

Research Article

TRADITIONAL PHYTOTHERAPY TREATMENT FOR SNAKEBITE BY TRIBAL PEOPLE OF ANDAMAN AND NICOBAR ISLANDS, INDIA

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ABSTRACT

Snake bite is a common acute medical emergency face by tribal, rural population in tropical and subtropical countries and in humid climate; therefore, people need to counter these types of emergencies. The present study enumerates 19 ethno-medicinal climbing plant species belonging to 10 families used by tribal communities of Andaman and Nicobar Islands in treatment of snakebite. This work is an effort to present traditional phytotherapeutical and ethnobotanical observations recorded with respect to snake bite.

Keywords: *Climbing Plants, Tribal, Snakebite, Andaman Islands*

INTRODUCTION

Snake bite is a major health hazards that lead to high mortality and great suffering in victims. From ancient times poisonous bite is a serious issue in the world. It is a serious medico problem in many parts of the world especially in the rural communities. It has been estimated that 5 million snake bite cases occur worldwide every year, causing about 100000 deaths (David, 2005). On an average 2, 00,000 persons prey to snake bite per in India and 35,000-50,000 of them die every year (Mathew and Gera, 2012). In Andaman and Nicobar Islands, due to lack of well developed transport and communication facilities, many rural tribal (Nicobarese, Shompen, Jarawas, Sentinels, Ongese and Great Andamanese) and community people get affected by poisonous snakebites.

The use of plants against the effects of snake bite has long been recognized but interest has recently gained currency (Walter B. Mors *et al.*, 2000). A considerable number of studies have been published on the ethnobotany and ethnomedicine of many tribal groups in different regions of Andaman Islands (Bhargava, 1983; Chakraborty and Vasudeva, 1988; Dagar, 1989; Dagar and Dager, 1991; Sheeja, *et al.*, 2001; Ghosh, 2014). Although the tribal people of Andaman, traditionally use many ethno-medicinal plants for the treatment of snake bite, but no comprehensive documentation has done earlier.

MATERIAL AND METHODS

The Andaman and Nicobar islands, a landmass of 572 islands, isles, rocks and reefs, about 1200 km from the mainland India, is located between the latitude of 6° to 14° N and longitude of 92° to 94° E, covering an area of 8249 km² and it covers South, Middle, North, Little Andaman and Nicobar Islands.

The present work is the outcome of extensive field survey during 2002-2005, at different corners of the Islands; as many climbing species could be identified which are used to treatment of snake bite of the tribal people (Nicobarese, Shompen, Jarawas, and Great Andamanese). Interview based field study and guided field work was done; also information gathered by literature. Information about the medicinal uses of those climbing plants was also collected from the tribal people inhabiting these islands.

The method, which are used to collect the data:

- (a). Plants were collected and preserved in the form of herbarium (Jain and Rao (1976) and were deposited at the CU Herbarium.
- (b). The information was collected from the old persons of the area.
- (c). Interviews were conducted during structured questionnaire prepared for traditional medicinal practitioners.
- (d). Plants were identified and nomenclature with the help of published flora (Perkinson, 1923; Hooker, 1872-1885; Gamble & Fisher, 1921-1935; Mathew, 1991).

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RESULTS AND DISCUSSION

The data on medicinal climbing plants for treatment of snake bite was collected from tribal, were analyzed. The enumeration and utilization of these are described in Table 1.

Table 1: Climbing plants used for treatment of snake bite in Andaman and Nicobar Islands

S. No.	Plant Species	Family	Parts Used	Mode of preparation and/or administration
1	<i>Abrus precatorius</i> L.	Papilionaceae	Roots	Roots are paste and externally apply on the place of snakebite by the Nicobarese.
2	<i>Aristolochia tagala</i> Chamisso	Aristolochiaceae	Whole Plant	The whole plant is used as snake-bite remedies by Jarawas.
3	<i>Caesalpinia bonduc</i> (L.) Roxb.	Caesalpiniaceae	Roots	Root paste applied on bitten place and one spoonful paste taken with a cup of water, twice a day for only one day.
4	<i>Caesalpinia crista</i> L.	Caesalpiniaceae	Leaves	Dried leaf powder is mixed with powder of long pepper and administered immediately after bite and some leaf paste is applied on the bitten area as an antidote.
5	<i>Cissampelos pareira</i> L.	Menispermaceae	Leaves	Leaf extract is administered along with black pepper 3-4 times a day as an antidote.
6	<i>Clitoria ternate</i> L.	Papilionaceae	Seeds	The extract of the seed is given in snake bite by Shompen.
7	<i>Cocculus hirsutus</i> (L.) Diels	Menispermaceae	Roots	Roots paste is used as antidote to snake poison.
8	<i>Cryptolepis buchananii</i> Schultes	Asclepiadaceae	Seeds	Seed paste is used in case of treatment of snake bite.
9	<i>Cryptolepis sinensis</i> (Loureiro) Merr.	Asclepiadaceae	Leaves	The stems and leaves are used externally for the treatment of snakebites.
10	<i>Entada rheedei</i> Spr.	Mimosaceae	Roots	Root decoction is used for the treatment of snake bites by Nicobarese.
11	<i>Gloriosa superba</i> L.	Liliaceae	Roots	Root paste is an antidote to snake bite by Shompen and Jarawas.
12	<i>Gymnema latifolium</i> Wallich ex Wight.	Asclepiadaceae	Leaves	Leaf juice is applied on the bitten area soon after bite.
13	<i>Ipomoea pes-tigridis</i> L.	Convolvulaceae	Leaves	Leaf juice is applied on the bitten area soon after snakebite by Great Andamanese.
14	<i>Luffa cylindrica</i> (L.) M. Roemer	Cucurbitaceae	Leaves	Leaves juice with milk are used orally after snake bite.
15	<i>Pycnarrhena longifolia</i> (Decne ex Miq.) Bece.	Menispermaceae	Roots	Pasted fresh roots are used by Jarawas to relives pain after snake-bites.
16	<i>Strychnos anandamanensis</i> Hill.	Loganiaceae	Roots	Root bark along with <i>Calotropis</i> , Zinger powder are mixed and used orally.
17	<i>Tinospora cordifolia</i> (Willd.) Hook.f. & Thomson	Menispermaceae	Roots	Roots are mixed with <i>Rauvolfia serpentina</i> (1:1) and made into pills and administered with warm water.
18	<i>Tylophora indica</i> (Burm.f.) Merr.	Menispermaceae	Leaves and roots	Leaves and roots are paste and used orally.
19	<i>Tournefortia ovata</i> Wall. ex G. Don	Boraginaceae	Roots	Roots paste applied on snake bite region and half spoonful paste taken with a cup of warm water twice a day for 2 days.

The present study revealed the information of plants used for snake bite treatment. These plants are arranged in alphabetical order; with their family, part/ parts used and folk use. The present study includes 19 plants belonging to 10 families for snake bite treatment. The predominant families are Menispermaceae with 5 climbing species followed by Asclepiadaceae with 3 plant species, Cesalpiniaceae and Papilionaceae (2 species) and other families with one plant species is used for treatment of snake bite. Out of 19 plant species, roots of 10 plant species, leaves of 7 plant species, seeds of 2 plant species and whole plant of 1 plant species used for the treatment of the snake bite treatment (Fig: 1).

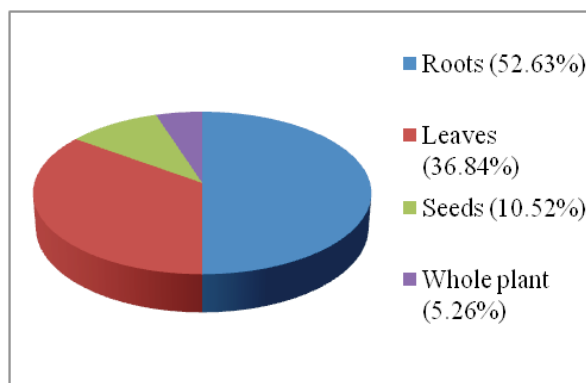


Figure 1: Percentage of different plant parts used in the preparation of traditional snake bite treatment

The high degree of consensus among the information suggests that the current use and knowledge about the plants used in snakebite treatment are still strong. Thus studies exploring pharmacopoeia of unrelated cultures for plants treating specific medical conditions (like snake bites in this study) present one way of validating anecdotal field reports, corroborating and selecting promising lead plants and conservation of potentially threatened species.

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