

## Herbal remedies for Snake bites in Ethnic practices of Chittoor District, Andhra Pradesh

### ABSTRACT

*The present study expresses the Age Old Traditional Treatments for Snake Bites in Chittoor district of Andhra Pradesh. Tribal people of this area have authentic information about antidotes for poisonous bites. They have been using different plant parts like leaves, fruits, flowers, seeds, stem bark, tubers and roots as antidotes in the form of paste, powder, juice, infusion, decoction, and in crude form. These plant parts are some times mixed with other additives like goat milk, butter milk and urine of infants. The present study brought to light the unrevealed age old treatments for poisonous snake bites in general and some particular snake bites. This study consist 32 species belonging to 23 families.*

**G.Penchalapratap**<sup>1</sup>  
**Dr. G. Sudarsanam**<sup>2</sup>  
**Dr. Reshmi Pushpan**<sup>3</sup>  
**Dr. G. P. Prasad**<sup>4</sup>

### INTRODUCTION

Now Ethno botany is becoming a well established science due to increasing realization of health hazards and toxicity caused by synthetic drugs. Almost 80% of people in developing countries depend on traditional medicines for primary health care, most of which are derived from the plants. The village folk, especially the tribal people are still using the natural resources available in their surroundings to treat many diseases and accidental hazards and anomalies. Though they believe in tantra and mantra in case of snake bite they are using both mantra and administration of plant drugs. The tribal inhabitants of this area are Chenchus, Yerukulas, Sugalis or Lambadis and Yanadis or Irulas tribal groups. They have been living in thick forest zones from immemorial days and frequently met with snake bites. To overcome these accidental hazards, generation to generation they strived hard to evaluate the therapeutic efficacy of many herbs and the successful stories passed on to the successors. Now these tribes have the treasure of good therapeutically valuable information for snakebites.

These tribal people also have the knowledge to recognize the bite weather it is poisonous or not. For this they give *Azadirachta indica* L. leaves juice orally to the patient, if he tastes it as bitter then the tribes decide the bite as non poisonous. If the patient is unable to taste it then the bite is confirmed as poisonous and suitable drug is used as antidote. This traditional knowledge of phyto therapy is very authentic by using potential medicine from plants. Potential hill pockets of Tirumala, Chittoor district of Andhra Pradesh are the main source for vast flora of medical plants. For the present study tribal people, especially the elders who crossed 60 years, village or that tribal pocket head or the tribal physician of those particular pockets were selected. During the initial study survey was conducted to identify the suitable person(s) who as the knowledge of herbs used for snake bites. To get adequate and proper information village head was met and explained about the purpose of visit and requested for co-operation. Many times village heads became the key person, who led the way to introduction to other knowledgeable informants. These people provide the local names and information of plants which were used along with the method of preparation and administration for poisonous bites.

### MATERIALS AND METHODS

Before the commencement of plant exploration trips several interviews were conducted in tribal gudems (villages of the

representative hotspots in the study region). Mostly the elder people (about 60 years age or above), preferably gramapedda or peddamanishi (village leader), were involved in the interviews. The information regarding the dosage of crude drug, purpose of usage, mode of preparation and administration was carefully recorded in audiotapes as well as field notebooks. During this study 'the information on 30 medicinal plants used as antidotes for poisonous bites was gathered by speaking and by accompanying with tribal people in fields. The voucher specimens for each species was collected in quadruplicates, which were carefully tagged with field numbers after making a critical observation on the habit, habitat, colour and odour of flowers, phyto-association, occurrence and other relevant ecological features, which cannot be discerned from dried herbarium specimens.

The tribal people accurately recognize the flowering and fruiting periods. This is recorded in the field notebooks along with vernacular names and relevant information on their utility. The collected specimens were poisoned by dipping the whole twig in ethyl alcohol solution, saturated with mercuric chloride. Immediately with the help of forceps the poisoned specimens were placed in- between the blotting papers, fixed in iron pressers, later followed by shade dry. After 12 hours, the blotting papers were changed and the specimens were spread properly. Some of the leaves were placed facing dorsal and some facing ventral to show the characters on both surfaces.

These specimens were placed in other blotting papers and fixed until the specimens dried. Flowers and fruits of important and interesting plants were immersed in formalin-acetic acid- alcohol (FAA) in specimen tubes for further studies and reference. In the case of succulents the plant parts were sliced longitudinally and poisoned. Special care was taken for the aquatic and small herbaceous plants. Among

<sup>1</sup>Scholar in department of Botany, Sri Venkateswara University, Tirupati, Chittoor (Dst), Andhrapradesh.

<sup>2</sup>Dept. of Botany, S.V. University, Tirupati, Chittoor (Dt), A.P

<sup>3</sup>Senior Physician, Arya Vaidya Chikitsalayam and Research Institute, Coimbatore.

<sup>4</sup>Research officer (Ay), Regional Research Institute, IGMS complex Labbipeta, Vijayawada

the four collected specimens of each sample, two specimens were pasted on herbarium mount boards and the remaining two were utilized for further studies and exchange. The well poisoned, pressed and dried specimens were pasted on herbarium sheets (28"x42") with the help of natural glue and well stitched according to standard methods (Jain and R.R. Rao, 1977). Labels containing all relevant information viz., name of the plant, family, locality, altitude, date of collection, notes as in field book and collector's name were affixed on the right hand bottom corner of the herbarium sheets. Field accession number was labeled for each collected specimen and the same was provided in the systematic enumeration (followed by vernacular name).

The specimens were identified with the help of Gamble's "Flora of Presidency of Madras" (1915-35) and other

local/regional floras, recent monographs using salient features, recorded in field notebooks. The identification was further confirmed by the comparison with that of authenticated specimens, housed at Sri Venkateswara University Herbarium (SVU, Tirupathi), Madras Herbarium (MH, Coimbatore), Central National Herbarium (CNH, Kolkata). The specimens were deposited in 'SVU', Sri Venkateswara University Herbarium, Tirupathi. The nomenclature of identified specimens was updated by consulting the recent floras on South India (Saldanha and Nicolson, 1976; Nair and Henry, 1983; Bennet, 1987; Henry et al., 1987, 1989; Pullaiah and Chennaiah, 1997). The enumeration of plants is followed as per Bentham and Hooker system of classification following the arrangement in the flora of Presidency of Madras (Gamble & Fisher, 1957).

### ENUMERATION

1	<i>Achyranthes aspera</i> L. (Amaranthaceae) Its fruits are pounded to get rice like grains. These grains are boiled in water to make paste. This paste is taken orally with leaf paste in marble dose as antidote for Pit viper bite.
2	<i>Alangium salvifolium</i> (L.f) Wanger in Engler (Alangiaceae) About 20-30 gr. of coarsely grounded root bark is soaked in one glass of water (200-300ml.) for one day. The filtered infusion, about 15-20 ml, is mixed with, about 10gr., ghee and is administered orally as an antidote for Cobra bite.
3	<i>Albizia lebbek</i> (L.) Willd. (Mimosaceae) 10-15 ml. of leaf juice is administered internally as antidote to Pit viper bite.
4	<i>Allium sativum</i> .L (Lilliaceae) Early leaf buds about 5 and inflorescence about 10 gr. are grinded to paste is administered orally as antidote for Cobra bite.
5	<i>Andrographis paniculata</i> (Burm.f.) Wall. (Acanthaceae) Oral administration of leaf powder, about 15 gr., is a good antidote for Cobra bite.
6	<i>Annona squamosa</i> L. (Annonaceae) About 50 ml. of bark infusion with little quantity of black goat milk is administered orally as antidote for Pit viper bite.
7	<i>Aristolochia bracteolata</i> Lam. (Aristolochiaceae) About 15 gr. of paste prepared from unripen fruits with black pepper seeds is administered orally as antidote for Cobra bite..
8.	<i>Aristolochia indica</i> L. (Aristolochiaceae) About 15 gr. of root paste is directly administered orally as antidote for Cobra bite..
9.	<i>Bacopa monnieri</i> (L.) pennell. (Scrophularaceae) About 30 ml, infusion prepared from shadily dried root powder is administered orally as antidote for Cobra bite.
10	<i>Calotropis gigantea</i> (L.) R.Br. (Asclepiadaceae) Root paste about 15 gr. is administered orally as antidote for Cobra bite.. More than this quantity causes unconciousness.

11	<i>Cissampelos pariera</i> L. var. (Menispermaceae) Oral administration of, about 15 gr. of root paste and externally keeping of same preparation on the sight of bite work as an antidote for <i>Bungarus fasciatus</i> bite.
12	<i>Corollo carpus epigaus</i> Hook. (Cucurbitaceae) Dried tuberous root of this plant, root of <i>Aristolochia indica</i> and whole plant of <i>Andrographis paniculata</i> are pulverized. From this about 15-20 gr. of powder is administered orally, for every four hours after the snake bite up to 2 days is a good remedy for <i>Cobra</i> bite.
13	<i>Crotalaria verrucosa</i> L. (Fabaceae) Seeds paste, about 10 gr., is administered orally as a antidote for <i>Russell Viper</i> bite.
14	<i>Datura metel</i> L. (Solanaceae) 1. Oral administration of Infusion prepared from dried leaves and stem bark, about 30 ml, works as an antidote for <i>Cobra</i> bite. 2. Fruit pulp, about 15 gr., is administered orally with hot goat milk works as antidote for <i>Bungarus caeruleus</i> bite.
15	<i>Dichrostachys cinerea</i> (L.) Wight. (Mimosaceae) Oral administration of infusion, about 50 ml, from bark powder works as antidote for <i>Cobra</i> bite.
16	<i>Diplocyclos palmatus</i> (L.) Jeffrey. (Cucurbitaceae) Tuberous root powder with <i>Sapindus emarginatus</i> fruit pulp powder in equal quantities, about 15 gr., is administered orally for <i>Cobra</i> bite.
17	<i>Enicostema axillare</i> (Lam.) A. (Gentianaceae) Paste of whole plant, about 15-20gr., is administered orally as a best antidote for <i>Russell Viper</i> bite. .
18	<i>Evolvulus alsinoides</i> (L.) L. (Convolvulaceae) Oral administration of root paste, about 5-10 gr., Mixed with 30 ml, of urine of infant is a good remedy for <i>Cobra</i> bite.
19	<i>Gymnema sylvestre</i> (Retz.) R. Br. (Periplocaceae) Oral administration of ,about 10 gr., root paste with garlic paste, about 10 gr., is a good antidote for <i>Pit viper</i> bite.
20	<i>Helicteres isora</i> L. (Sterculiaceae) Oral administration fruit powder, about 10 gr., with 50 ml of bark infusion is a good remedy for <i>Russell Viper</i> snake bite.
21	<i>Hygrophila auriculata</i> (Schum.) Heine. (Acanthaceae) Oral administration of seed paste, about 10 gr., is administered orally with hot black goat milk works as an antidote <i>Cobra</i> bite.
22	<i>Justicia simplex</i> D. Don.; Prodr (Acanthaceae) Leaf juice, about 15-20 ml, is administered orally and keeping of leaf paste externally on the sight of snake bite work as an antidote for <i>Cobra</i> bite.
23	<i>Leucas aspera</i> (Willd.) Link, Enum. (Lamiaceae) Oral administration of root paste, about 15 gr., with one ounce cow urine is a best remedy for <i>Cobra</i> bite.
24	<i>Madhuca indica</i> J.(Sapotaceae) Oral administration of , about 50 ml., decoction prepared from fruits of <i>Madhuca indica</i> and <i>Mimusops elengi</i> works as an antidote <i>Pit viper</i> bite.
25	<i>Mimosa pudica</i> L. (Mimosaceae.) Root paste about 15 gr., is administered orally and also root is Kept as an amulet work as an antidote for <i>Pit viper</i> bite.

26	<i>Pentanema indicum</i> (L.) (Asteraceae) Leaf juice, about 10-15 ml, and root paste, about 15 gr., are administered orally work as an antidote for Russell Viper bite.
27	<i>Plumbago zeylanica</i> L. (Plumbaginaceae) Oral administration of root paste, about 15 gr., with leaves and black pepper powder works as an antidote for Cobra bite.
28	<i>Randia dumetorum</i> Lam. (Rubiaceae) About 50 ml., root bark infusion is administered orally as an antidote for <i>Bungarus caeruleus</i> bite.
29	<i>Sansevieria roxburghiana</i> Schult. & Schult. f. (Ruscaceae) Oral administration of rhizome paste, about 15 gr., is an antidote for Cobra bite.
30	<i>Tylophora indica</i> (Burm.f.) Merr. (Periplocaceae) Oral administration of leaf juice causes vomiting with snake bite poisons of Cobra and <i>Bungarus caeruleus</i> .
31	<i>Tinospora cordifolia</i> (Willd.) Miers. (Menispermaceae) Unripen fruit paste mixed, about 15 gr., with urine of infant is administered orally for Cobra and Pit viper bites.
32	<i>Wattakaka volubilis</i> (L.F) (Asclepiadaceae) Oral administration of root paste, about 15gr., with leaf juice, about 40 ml., is a best antidote for <i>Bungarus fasciatus</i> bite.

## DISCUSSION AND CONCLUSION

The present study denotes The Age Old Traditional Treatments for Snake Bites in Chittoor district of Andhra Pradesh. The main theme of this study is to protect the people from hazardous snake bites with in a reliable time. The tribal inhabitants of Chittoor district area have authentic knowledge on antidotes for snake bites based on their ancient culture and ethnic practices. The present study brought to light the immense hidden knowledge of Tribal people on poisonous bites of Cobra, *Bungarus fasciatus*, *Bungarus caeruleus*, Russell Viper, Pit viper snakes consisting 32 species belonging to 23 families. They have been employing all these plants in the form of paste, powder, juice, decoction, infusion and also in crude form. Some of these tribal pockets claim no deaths of snake bites, till date, by administering their ethnic medicines. The majority of antidotes taste bitter, suggesting the presence of alkaloids, glycosides and saponins. Based on the present study and field experiences it can be concluded the detailed scientific experiments are urgently needed to evaluate the efficacy of these antidotes.

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