Formulations and application
1.	<i>Achyranthes aspera</i> Lin	Amaranthaceae	Root	Scorpion sting	5 grams of dried roots are pounded, decoction is prepared by boiling in 200ml of water, reduced to 50 ml and cooled, filtered and administered internally about 20ml of filtrate decoction for scorpion bite
2.	<i>Albizia lebbek</i> (L.) Benth.	Mimosaceae	Flower	Snake bite	Fresh flowers juice or dried flowers aqueous decoction of about 20 ml is administered internally.
			Stem	Snake bite	Aqueous decoction of dried stem bark acts as an antidote for snake poison
			Leaves	Snake bite	Fresh leaves are grounded with little quantity of water and paste is applied on snake bite
3	<i>Andrographis serpyllifolia</i> (Vahl) Wight	Acanthaceae	Whole plant	Snake and insect bite	Aqueous decoction of whole fresh plant with pepper and garlic is administered to domestic animals as an antidote for Snake and insect bite.
4	<i>Anogeissus latifolia</i> (Roxb.ex DC.) Wall	Combretaceae	Gum	Scorpion sting	Gum is dissolved in minimum volume of cow urine and apply externally as an antidote in case of scorpion sting.
5	<i>Aristolochia indica</i> linn	Aristolochiaceae	Whole plant	Snake bite	Whole fresh plant paste is applied externally on snake bite and also about one gm. of fresh root is macerate with water and administered orally
6	<i>Boerhaavia diffusa</i> Linn	Nyctaginaceae	Root	Rat bite	Dried root powder with honey applied externally, removes the rat bite poison
7.	<i>Calotropis gigantea</i> (Linn) R.Br.	Asclepiadaceae	Latex	Snake bite	Latex is applied externally as an antidote for snake bite
8	<i>Canthium parviflorum</i> Lam.F.A	Rubiaceae	Leaves	Snake bite	2-3 grams of dried leaves powder is mixed with 15-20 ml of children's urine and given orally as an antidote for snake bite,
9	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Root	Scorpion sting	External dusting of filtered dried root powder act as an antidote for scorpion sting
10	<i>Carica papaya</i> L	Caricaceae	Latex	Scorpion sting	Latex is applied externally as an antidote for scorpion sting
11	<i>Cassia fistula</i> Linn	Caesalpinaceae	Roots	Snake bite	Coarse powder of dried root of <i>Cassia fistula</i> , Whole fresh biomass of <i>Ichnocarpus frutescences</i> and coarse powder of dried stem bark of, <i>Tarenna asiatica</i> in equal quantity is boiled with water to prepare decoction in the 1:4 ratio. Reduce the decoction up to ¼ .20 ml. of filtrate is administered orally
12	<i>Citrullus colosynthesis</i> (L.) Schraders	Cucurbitaceae	Root	Snake bite	2 gms of dried root powder mixed with 20 ml. of goat milk and given orally as an antidote for snake bite
13	<i>Citrus limon</i> (L.) Osbeck	Rutaceae	fruit	Snake bite	Dried stem bark and leaves of <i>Strychnos nux-vomica</i> is pounded into amorous powder and mixed with leaves and stem paste of <i>Cocculus hirsutus</i> . This whole mass is stuffed into lemon rind and leave it for a night and applied around the wound with the help of lemon rind.
14	<i>Cocculus hirsutus</i> Diels	Menispermaceae	Leaves and stem	Snake bite	Dried stem bark and leaves of <i>Strychnos nux-vomica</i> is pounded into amorous powder and mixed with leaves and stem paste of <i>Cocculus hirsutus</i> . This whole mass is stuffed into lemon rind and leave it for a night and applied around the wound with the help of lemon rind.
15	<i>Croton bonplandianus</i>	Euphorbiaceae	Latex	Scorpion	External application of watery latex on scorpion sting is

	Baill.			sting.	act as an antidote.
16	<i>Datura metel</i> Linn	Solanaceae	Seeds	Dog bite	Seeds and lime 1:3 ratio are macerate and apply externally on spot of bite.
17	<i>Dioscorea pentaphylla</i> L	Dioscoreaceae	Tubers	Worm bite	Tubers is made into paste and applied externally for swelling due to poisonous worm bite.
18	<i>Euphorbia tirucalli</i> L	Euphorbiaceae	Leaves	Scorpion sting	1-15 gms of scally leaves are squashed with a pinch of common salt. Paste is apply externally as an antidote for scorpion sting.
19	<i>Gloriosa superba</i> L.	Colchicaceae	Tuber	Snake bite and scorpion sting	Tuberous root paste is applied externally as an antidote for snake bite and scorpion sting to relieve pain and poison
20	<i>Hyptis suaveolens</i> Poit	Lamiaceae	Leaf	Honey bee sting	Leaf paste of <i>Hyptis suaveolens</i> and <i>Ruta graveolens</i> in 1:1 ratio is applied externally as an antidote in case of honey bee sting.
21	<i>Ichnocarpus frutescences</i> (L.) R.Br	Apocyanaceae	Whole plant	Snake bite	Coarse powder of dried root of <i>Cassia fistula</i> , Whole fresh biomass of <i>Ichnocarpus frutescences</i> and coarse powder of dried stem bark of <i>Tarenna asiatica</i> in equal quantity is boiled with water to prepare decoction in the 1:4 ratio. Reduce the decoction up to ¼ .20 ml. of filtrate is administered orally
22	<i>Nelumbo nucifera</i> Gaertner	Nelumbonaceae	Leaf	Scorpion sting	Fresh leaf juice is applied on scorpion sting. It acts as an antidote.
23	<i>Peristrophe bicalyculata</i> (Retz.) Nees	Acanthaceae	Leaf	Scorpion sting	Leaves are grounded into paste without water. Leaf paste is applied externally as an antidote for scorpion sting
24	<i>Portulaca oleracea</i> L	Portulacaceae	Whole plant	Caterpillars sting	Fresh plant paste is applied externally on caterpillars sting to reduce the pain
25	<i>Ruta graveolens</i> L.	Rutaceae	Stem and leaves	Snake bite	Tender stem and leaves are pounded and macerate with children's urine. Squeeze this paste and extract is filtered. Filtrate of about 10-15 ml is given orally as an antidote for snake bite.
26	<i>Strychnos nux-vomica</i> L.	Loganiaceae	Stem and Leaves	Snake bite	Dried stem bark and leaves of <i>Strychnos nux-vomica</i> is pounded into amorous powder and mixed with leaves and stem paste of <i>Cocculus hirsutus</i> . This whole mass is stuffed into lemon rind and leave it for a night and applied around the wound with the help of lemon rind.
27	<i>Tarenna asiatica</i> (L.) Kuntze ex K.Schum	Rubiaceae	Stem	Snake bite	Coarse powder of dried root of <i>Cassia fistula</i> , Whole fresh biomass of <i>Ichnocarpus frutescences</i> and coarse powder of dried stem bark of <i>Tarenna asiatica</i> in equal quantity is boiled with water to prepare decoction in the 1:4 ratio. Reduce the decoction up to ¼ .20 ml of filtrate is administered orally
28	<i>Tephrosia purpurea</i> (L.) Pers.	Fabaceae	Leaves	Ants bite	Macerate a fresh leaves with watery butter milk and apply the paste on the bite of Ants. It works as an antidote.
29	<i>Tylophora astmatica</i> W. & A	Asclepiadaceae	Root	Snake bite	2 gms of fresh root is macerate and mixed with 50 ml of goat milk and administered internally for snake bite it act as an antidote.



**Graph 1:** Habit of documented medicinal plants

Herbs-11 numbers, Trees-8 numbers, Twinners -6 numbers, Shrubs-3 numbers and Climber-1 number



**Graph 2:** Official parts of medicinal plants

X-axis is official parts, Y -axis represents the number of species.

#### 4. Discussion

Total Twenty nine medicinal plants are documented (Tab.1). Family Acanthaceae, Asclepiadaceae, Euphorbiaceae and Rutaceae consist of each two species. Other twenty one family consist of each one species. Herbs are eleven in number, out of that 6 are erect herbs, 3 are prostrate herbs and one is prostrate herb with tendril (*Citrullus colosynthesis*), another one is aquatic herb (*Nelumbo nucifera*). Trees are eight in number, twinners are six in number and one is with tendril (*Gloriosa superba*), shrub are three in number and climber is one in number (Graph.1). During formulation of herbal medicine, single raw drug material derived from one or more plant sources of different parts are used (Graph. 2). Roots and leaves are in highest usage found in this study. Eight plants are used to treat as an antidote for scorpion sting (Tab.1; Sl. no1, 4, 9, 10, 15, 18, 22 and 23), thirteen plants for Snake bite. (Tab.1; Sl.no 2, 5, 7, 8, 11, 12, 13, 14, 21, 25, 26, 27 and 29). There is a one plant each, used as an antidote for insect sting, rat bite, dog bite, worm bite, honeybee, caterpillar and ant bite, respectively (Tab.1; Sl no.3, 6, 16, 17, 20, 24 and 28). There is one plant without any additive and same formulation is used as an antidote for both scorpion sting and snake bite (Tab.1; Sl.no19). One plant formulation along with additives for both snake bite and insect sting for domestic animals (Tab.1; Sl.no 3). During preparations and formulations of herbal medicine, goat milk is used as an additives for two preparation, children urine for two, cow urine for four, lime, butter milk, common salt and honey as an adjunctive. Water based preparation is common and in one preparation pepper and garlic are used as an adjunctives. Twenty formulations used to apply externally and eleven formulations are administered internally as an antidote. One herbal formulation consist of different part and is used to apply externally and other one for internally.

#### 5. Conclusions

The Study reveals the traditional and folklore use of medicinal plants used as an antidote for various poisonous bite and sting. Scientific evaluation of these medicinal plants and formulations, preparations and application as an antidote

has a great advantage to save the lives. So standardization of herbal medicine through pharmacognosy and pharmacology of these documented plants as an antidote is recommended for future research.

#### 6. Acknowledgement

Author is thankful to the informant of the study area and special thanks to INSA, New-Delhi for funding to conduct the research work.

#### 7. References

1. Azaizeh H, Fulder S, Khalil K, Saïdo. Ethno medicinal Knowledge of local Arab Practioners in the middle East Region. *Fitoterapia*. 2003;74:98-108.
2. Prabhu M, Kumar AR, Rajamani K. Influence of different organic substances on growth and Herb yield of sacred basil (*Ocimum sanctum*). *Ind. J Agric. Res.* 2010;44(1):48-52.
3. Teron R, Borthakur SK. Folklore claims of some medicinal plants as antidote against poisons among the Karbis of Assam, India. *Pleione*. 2013;7(2):346-356.
4. World Health Organization (WHO). *Traditional Medicine Fact sheet No, 2008, 134.*
5. Alexiades MN. *Advances in Economic Botany*. Vol. 10. Bronx: Selected Guidelines for Ethno botanical Research: A Field Manual. The New York Botanical Garden, 1996.
6. Rossato SC, Leitao-Filho-Filho H, Gegossi. A Ethnobotany of Caicaras of the Atlantic forest coast (Brazil). *Economic botany*. 1999;53:387-395.
7. Anonymous. *Ethnobiology in India: A status report of all India Co-ordinated Research Project on Ethnobiology*, Ministry of Environment and Forests, Government of India, New Delhi, 1994.
8. Williams D, Gutierrez JM, Harrison R, Warrell DA. The Global Snake Bite Initiative: An antidote for snakebite. *Lancet*. 2010;375:89-91.
9. Omale James, Ebiloma Unekwojo Godwin, Idoko Grace Otini. In vivo neutralization of naja Nigricolis venom by uvaria chamae. *American Journal of Biochemistry and Biotechnology*. 2013;9(3):224-234.
10. Kuntal Das. Medicinal Plants for Snake Bite Treatment - Future Focus, *Ethnobotanical Leaflets*. 2009;13:508-21.
11. Vijaya P, Ranjani R, Rao MR, Sudarsanam G.

- Identification of antidote medicinal plants against snake venom - a field survey. *International Journal of Medicine and Pharmaceutical Sciences (IJMPS)*. 2013;3(5):21-32.
12. Ramaswamy SV, Razi BA. *Flora of Bangalore District, Prasaranga, University of Mysore, Mysore, 1973.*
  13. Saldana CJ, Nicolson DH, Ramamoorthy TP. *Flora of Hassan District, Karnataka. India. Amerind Pvt, Ltd. New Delhi, 1976.*
  14. Saldana CJ. *Flora of Karnataka vol I, Oxford and IBH, New Delhi, 1982.*
  15. Saldana CJ. *Flora of Karnataka II, Oxford and IBH, New Delhi, 1996.*
  16. Seetharam YN, Kottreshi K, Uplaomkar SB. *Flora of Gulbarga District (First edition) Gulbarga University, Gulbarga, 2000.*
  17. Ramaswamy SN, Radhakrishna Rao M, Govindappa D. *A Flora of Shimoga District, Karnataka (first edition) Prasaranga, University of Mysore, Mysore, 2001.*