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Review Article

PLANTS USED AS ANTIVENIN BY TRADITIONAL HEALERS OF RAYALASEEMA REGION, ANDHRA PRADESH

G.MeeraBai

Department of Botany, Rayalaseema University, Kurnool-518007, A.P. India.

*For Correspondence:
Department of Botany, Rayalaseema University, Kurnool-518007, A.P. India.

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ABSTRACT

The success of venom healer's is vaguely understood due to concealed nature of their practice. The present study deals with the phytotherapeutic properties of certain anti-poisonous crude drugs used by the traditional healers in rural areas of Rayalaseema region, Andhra Pradesh. The current study revealed 56 plant species belonging to 32 families of angiosperms are used to treat against various bites and stings. Among them 40 species of 25 families for various snake bites; 13 species of 12 families for scorpion stings; 4 species of 4 families for mad dog's bite; 4 species of 3 families for Rat's bite; 3 species of 3 families for bandicoot bite are reported.

KEY WORDS: Antivenin, Venom healers, Phyto therapy, Crude drugs, Rayalaseema region, Snake bites, Scorpion stings, Dog's bite.

INTRODUCTION

Poisonous bites are a major health hazards that lead to high mortality and great suffering in victims. Their remedies are of interest since they may have recognizable curative or noxious effects. The study of the interaction between plants and people is invaluable in discovering new herbal medicines and plant derived drugs. However, the bright antivenin plant reports in new antivenom development are a challenge in drug discovery. The critical review of literature(Kirtikar and Basu, 1935; Jain,1991; Rama Rao and Henry, 1996; Reddy et al., 1996; Imam et al., 2003 and
Johnson et al., 2008) revealed that very few attempts were made on crude drugs used for poisonous bites and stings. According to Bethwell et al. (2006) this isperceptibly a rich area to explore. Antony et al. (2010) mentioned that it is our responsibility to identify, cultivate and culture ecofriendly herbs for the alleviation of human death against snake bite. Igoli et al. (2011) said that these studies are important because they succeed in documenting and preserving traditional knowledge on the use of medicinal plants for posterity and stimulate further studies or research in the scientific community. Abhijit et al. (2013) quoted that human death due to scorpion sting is not a very common phenomenon, severe pain and inflammatory reactions are common associated symptoms and cause a number of physiological disturbances. They present a pioneer effort to document the pharmacological investigations of medicinal plants used for the scorpion sting. Theshort-term goals of the current study are aimed at conserving the ethno medicalknowledge and availing to the scientific world plant therapies used as antivenin.

STUDY AREA

The study was carried out in rural areas of Rayalaseema lies in the Southern part of Andhra Pradesh.

Geographically it is located between 12° 30 ' and 16° 15 'N latitudes and 76° 55' and 79 °55' E longitudes, covering 24% 0f the total area of the state. It receives mean annual rainfall of about 625 mm and the temperature ranges from 20° – 35° c. It comprises of Anantapur, Kadapa, Chittoor and Kurnool districts with Nallamalai and Yerramalai hill ranges. Dry deciduous and scrub forests are predominated.

METHODS

Studies are conducted in broad ethnobotanical studies interviewing lay persons and specialist traditional practitioners over a period of one year i.e. 2008-2009. Knowledgeable members of the society were chosen with aid of local members and local administration. Local members are requested to list all known herbalists in their neighborhood and carry out pooled list. The listed traditional healers interviewed.Healers are asked to state common names of plants, medicine preperation and its mode of use. Data collection imposed re-turn visits and performed walks in which samples of the herbal medicines are observed and collected. Voucher specimens are collected, prepared and identified with the help of local floras (Gamble, 1935; VenkataRaju and Pullaiah, 1995).

ENUMERATION

The collected drug yielding plants are systematically analyzed and enumerated in an alphabetical order. Plant species that are in use for common snake bites, cobra bites, scorpion stings, bandicoot bites and mad dog's bite are tabulated with their common names, family, part used, purpose and mode of administration.

Table: **Plants used as antivenins in rural areas of Rayalaseema for various bites and stings**

S.No.	Common Name	Botanical Name	Family	Part used	Purpose	Mode of administration
1	Nallathumma	Acacia nilotica(L.)Del. ssp.indica(Benth.) Brenan	Mimosaceae	L	Snake bite &Scorpion sting	Paste or juice apply externally
2	Vasa	Acoruscalamus L.	Araceae	Rhi	Scorpion sting	Extract applies externally
3	Uttareni	Achyranthusaspera L.	Amaranthaceae	L	Scorpion sting	-do-
4	Ankola, Ooduga	Alangiumsalvifolium (L.f.) Wangerin	Alangiaceae	L	Mad dog's bite	-do-
5	Kandala	Albiziathomsonii Brandis	Mimosaceae	Ro	Cobra bite	Extract gives orally into stomach
6	Nelavemu	Andrographispaniculata (Burm.f.) Wallich ex. Nees	Acanthaceae	Ro	Snake bite	Paste applies externally
7	Gadidagadapa	Aristolochiabracteolata Lam.	Aristolochiaceae	L & Ro	Snake bite	-do-
8	Eswari	A.indica L.	-do-	Ro	Cobra & Viper snake bite	-do-
9	Nallapedamala	Benkaramalabarica (Lam.) Tirven	Rubiaceae	Ro	Snake bite	-do-
10	Gaccha	Caesalpinia crista L.	Caesalpi-naceae	Co Ro	Scorpion Sting&Mad dog's bite Snake bite	-do-
11	Errajilledu	Calotropis procera (Aiton) R.Br.	Asclepiadaceae	Ro	Scorpion sting	-do-
12	Rela	Cassia fistula L.	Caesalpinaceae	B	Cobra bite	Extract gives orally into stomach
13	Adavi bankateega	Cissampelospariera L.	Menispermaceae	L	Snake bite	Paste applies externally

14	Nimma	Citrus aurantifolia(Chr-iston) Swingle	Ruta-ceae	F	Rat's bite	Juice applies externally and orally
15	Naga donda	Corellocarpusepigeus (Rottler&Willd.) Clarke	Cucurbit-aceae	Ro	Snake bite	Paste applies externally
16	Kasi-budama	CucumistrigonusRoxb.	-d0-	L	Snake bite	-do-
17	Gummadi	Cucurbitapepo L.	-do-	Dpf	Scorpion sting	-do-
18	Pasupu	Curcuma longa L.	Zingiberac eae	Rhi	Bandicoot Bite & Cobra bite	Powder paste applies externally along with goat's urine
19	Lingadonda	Diplocyclospalmatus (L.)	Cucurbita ceae	T.ro.	Snake bite	Paste applies externally
20	Guntagalaga ra	Eclipta prostrate (L.)	Astera-ceae	L	Snake bite	-do-
21	Kali	Euphorbia tirucalli L.	Euphorb-iaceae	La	Mad dog,s bite	Latex applies externally
22	Vishnu krantha	Evolvulusalisinoides (L.) L.	Convolv-ulaceae	L	Snake bite & Scorpion sting	Paste applies externally
23	Inguva	Ferula asafetida L.	Apiace-ae	Re	Viper snake bite	Resin gives orally into the stomach
24	Pullelaka	Flacourtia indica(Burm.f.)Merr.	Flacourt-iaceae	Ro	Snake bite	Paste applies externally
25.	Patti	Gossypiumsps.	Malvace-ae	S	Snake bite	-do-
26	Thanaka or Gonji	Glycosmispentaphylla (Retz.)R.Br.ex Roemer &Schultes	Rutace-ae	L	Snake bite	-do-
27	Adavijanga	GrewiadamineGaertner	Tiliac-eae	L	Snake bite	-do-
28	Podapatri	Gymnemasylvestre (Retz.)R.Br.ex.Roemer&Sch ultes	Asclepia-daceae	Ro	Snake bite & Scorpion sting	-do-
29	Chiriveru	Hedyotispuberula (G.Don)Arm	Rubiace-ae	Ro	Snake bite	-do-
30	Kodisa pala	Holarrhenapubescens (Buch.Ham.) wall.ex.G.Dan	Apocy-naceae	Ro	Cobra bite	Extract gives Orally
31	Ratna purusha	Hybanthusenneaspermus(L.)F. Muell.	Viola-ceae	S L	Snake bite	Paste applies externally
32	Nepalamu	Jatrophacurcus L.	Euphor-biaceae	Co Ro	Snake bite Russel's viper	Paste's apply externally
33	Velaga	Limoniaacidissima L.	Rutace-ae	Ro	Rat's bite	-do-
34	Thummi	Leucasaspera (Willd.) Link.	Lamiace -ae	L	Snake bite	-do-
35	Mamidi	Mangiferaindica L.	Anacar-diaceae	Ge	Snake bite	-do-
36	Munaga	Moringaoleifera Lam.	Moring-aceae	B	Snake bite	-do-

37	Rudrajada	Ocimumbasillicum(L)	Lamiace-ae	L	Scorpion bite	-do-
38	Dustapaku	Pergulariadaemia(Forsk.)chiov	Asclepia-daceae	L Ro	Mad dog's bite Cobra bite	-do- Gives orally with goats urine
39	Chitra moola	Plumbagozeylanica L.	Plumba-ginaceae	Ro	Russel's viper	Paste applies externally
40	Kanuga	Pongamiapinnata(L.) pierre	Fabace-ae	S	Scorpion bite	-do-
41	Bokkina-ku	Phyla nodiflora(L) Greene	Verbenac eae	L	Scorpion bite	-do-
42	Amudam	Ricinuscommunis L.	Euphor-biaceae	L	Snake bite	-do-
43	Pedda Nagamalle	Rhinacanthusnasutus (L.) Kurz	Acantha-ceae	Ro	Snake bite	-do-
44	Kunkudu	Sapindustrifoliata L.	Sapinda-ceae	Co	Scorpion bite	-do-
45	Palajamu-du	Sarcostemma acidum (Roxb.)J.Voigt	Asclepia-daceae	L	Snake bite	-do-
46	Naga mushti	Strychnos colubrine L.	Logani-aceae	Ro	Viper's bite	-do-
47	Vishamu-shti or Mushini	S. nux-vomica L.	-do-	B Ro	Snake bite Rat's bite	-do- -do-
48	Vamu	Trachyspermumammi (L.)Turrile	Apiace-ae	S	Bandicoot bite	Extract gives orally
49	Tippa-teega	Tinosporacordifolia (Willd.)Miersex.Hook.f. & Thomson	Meni-Sperma-ceae	Ro L	Rat's bite Russel's viper bite	-do- Paste applies externally
50	Penneru gadda	Withaniasomnifera (L.)Dunal	Solana-ceae	T ro	Bandicoot bite	-do-
51	Jeddapala or Palavareni	Wrightiatinctoria (Roxb.) R.Br.	Apocy-naceae	Ro	Scorpion bite & Snake bite	Paste applies externally

L – leaves; Rhi. – rhizome; Ro – roots; Co – cotyledons; B – bark; F – fruit; Dpf – dried pericarp of fruit; Tro – tuberous root; La – latex; Re – resin; S – seed: Ge – gum exudatewhile fruit plucking.

DISCUSSION AND CONCLUSION

Thirty to forty thousand people die worldwide by snake bites. Of these about 25,000 people die in India, mostly in rural areas (Kuntal Das, 2009).Bites and stings in rural areas are commonly treated with plant extracts. Antivenom serum has limitations. So, the world is looking for an alternative for snake bite treatment. Till date the natural herbal remedies are only showing promising expectations and no suitable alternative measures are available (Antony et al., 2010).

Vishavaidya is one branch of traditional healing, popular in Kerala for the bites of snake, dog and stings of scorpion; spider etc. includes herbal treatment (Latha et al. 2012). Results of various screening tests have shown that there is still a lot to discover from medicinal plants (Harvey, 2002; Rouhi, 2003;Newman et al., 2003; Inder Kumar &Devang, 2010; Igoli et al., 2011). Reports on traditional phytotherapy against scorpion sting are available from various countries of the world. Hutt and Houghton (1998) have provided a list of ethno botanicals used against scorpion bite. Abhijit et al. (2013) reviewed and presented a pioneer effort to document the pharmacological investigations of medicinal plants used for the purpose. All these herbal drugs either control infection, improve symptoms, correct imbalance, adjust immune system and boost energy for better health and quality of life. In view of the number of deaths caused by snake bite, particularly where anti-venom is not readily accessible, the cheap remedies suitable for emergency treatment is important.

Thecurrent study revealed 56 plant species belonging to 32 families of angiosperms are used to treat against various bites and stings. Among them 40 species of 25 families for various snake bites; 13 species of 12 families for scorpion stings; 4 species of 4 families for mad dog's bite; 4 species of 3 families for Rat's bite; 3 species of 3 families for bandicoot bite are revealed.

This usage is influenced by the existence of an inadequate biomedical health system, cost effectiveness and cultural acceptability of plant based therapies. Generally the acquiesce among users indicates these plants have protective activity when administered.

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