



## Ethno-medicinal plant antidotes of Dapoli Tahsil, District Ratnagiri (M.S.)

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### Abstract:

The Villagers and tribal people of Dapoli tahsil are developed their indigenous traditional knowledge for sustainable use of medicinal plants. Especially in rainy season the snake and scorpion bite cases increases. In such rural areas, the primary treatment using herbs is given by the medicine men or Vaidoos. The efforts are made to detect the ethno-medicinal antidotes used by Vaidoos for the treatment of patients of snake and scorpion bite. Total 35 plant antidotes to snake-bite and scorpion-sting are reported. Out of 35 plant species, 1 species belong to Pteridophytes, 33 species from 31 genera in 21 families belong to dicotyledones while 01 species belong to monocotyledons. Out of 35 plant species, 26 plant species are used on snake-bites and 16 plants species are used on scorpion-sting. The analysis of the data indicates that about 72% plant roots and leaves are used as antidotes while 28% plant stems, seeds or fruits are used as antidotes.

**Key words:** Plant antidotes, tribal, Ethno-medicinal plants Scorpion and snake bite.

### Introduction

Dapoli Tahsil is completely hilly area, situated along the costal side of Arabian Sea. Dapoli is considered as Mini Mahabaleshwar due to environmental conditions and good natural vegetation. It lies between 17°4'-54" N. latitude and 73°10'-39" E. longitude and 250 M altitude. As per 2001 census the percentage of rural population was about 91.79% (Anonymous 2000-2001). The main occupation is farming. The people of rural area use various forest resources for medicinal and other purposes. Especially in rainy season the snake and scorpion bite cases increases. In such rural areas the primary treatment using herbs is given by the medicine men or Vaidoos. Generally near every village there is sacred grove, which is used for the collection of fresh medicinal plants. The sacred groves are living museums of plants and resources to carry out relevant research and also supply fresh medicinal plants to villagers (Vartak *et al.*, 1987).

In India, the plants used in folk medicine were reported by number of workers. Jain (1964; 1967a, b; 1968; 1981; 1986; 1987a, b; 1990; 1991a, b) streamlined the subject of Ethno-botany with his numerous books and research articles

Upadhye, *et al.* (2004) reported the threatened plant species of medicinal important from 102 sacred groves of Pune District. Vaidya and Dhupal (2004) documented 19 plant antidotes to snake bite, scorpion and other poisonous animal bites used by Koli tribe from Mahabaleshwar. Nagarkar and Ghate (2004) Evaluated occurrence, distribution and availability of locally and commercially used medicinal plants of Junnar taluka of Pune district. They listed 211 medicinal plants, out of these, 18 medicinal plants are collected commercial scale from the wild and trade to Mumbai, 42 medicinal plants are sold in local market. They also reported the medicinal uses of these plants. Masal and Dongare (2010) reported 19 pteridophytic plant species with their ethno-medicinal uses from Ratnagiri District of Maharashtra.

*The present study was conducted to know the antidote plants used by villagers and Karkari tribe of Dapoli tahsil.*

### Material and Methods

For present study Sadavli, Kudavale, Burondi, Bondivli, Karanjani, Murud and Pachavli were selected from Dapoli Tahsil of Ratnagiri district. The regular field visits were made to the selected areas during 2010-2012. During these surveys, the information of plants used for poisonous bite treatment was gathered by conducting interviews, discussions with herbalists or village bush doctors. The information obtained was crosschecked from other herbalists. Plants specimens with antidote value were collected either in flowering or fruiting stage. Further, specimens were processed as per routine herbarium techniques recommended by Jain and Rao (1977) and identified with the help of available literatures (Cook, 1958; Kulkarni, 1988; Sharma *et al.*, 1996; Singh and Karthikeyan,

2000 and Singh *et al.*, 2001). The herbarium specimens were compared with the standard herbarium of Botanical Survey of India, Western Regional Centre, Pune and deposited in herbarium of Research laboratory, Botany department, Dapoli Urban Bank Senior Science College Dapoli, Dist. Ratnagiri.

The data of listed plants used by villagers and tribal as antidotes are given in Table No. 1 with botanical name of the plant, family name, local name, part used and mode of application.

### Results and Discussion

The present study reveals that villagers and tribals from Dapoli area uses 35 plant antidotes on snake-bite and scorpion-sting. Out of 35 plant species, 33 species from 31 different genera of 21 different families belongs to dicotyledons while 01 species belongs to monocotyledons and 01 species belongs to Pteridophytes.

Total 26 plant species are used on snake-bite. Out of 26 species, 25 species of 25 different genera from 17 different families belongs to dicotyledons and 01 species belongs to monocotyledons.

Total 16 plant species are used on scorpion-sting. Out of 16 species, 14 species of 13 different genera from 13 different families belongs to dicotyledons, 01 species belongs to monocotyledons and 01 species belongs to Pteridophytes.

About 72 % of the listed plants, roots and leaves are used while 28% listed plants, stem and seeds or fruits are used as antidotes by the tribals and Vaidos from study area.

Table No. 1:

Ethno-medicinal plants for the treatment of snake and scorpion bites used by Tribal and Local people of Dapoli tahsil.

	Botanical Name of Plant	Family	Local Name	Part Used	Mode of Application
A)	Snake Bite				
1)	<i>Acacia pennata</i> (L.) Willd	Mimosaceae	Shembi	Bark	Bark extract is given orally.
2)	<i>Achyrathes aspera</i> (L.)	Amaranthaceae	Aghada	Leaves	Leaves paste is applied on bite portion.
3)	<i>Alstonia scholaris</i> (L.) R.	Apocynaceae	Satvin	Stem bark	Bark extract given orally and also applied on bite portion of body.
4)	<i>Aristolochia indica</i> L.	Aristolochiaceae	Sapsund	Leaves	The leaves juice is given orally as well as is applied on bite portion of body
5)	<i>Atalantia racemosa</i> wight	Rutaceae	Makadlimbu	Leaves	Leave juice given orally and leave extract applied externally.
6)	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Punarnava	Root	Root extract given orally.
7)	<i>Caesalpinia bonduc</i> Linn.	Caesalpinaceae	Gajaja / Sagargota	Seeds	Seed extract given orally as well as applied on bite portion.
8)	<i>Calycopteris floribunda</i> (Roxb.) Poir.	Combretaceae	Ukshi / Baganvel	Roots	Root extract given orally.
9)	<i>Careya arborea</i> Roxb.	Lecythidaceae	Kumbhi	Stem	Bark extract given orally.
10)	<i>Cissampelos parreira</i> L. Var. <i>hirsuta</i> .	Menispermaceae	Pahadmul	Root	Root extract applied on bite portion of body.
11)	<i>Cocculus hirsutus</i> (L) Theob	Menispermaceae	Vasan Vel.	Leaves	Fresh leaves are eaten
12)	<i>Dalbergia candanensis</i> (Dennst.) Prain	Fabaceae	Garudvel	Leaves	1 cup fresh leaf juice is given 3 times in a day
13)	<i>Desmodium gangeticum</i> (L.) DC	Fabaceae	Salpami / salvan	Root	Root extract given orally.
14)	<i>Entada rheedei</i> Spreng.	Mimosaceae	Gaidhad	Seed	1 spoon powder of seed + 1 glass of water is taken orally only once
15)	<i>Gloriosa superba</i> L.	Liliaceae	Kul-javi / Gauriche hat	Root	Root extract given orally and applied on the bite portion of body.
16)	<i>Gmelina arborea</i> Roxb.	Verbenaceae	Shivan	Root	Root extract applied on bit portion of body.
17)	<i>Haldina cordifolia</i> (Roxb.)	Rubiaceae	Hedu	Bark	The fresh juice of bark is given orally.

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18)	<i>Hemidesmus indicus</i> (L.) Schult	Periplocaceae	Anantvel	Root	Fresh roots applied on bite portion of body.
19)	<i>Murraya paniculata</i> (L.) Jack	Rutaceae	Pandhari	Stem	Stem sticks are kept in houses and with persons working in the field as snake repellent
20)	<i>Plumera rubra</i> (L.)	Apocynaceae	Chapha	Fruit	Fruit boiled in cow milk is dried and pinch of fruit powder in water is given immediately extract to get relief.
21)	<i>Thunbergia laevis</i> Neel	Thunbergiaceae	Sarpasudha	Leaf	1 cup of leaf juice given twice a day for 2-3 days.
22)	<i>Tinospora cordifolia</i> (willd) Miers	Menispermaceae	Gulvel	Stme	Juice of stem is given orally.
23)	<i>Uraria picta</i> (Jacq.) Desv.	Fabaceae	Pithvan	Root	Root extract is given orally.
24)	<i>Vitex negundo</i> (L.)	Verbenaceae	Nigad	Leaves	Leaf extract applied on bit portion.
25)	<i>Woodfordia fruticosa</i> (L.) Kurz.	Lythraceae	Dhayati	Leaves	2 cup leaf juice given orally for 3 days.
26)	<i>Ziziphus oenopia</i> (L.) Mill.	Rhamnaceae	Burgi	Root	Fresh or dried root is kept with person as snake repellent.
B)	<b>Scorpion Bite</b>				
1)	<i>Alstonia scholaris</i> (L.) R.	Apocyanaceae	Satvin	Leaves	1 teaspoon leaf juice given 3 times in a day
2)	<i>Athyrium hohenackeranum</i> (Kunze) T.	Athyriaceae	-	Rhizome	The paste of rhizome is applied on portion of bite.
3)	<i>Ceiba pentandra</i> (L.) Gaertn.	Bombacaceae	Safed savar	Root	Root extract is applied on sting portion.
4)	<i>Dalbergia candenatensis</i> (Dennst.) Prain	Fabaceae	Garudvel	Leaves	2 spoon leaf juice is given 3 times in a day and applied leaf extract on bite portion of body.
5)	<i>Dalbergia horrida</i> (Dennst.) Mabb.	Fabaceae	Penggul	Root	Root extract is applied on portion of bite
6)	<i>Desmodium gangetium</i> (L.) DC	Fabaceae	Salpami / Salvan	Root	Root extract given orally.
7)	<i>Dillenia indica</i> L.	Dilieniaceae	Karbela / Mota Karmal	Leaves	The juice of leaf is applied on the portion of body where scorpion bite and patient has asked to count the veins of leaf.
8)	<i>Erythrina variegata</i> L.	Fabaceae	Pangara	Stem bark	Bark extract given orally
9)	<i>Ficus racemosa</i> L.	Moraceae	Umbar		Fresh latex is applied on bite portion of body.
10)	<i>Gloriosa superba</i> L.	Liliaceae	Kal-lavi / Gauriche Hat	Root	Root extract given orally as well as applied on bite portion of body.
11)	<i>Gmelina arborea</i> Roxb.	Verbenaceae	Shivan	Root	Root extract applied on bite portion of body.
12)	<i>Hemidesmus indicus</i> (L.) Schult	Periplocaceae	Anantvel	Root	Fresh root are given orally
13)	<i>Tamarindus indica</i> L.	Fabaceae	Chinch	Leaves	Fresh leaves extract is applied on bite portion of body.
14)	<i>Tragia involunrata</i> (L.)	Euphorbiaceae	Khaj Khuzli	Leaf	The leaf extract is applied on the bite portion of body.
15)	<i>Vitex negundo</i> L. Var. <i>negundo</i>	Verbenaceae	Katri-Nigad	Leaf	Leaf extract applied on bite portion.
16)	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	Bor	Leaves	Fresh leaves juice is applied on bite portion.

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