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# Ethnobotanical Survey of Folklore Plants for the Treatment of Jaundice and Snakebites in Vellore Districts of Tamilnadu, India

**T. Thirumalai[1], EK. Elumalai[1], S. Viviyan Therasa[1], B. Senthilkumar[2] and E. David[1*]**

[1]P.G. and Research Department of Zoology, Voorhees College,
Vellore - 632001(T.N.) India
[2]P.G. and Research Department of Zoology, C. Abdul Hakeem College,
Melvisharam, Vellore - 632 509 (T.N.) India
*Corresponding author: E mail: ernestdavid2002@yahoo.com

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## Abstract

An ethnobotanical survey was undertaken to collect information from local people about the use of medicinal plants in Vellore district. Local people use certain folklore medicinal plants for the treatment of Jaundice and Snakebite. The Knowledge about the medicinal plants has been transmitted orally from generation. The investigations revealed that there are about 22 species of plants to treat Jaundice and Snakebite. Jaundice and Snakebite are the common problems among the local people. The study indicates that the local inhabitants rely on medicinal plants for treatment.

## Introduction

Traditional medical knowledge of medicinal plants and their use by indigenous cultures are not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future (Pei, 2001). However, of the estimated 350,000 plant species worldwide only a small percentage has been investigated phytochemically and an even smaller percentage has been properly studied in terms of their pharmacological properties (Rates, 2001). Jaundice is not a disease but rather a sign that can occur in many different diseases. Jaundice is the yellowish staining of the skin and sclera (the whites of the eyes) that is caused by high levels in blood of the chemical bilirubin. The colour of the skin and sclera vary depending on the level of bilirubin. When the bilirubin level is mildly elevated, they are yellowish. When the bilirubin level is high, they tend to be brown (Wahab *et al*., 2004). Venomous snakebites remain an important medical problem in

both developing and developed countries (Chanhome *et al*., 1998; Mahanta *et al*., 2001). Snake bites are a major health hazard that leads to high mortality and great suffering in victims. Conservative sources estimate that the number of accidents globally reach one million, resulting in 600,000 envenomations and more than 20,000 deaths annually (Chippaux, 1998). In India alone more than 200,000 cases are reported and an estimated 35,000 to 50,000 people die each year (Bawaskar, 2004). After use, many patients show various side effects of allergic symptoms, including anaphylactic and anaphylactoid reactions (Coppola and Hogan, 1994; Dart *et al*., 2001). Extracts from plants have been used among traditional healers, especially in tropical areas where there are plentiful sources, as therapy for snakebite for a long time. Several medicinal plants, which appear in old drug recipes or which have been passed on by oral tradition, are believed to be snakebite antidotes (Martz,1992; Otero *et al*., 2000). Traditional herbal medicine is readily available in rural areas for the treatment of snakebite. Application of the plant or its sap onto the bite area, chewing leaves and bark or drinking plant extracts or decoctions are some procedures intended to counteract snake venom activity. Plants are used either single or in combination, as antidotes for snake envenomation by rural populations in India and in many parts of the world. Plants are reputed to neutralize the action of snake venom, with a plethora of plants claimed to be antidotes for snakebites in folklore medicine (Kirtikar and Basu, 1975). Our main focus was to collect the oral information about the medicinal plants used by the local village people for treatment of jaundice and snakebite.

**Materials and Methods**

The entire area of Vellore District lies between 12°15’ to13°15’ north latitudes and 78° 20’ to79° 50’ East latitudes in Tamilnadu state. The district is spread over an area of about 6077 $km^2$ and is bounded on the North and Northeast by Thiruvalluvar District, on the South and Southeast by Kanchipuram District, on the south by Thiruvannamalai district, on the Southwest by Krishnagiri District and on the northwest and north by Andhra Pradesh state. The district receives an annual rainfall is about 448.8 – 1544.6 mm. The minimum and maximum temperature varies between 26.3º and 38.2º. Ethnobotanical data were collected according to the methodology suggested by Jain (2001). The ethnobotanical data were collected using questionnaire, interviews and discussions in their local tribal people. A totally more than 100 respondents were interviewed, these included males and females that depended on plant as sources of medicines either for self- medication or for treating others. The Flora of Presidency of Madras (Gamble, 1935 and an excursion flora of central Tamilnadu (Matthew, 1991) were used to ascertain the nomenclature of the plant species used for identification and authentication of the plants.

Presented data are the general results of the ethnobotanical survey conducted from March to September.

## Results and Discussion

In this study, we focused mainly on plant species reported by the local people in and around the study area for their medicinal uses. In the present investigation 22 medicinal plants are used for the treatment of jaundice and snakebite. Folklore medicinal plant are arranged in Table1 which represents their botanical names followed by the family, vernacular name.

**Table 1:** Medicinal plants used for the treatment of Jaundice and Snakebite by local people.

| S.No | Scientific name | Family | Local name | Parts used | Treatment |
|---|---|---|---|---|---|
| 1. | Crataeva magina | Capparaceae | Mavalingam | Leaves | Jaundice |
| 2. | Mimosa pudica | Fabaceae | Thottalvadi | Root | Snakebite |
| 3. | Hemidesmus indicus | Asclepidaceae | Nannari | Root | Snakebite |
| 4. | Boerhavia diffusa | Nyctaginaceae | Mukaratai | Roots | Jaundice |
| 5. | Alstonia venenata | Apocynaceae | Elaipai | Bark | Snakebite |
| 6. | Phyllanthus amarus | Euphorbiaceae | Kilanelli | Leaves | Jaundice |
| 7. | Phyllanthus emblica | Euphorbiaceae | Nelli | Fruits | Jaundice |
| 8. | Aristolochia bracteata | Aristolochiaceae | Aaduthinnapalai | Leaves | Snakebite |
| 9. | Andrographis paniculata | Acanthaceae | Nilavembu | Leaves | Snakebite |
| 10. | Gnetum ula | Gnetaceae | Anapendu | Stem | Jaundice |
| 11. | Evolvulus alsinoides | Convolvulaceae | Vishnukiranthi | Leaves | Snakebite |
| 12. | Strychnos nuxvomica | Loganiaceae | Etti | Seeds | Snakebite |
| 13. | Cuscuta reflexa | Convolvulaceae | Autharakodi | Stem | Jaundice |

| | | | | |
|---|---|---|---|---|
| 14. | Vitex negundo | Verbenaceae | Notchi | Seeds |
| Snake bite | | | | |
| 15. | Tephrosia purpurea | Leguminosae | kolukaivalai | Plant |
| Jaundice | | | | |
| 16. | Acalypa indica L. | Euphorbiaceae | Kuppimeni | Leaf Paste |
| Snakebite | | | | |
| 17. | Azadirachta indica | Meliaceae | Veempu | Flower |
| Snakebite | | | | |
| 18. | Musa paradisiaca L. | Musaceae | Vazhai | Skin bark |
| Snakebite | | | | |
| 19. | Achyranthes aspera L. | Amaranthaceae | Nayuruvi | Leaf, Stem |
| Snakebite | | | | |
| 20. | Punica granatum L | Punicaceae | Madhula | Whole plant |
| Snakebite | | | | |
| 21. | Nerium oleander L. | Apocynaceae | Alari | Seeds |
| Snakebite | | | | |
| 22. | Calotropis procera | Asclepiadiaceae | Earku | Bark, leaves |
| Jaundice | | | | |

The tribal people of western Madhya Pradesh of India used 13 plants for the treatment of Jaundice (Samvatsar and Diwanji, 2000). We have recorded that the aqueous paste and decoction obtained from the leaves of *Andrographis paniculata* are widely used for snakebite by indigenous people of Southern India. The bitter taste of some leaves and roots are also sometimes used for prognostic purposes (Whitaker, 1978;Yunus , 1983; Selvanayagam *et al*., 1995; Al-Qura'n, 2005). If the plant material tastes bitter, the patient is judged free from danger, but if the materials are sweet to the taste, the patient needs urgent medical attention. Dosages are repeated until the taste returns to normal. Sometimes, especially when a patient cannot open his/her mouth, the juice of the plant is administered through nostrils or eyes, or applied liberally to the head (Anandan and Veluchamy, 1986; Anuradha *et al*., 1986). A strict and complete dietary schedule for swelling, nausea, pain, and other effects during and after recovery is followed to promote a thorough cure (Whitaker, 1978). People in some areas believe that brushing the teeth daily with the stick of *Tephrosia purpurea* (Jain and Tarafder, 1963) and *Azadirachta indica* (Maheshwari *et al*., 1986) will make the body resistant against the snake venom. Recent efforts have been made to elucidate the efficacy of herbal remedies that are used to treat snakebites (Houghton and Osibogun, 1993). A species that is highly regarded as a snakebite antidote throughout its distribution from the southern United States to South America is *Eclipta prostrata* (Asteraceae). In a study by (Mors *et al*., 1989). In view of the importance of traditional medicine

which provides health services to 75-80% of the world population, increased demand of herbal drugs by the pharmaceuticals and depleting natural plant resources, it is high time to document the medicinal utility of less known plants available in remote areas of country (Zaidi and Crow 2005).

## Conclusion

The study highlighted the central role of traditional herbal medicine for the treatment of jaundice and snakebite in Vellore districts. Due to the growing importance of ethnobotanical studies, it is necessary to collect the informations about the knowledge of folklore medicinal plants, preserved in local communities of various parts of Tamilnadu before it is permanently lost. Having the above facts in mind, an attempt was made to explore the medical remedies of some medicinal plants used by the local people of Vellore district in Tamilnadu for the treatment of jaundice and snakebite. These ethnomedicinal data may provide a base to start the search the new compounds related to phytochemistry, pharmacology and pharmacognosy. This may provide new sources of herbal drugs and help to understand the molecular basis of their activities. Moreover, it may further be mentioned that over exploitation of these species in the name of medicine may lead some species ultimately to the disappearance in future. Therefore, attention should also be made on proper exploitation and utilization of these medicinal plants.

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