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Ethno-medicinal plant species used for animal and insect bite (sting) of vijayapur (bijapur) district of Karnataka, India

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Abstract

An ethno medicinal plant species survey of the Vijayapur district of Karnataka comprising thirteen talukas was conducted from March 2018 to July 2021. The purpose of this survey was to document the Ethno medicinal plant species used for animal and insect bites. The present study was initiated with an aim to identify Ethno-medicinal plant species resources from traditional practitioners of the Vijayapur district. There are about 21 plant species of angiosperms belonging to 20 genera and 15 families were found to be used as animal and insect bites

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Introduction

Animal and insect bite is common in villages. Dog, Rat, Frog, Cat, Spider, Centipede and Honey bee bites explained in this paper. Bites can be identified by two puncture marks where they inject their venom into the skin. The area around the bite may become red and swollen. Pain, redness, and swelling begin immediately upon being bitten. These symptoms may last anywhere from several hours to several days Other symptoms may also occur and could indicate a severe allergic reaction, including extreme swelling at the site of the bite, chills, itching, extreme swelling at the site of the bite. People of rural area unable to reach city hospital as early as possible. Traditional herbal medicines are and easily available. Ethno medicine 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 animal and insect bite.

Material and Methods

Ethnobotanical Data collection

Ethno- medicinal plants survey conducted on March 2018 to July 2021 in Vijayapur district. For this, frequent field trips were made to 45 villages belonging to all 13 tehsils of the district. Thirty-two traditional practitioners (43 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 [8], 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.

Study Area

Vijyapur 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 10541 sq km. There are thirteen talukas of Vijayapur district i.e., Vijayapur, Muddebihaal, Sindagi, Basavanbagevaadi, Indi, Talikote, Devara Hipparagi, Chadachan, 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, 21 species of angiosperms belonging to 20 genera and 15 families were reported for animal and insect bite. The predominant family is Fabaceae with 5 species, followed by Solanaceae with 3 species, Amaranthaceae, Rutaceae, Lilliaceae, Acatnthaceae, Asclepidaceae, Apiaceae, Cucurbitaceae, Menispermaceae, Aristalochiaceae, Asteraceae, Convolvulaceae, Lamiaceae, Boraginaceae with one species each.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 piles treatment. Among these leaves were used (30.43%), followed by root (21.73%), stem (17.39%), seeds (17.39%), fruit (8.69%) and flower bud (4.34%) decreasing order. Among the reported plant species for animal and snakebite treatment. Relative Frequency of Citation (RFC) has calculated, the most frequently cited species is *Solanum xanthocarpum (*15.55), *Teprosia purpurea Alium sativum* (6.66). *Acacia arebica, Albizia lebbeck, Calotropis procera, Datura stremonium, Ipomea remiformis, Luffa achinata, Ocimum sanctum, Pimpinella heyneana, Pongamia pinnata, Sesamum indicum, Solanum nigrum, Trichodesma zeylanicum* (4.44). *Achyranthus aspera, Aristolochia indica, Cocculus hirsutus, Dichoma tomentosa, Indigofera tictoria, Limonia acidissima* (2.22). In Karnataka, Ethno medicine practice for snake and scorpionbite studies conducted in Chitradurga [3] and Tumkur [6] districts.In India ethnomedicinal plants to treat snake bite and scorpion bite practice documented in Rahatgoan Hard (1), Paliyar's tribes of Sathpur Hills [4], Eastern Ghats of Kolli Hills, Tamilnadu [7], Hingoli district of Maharastra [10] and [9]. However Ethno- medicine practice for animal and insectbite in Vijayapur (Bijapur) [5] district has been reported still. 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.

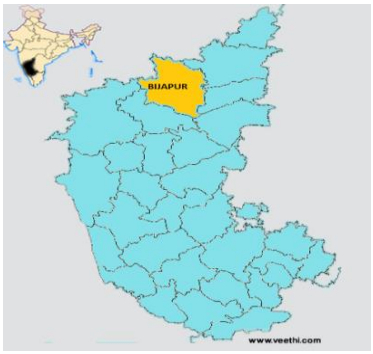

Fig 01: Map of the study area

Table 01: Ethno-medicinal plant species used for animal and insect bite of vijayapur (Bijapur) district

Scientific name	Family	Local/ Vern name	RFC	Habit	Part used	Animal/Insect	Mode of administration
Acacia arebica	Fabaceae	Jaali	4.44	Tree	Leaves	Dog	Leaves juice one spoonful cow ghee taken orally
Achyranthus aspera	Amaranthaceae	Utharani	2.22	Herb	Root	Rat	Seeds+Honey taken orally for seven days
					Seed	Dog	Seeds+Honey taken orally. Aloe vera and black salt mixed equal quantity apply on bite for three days
Alium sativum	Lilliaceae	Bellulli	6.66	Herb	Stem	Scorpion	Garlic juice apply on bite
					Stem	Dog	Clean the bite side with water. Apply garlic juice on bite and suggest to drink decoction of garlic
Albizia lebbeck	Fabaceae	Shirasal gida	4.44	Tree	Seed	Frog	Seeds ground with *Euphorbia tirucalli*, apply on bite
Aristolochia indica	Aristalochiacee	Ishwari	2.22	Shrub	Root and Leaves	Spider	1) Root rubbed and taken orally 2) Leaves ground taken orally
Calotropis procera	Asclepidaceae	Ekke	4.44	Shrub	Stem	Dog	Stem latex+jaggary+seesam oil apply on bite
Cocculus hirsutus	Menispermaceae	Dagadi balli	2.22	Herb	Root	Rat	Root+Jaggery ground and taken orally
Datura stremonium	Solanaceae	Madagunaki	4.44	Herb	Leaves	Rat	Juice of the leaves applied on bite keep charcoal on it

Dichoma tomentosa	Asteraceae	Navanandi	2.22	Herb	Root	Cat and rat	Rubbed the root apply on bite and ground the root taken orally
Indigofera tictoria	Fabaceae	Neeli gida	2.22	Under shrub	Leaves	Dog	Ground the leaves taken orally
Ipomea remiformis	Convolvulaceae	Ilikivi	4.44	Herb	Leaves	Rat	Leaves ground apply on bite. Aswal as taken two spoonful orally
Limonia acidissima	Rutaceae	Balaval kaayi	2.22	Tree	Seed	Rat	Seed oil is applied on bite
Luffa achinata	Cucurbitaceae	Bandal Devadal	4.44	Climber	Fruit	Rat	Fruit powder mixed in curd advice to drink.
Ocimum sanctum	Lamiaceae	Thulasi	4.44	Herb	Leaves	Rat	Leaves ground and apply on bite
Pimpinella heyneana	Apiaceae	Ajavan	4.44	Herb	Seed	Honey bee	Seeds ground with cow ghee apply on bite
Pongamia pinnata	Fabaceae	Honge gida	4.44	Tree	Stem	Rat	Rub the stem bark and seeds apply on bite
Sesamum indicum	Acanthaceae	Ellu	4.44	Herb	Flower bud	Spider	Flower bud and curcum rubbed and apply
Solanum nigrum	Solanaceae	Kaaki gida	4.44	Herb	Root	Dog	Rub the root apply on bite
Solanum xanthocarpum	Solanaceae	Nelagullu	15.55	Herb	Fruit	Dog	Ground the fresh fruit apply on bite, tie wet cottan cloth
Trichodesma zeylanicum	Boraginaceae	Ethina nalige	4.44	Herb	Leaves	Dog	Leaves burnt, ash stored in glass bottle. Apply with coconut oil on bite
Teprosia purpurea	Fabaceae	Koggi	6.66	Herb	Seed	Rat	Ground the seeds mix in glass of butter milk taken orally

Calotropis procera

Datura stremonium

Dichoma tomentosa

Limonia acidissima

Solanum nigrum

Trichodesma zeylanicum

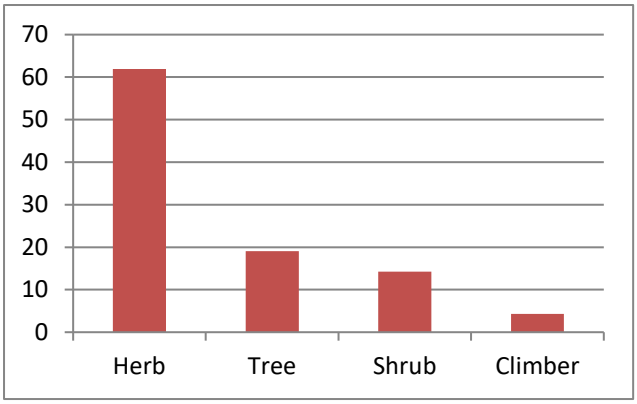

Fig 02: Habitwise plant species to treat animal and In sectbite

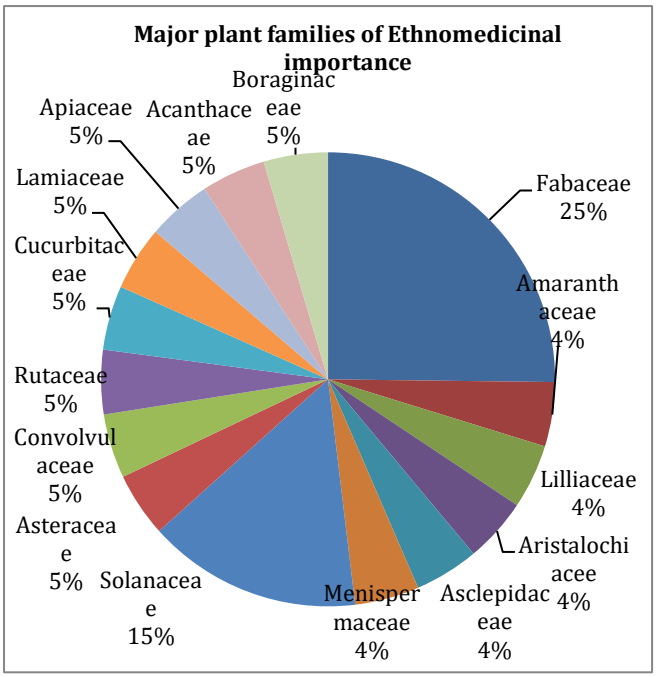

Fig 03: Major plant families of Ethno medicinal importance

Conclusions

Ethno- medicinal plants survey conducted on March 2018 to July 2021 in Vijayapur district. The main purpose of this survey was to document the traditional use of medicinal plants for animal and insect bite treatment in vijayapur district. 21 species of angiosperms belonging to 20 genera and 15 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 animal and insect 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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