

## **Traditional herbal medicine used to treat Scorpion bites (Scorpion sting) of Vijayapur (Bijapur) district of Karnataka, India**

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### **Abstract**

An ethno-medicinal plant species survey of Vijayapur district of Karnataka comprising 13 tehsil was conducted during March 2018 to February 2020. The purpose of this survey was to document the Ethno- medicinal plant species to treat scorpion bite. The present study was initiated with an aim to identify Ethno-medicinal plant species resources from traditional practitioners of Vijayapur district. There are about 25 species belonging to 24 genera and 18 families were found to be used treat scorpion bite.

**Keywords:** traditional herbs, scorpion bite, vijayapur, Karnataka

### **Introduction**

A scorpion sting is caused by the stinger in a scorpion's tail. When a scorpion stings, its stinger can release venom. The venom contains a complex mix of toxins that affect the nervous system (neurotoxins). Scorpion stings are painful but rarely life-threatening. Symptoms are Slight swelling, pain, Difficulty breathing, Sweating, Nausea and vomiting, Accelerated heart rate (tachycardia), High blood pressure (hypertension), Muscle twitching or thrashing, Unusual head, neck and eye movements, Drooling. People of rural area unable to reach city hospital as early as possible. Traditional herbal medicines are and easily available. Ethnomedicine deal with traditional health care which encompasses the knowledge, skill, methods practices concerning healthcare. The present study was initiated with an aim to identify Ethno- medicinal plants resources from traditional practitioners of Vijayapur district to treat scorpion bite.

### **Material and Methods**

#### **Ethnobotanical data collection**

Ethno- medicinal plants survey conducted on March 2018 to February 2020 in Vijayapur district. For this, frequent field trips were made to 50 villages belonging to all 13 tehsil was of the district. Sixty-two traditional practitioners (60 men and 2 women) Data and information recorded in the standard questionnaire. Prior Informed Consent (PIC).

#### **Voucher specimen collection and identification**

Collected data and information include, Vernacular name of traditionally used medicinal plants, part used, method of preparation and dosage. Medicinal plant species were photographed in the field. Plant specimens were identified consulting with experts, by referring Flora of Gulbarga District [6], three volumes of the Flora of Presidency of Madras [2]. The voucher specimens were stored at the herbarium centre, Department of post graduate studies and Research in Botany, Karnataka State Akkamahadevi Womens University, Vijayapur,

### **Data Analysis**

The collected data were organized and relative frequencies citation (RFC=FC/N) N is the total informant, FC is the Number of informants suggested same plant species for same medication is summarised in table and percentage were calculated for different plant parts were used to scorpion bite treatment. Fidelity Level (FL %)=( Ip/Iu) x100 Ip is number of informants who independently indicated the use of a species for the same major ailment, Iu is the total number of informants who mentioned the plant for any major ailment [5]. Are summarised in table and percentage were calculated for different plant parts were used to piles treatment.

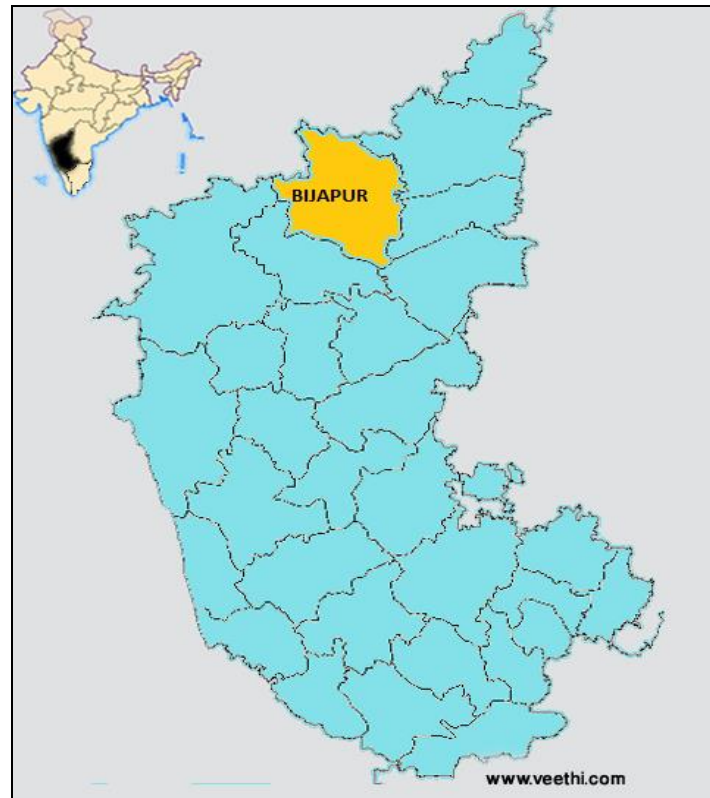
### **Study Area**

Vijayapur district is plain Deccan plateau, which is from 365-610 met height above sea level. This region is slope towards west to east. The river Doni, Krishna, Bheema, and their tributaries are flows according to the slope. The total area of Vijayapur district is 10,541 sq kms. There are thirteen talukas of Vijayapur district i.e., Vijayapur, Muddebihaal, Sindagi, Basavanbagevaadi, Indi, Talikote, Devara Hipparagi, Chadchan, Tikota, Babaleshwar, Kolhar, Nidagundi, Almel. Bordered by the Bheema River in the north and the River Krishna in the south. The district consists of the dry and arid tract of the Deccan Plateau. The temperature varies between 42 °C during summer and 15 °C during winter season respectively. In May mean maximum temperature is 40 °C. The climate of this region is arid, tropical and steppe type. The soil of Vijayapur district area is rich in content of basalt rock, magnetite, magnesium, aluminium and iron oxide. The Vijayapur district receives normal rainfall 578.0 mm and the vegetation of this region is mainly dry and deciduous and may broadly as vegetation on plains. The natural vegetation near Alamatti Dam area is like dry and hot having rich flora. Many local traditional practitioners collect the plants from this area to cure the diseases.

## Result and Discussion

In the present account, 25 species belonging to 24 genera and 18 families were reported for snakebite treatment. The predominant family is Fabaceae with 4 species followed by Malvaceae, Amaranthaceae, Liliaceae, Asteraceae, with 2 species each, other families with one species. Data obtained from the survey is compiled in Table 1. All plant species scientific name, family, local name, Habit, Part used and mode of administration are provided. Different plant parts were used scorpion bite treatment. Among these leaves were used (52%), followed by root (20%), fruit (4%), seed (4%), stem (5%) decreasing order. Among the reported plant species for snakebite treatment Relative frequency of citation (RFC) has calculated, the most frequently cited

species *tamarindus indica* (8.06), *Ocimum sanctum* (6.45), Remaining medicinal plant species were reported by less than two informants. However Ethnomedicine for scorpion bite medicine practice study in Vijayapur (Bijapur) [4] district has not been reported. In Western Ghats of Kolli hills there are 29 plant species using for snake bite [5], Paliyar's tribes of Sathuragiri hills using 23 plant species for scorpion bite. *Cassia fistula* is used for scorpion bite [7]. Tribes of Rahatgaon, Harda using seven plants for scorpion sting [1]. Most of the people dependent on traditional herbal medicine because availability of effective drug plants. Hence, these plants can be taken up for further pharmacological and clinical studies.



**Fig1:** Map of the study area

**Table 1:** Ethno-medicinal plant species used to treat scorpion bite of vijayapur (Bijapur) district

Scientific name	Family	Local/ Vern name	Habit	Part used	RFC	Mode of administration
<i>Abutilon indicum</i>	Malvaceae	Thrubi gida	Shrub	Leaves	3.22	Eat handful of leaves soon omitting occurs. Suggest take rest, after one hour take meal.
<i>Acacia arebica</i> HAWU1407	Fabaceae		Shrub	Leaves	1.61	One spoon leaf juice half spoon cow ghee taken orally
<i>Acacia catchu</i>	Fabaceae	Jaali	Tree	Leaves	1.61	Ground the leaves and apply on bite
<i>Achyranthus aspera</i>	Amaranthaceae	Utharani	Herb	Leaves	3.22	Leaves juice apply on bite
<i>Adathoda vasica</i>	Acanthaceae	Aadusoge	Herb	Root	1.61	Rubbed the root with cold water, apply on bite
<i>Alium sativum</i>	Liliaceae	Bellulli	Herb	Stem	3.22	Aply juice of garlic and suggest to take orally one spoonful
<i>Amaranthus gangaticus</i>	Amaranthaceae	Kiraksalige	Herb	Root or Leaves	1.61	Root juice taken orally or Leaves juice taken orally
<i>Aristolochia indica</i>	Aristolochiaceae	Ishwari	Climber	Leaves Root	1.61	1) Leaves rubbed taken orally 2) Root rubbed taken orally
<i>Azadirachta indica</i> Juss. HAWU1408	Meliaceae	Bevina gida	Tree	Leaves	1.61	1. Dried leaves smoked 2. Herbal healer should chew fist of leaves and in ear opposite side of bite
<i>Caesalpinia bonducella</i> HAWU1411	Caesalpinaceae	Gajagad gida	Shrub	Fruit	3.22	Rub the fruit and apply on bite

<i>Calotropis procera</i>	Ascepidaceae	Ekki gida	Shrub	Stem	3.22	Stem latex+ Jaggery+ Sesame oil mixed well and apply
<i>Curcuma longa</i>	Zingiberaceae	Arishina	Herb	Rhizome	3.22	Rhizome burn in fire and patient is made to be handle bite part just smoke coming out through
<i>Datura stremonium</i>	Solanaceae		Herb	Leaves	1.61	Juice of leaf applied on bite and keep coal above that
<i>Dolichos lablab</i>	Fabaceae	Avari	Climber	Leaves	1.61	Apply leaf juice on bite
<i>Euphorbia tirucalli</i>	Euphorbiaceae	Kalli	Shrub	Stem latex	3.22	Apply stem latex on bite
<i>Ferula narthex</i>	Apiaceae	Hing	Herb	Stem Latex	1.61	Pinch of ferula gum mixed with <i>Calotropis procera</i> latex and apply on bite
<i>Ficus recemosa</i> HAWU1409	Moraceae	Attimara	Tree	Stem latex	1.61	Stem is cut, the latex applied on bite
<i>Helianthus annus</i>	Asteraceae	sooryakanti	Shrub	Leaves	1.61	Apply the juice on bite and taken orally one spoonful.
<i>Ocimum sanctum</i>	Lamiaceae	Thulasi	Herb	Leaves	6.45	Leaves juice+ lemon juice or cow urine apply on bite
<i>Sida cordifolia</i>	Malvaceae	Bala	Herb	Root	1.61	Rub the root and apply on bite
<i>Syzygium cumini</i>	Myrtaceae	Nerala gida	Tree	Leaves	1.61	10 gm of leaves +Jiggery 10 gm kept in sunlight it changes to liquid form is taken orally
<i>Tamarindus indica</i> HAWU1410	Fabaceae	Hunase mara	Tree	Seed	8.06	Rub the seed until white part appears. The liquid apply on bite
<i>Tricholepis glaberrima</i>	Asteraceae	Brahmadandi	Herb	Root	1.61	Rubbed the root apply on bite also taken orally
<i>Urginea indica</i>	Liliaceae	Adavi ullagaddi	Herb	Bulb (Stem)	3.22	Bulb ground apply on bite
<i>Ziziphus jujube</i> HAWU14012	Rhamnaceae	Bare gida	Tree	Leaves	1.61	Fist of leaves+Ficus religiosa leaves ground and kept on bite, tie with cotton cloth

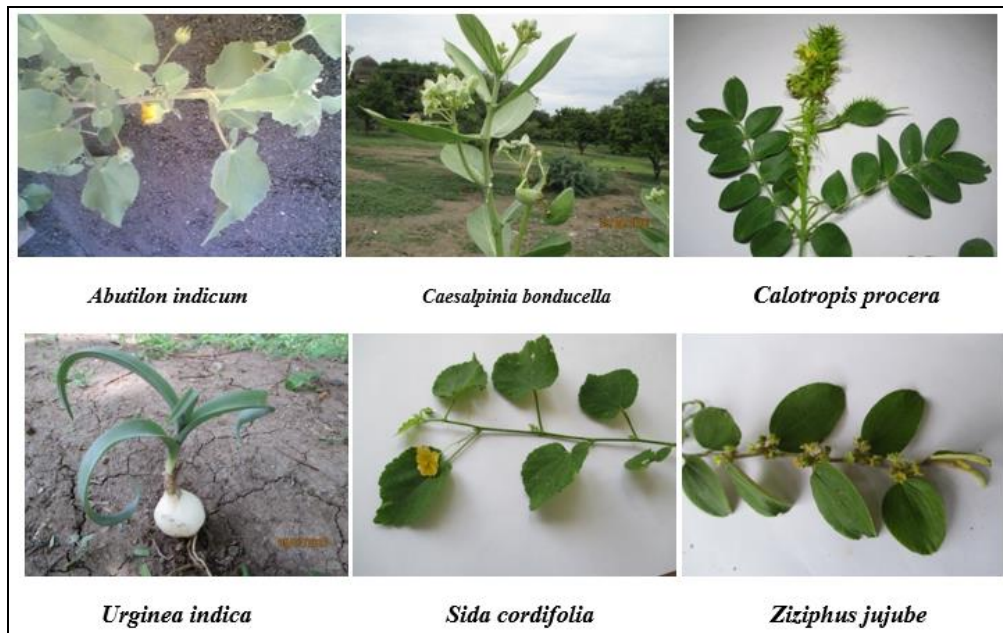


Fig 2: Ethnomedicinal plants Habitwise

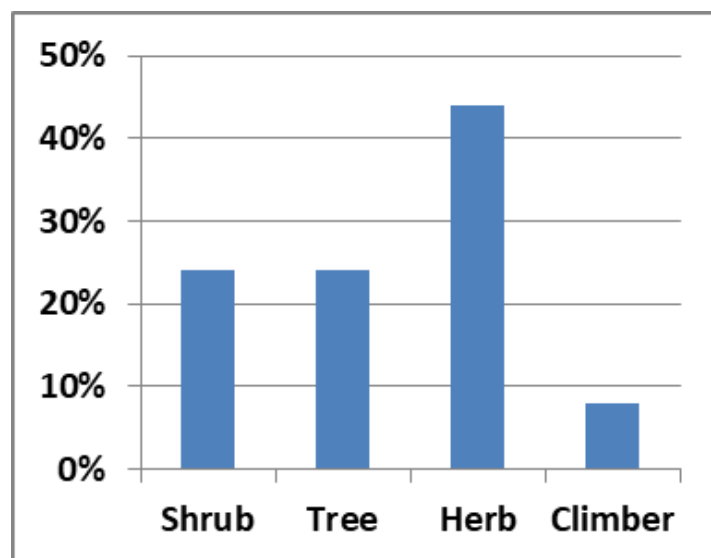


Fig 3

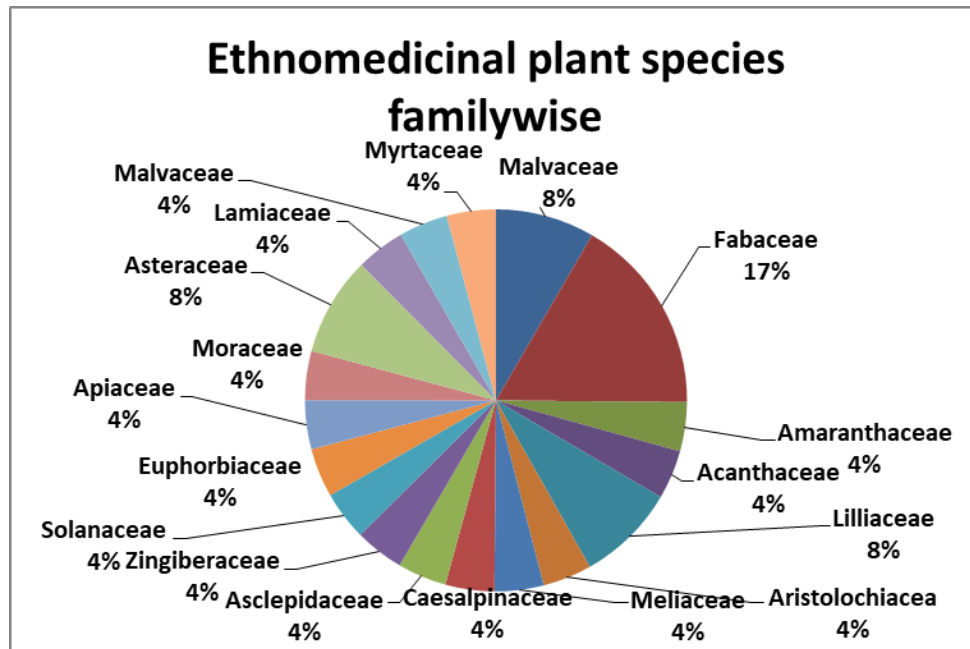


Fig 4

### Conclusions

Ethno- medicinal plants survey conducted on March 2018 to February 2020 in Vijayapur district. The main purpose of this survey was to document the traditional use of medicinal plants for scorpion bite treatment in vijayapur district. 25 species belonging to 24 genera and 18 families were found to be used. The scientific name, family, local name, habit along with part used and mode of their administration are provided. This traditional knowledge can transfer from one generation to generation. The study also suggested that the present information on medicinal plant species used for scorpion bite treatment by the traditional practitioners of Vijayapur district may be used for phytochemical and pharmacological research in future for the development of new sources of drugs.

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