ABSTRACT

Herbs are staging a comeback and “herbal renaissance” is happening all over the world. The herbal products today symbolize safety in contrast to the synthetics that are regarded as unsafe to human and environment. *Strychnos potatorum* L.f. is a medicinally important tree species which belongs to the family Loganiaceae and is also known as nirmali or clearing nut tree. In traditional medicinal systems like Ayurveda and Siddha the plant parts are used for treating urinary tract infections, kidney troubles and diarrhoea. But mechanisms of action for these properties are not fully understood. The generated data provided the basis for its wide use as remedy both in traditional and folk medicines. The present study deals with pharmacognostical parameters for the selected parts (Leaf, Stem, Bark and Seed) of *Strychnos potatorum* L.f.

**Key words:** *Strychnos potatorum*, urinary tract infections, pharmacognostical parameters.

INTRODUCTION

Standardization of herbal drugs means a systemic approach to quality control. Herbal medicine is a triumph of popular therapeutic diversity. Almost in all the traditional medicines, the medicinal plants play a major role and constitute the backbone for the same. In order to make sure the safe use of these medicines, a necessary first step is the establishment of standards of quality, safety and efficacy. To ensure reproducible quality of herbal products, proper control of starting material is authentication. Thus, in recent years there has been a rapid increase in standardization of selected medicinal plants of potential therapeautic significance (Gunasekhar...
et al., 2010). Although herbs had been priced for their medicinal, flavoring and aromatic qualities for centuries, the synthetic products of the modern age surpassed their importance, for a while. However, the dependence on synthetics is over and people are returning to the naturals with hope of safety and security (Joy et al., 1998).

Today, about 40% doctors, especially in India and in China have reverted to increasing use of indigenous drugs and natural medicines. Steadily, a sizeable section of scientists in biological, biochemical and biomedicine discipline have embarked on research on medicinal plants which are the staple sources of many indigenous drug (Kokate et al., 2004). Despite the modern techniques, identification of plant drugs by pharmacognostic studies is more reliable. There are a number of crude drugs where the plant source has not yet been scientifically identified. Hence pharmacognostic study gives scientific information regarding the purity and quality of the plant drugs (Dhanabal et al., 2005). *Strychnos potatorum* L.f. is a deciduous much branched shrub or small or medium sized tree up to 18m tall. The bark is cracked and scaly, leaves are opposite simple and entire. Stipules are absent. Inflorescence is an axillary lax or, congested thyrsuse. Flowers are bisexual, ovary superior. Fruit is a globose berry with 10 to 25mm diameter.

**MATERIALS AND METHODS**

**Collection and identification of plant**
The fresh plant material viz., stem, leaves, bark and seeds of *Strychnos potatorum* L.f. belongs to the family Loganiaceae were collected from Vattaparai, Palakkade district, Kerala state. The plant material was identified by Institute of Forest Genetics And Tree Breeding (IFGTB), Coimbatore and voucher specimen (F.NO.14928) has been deposited in Fischer Herbarium of IFGTB. The shade dried plant material was powdered and kept for further studies.

**Organoleptic Study**
The plant powder characteristics, such as colour, odour and taste were evaluated (Jackson and Snowdown 1968).

**Fluorescence Analysis**
The behaviour of the samples with different chemical reagents and fluorescence characters of the powders were observed under ordinary and long ultra violet light (Kokoshi et al., 1958)
RESULTS AND DISCUSSION

Powder analysis plays an important role for the qualitative detection of morphological and sensory profile of drugs (Kokate, 2004). The Organoleptic study indicates the external characters like colour, odour and taste. The results of the present study are indicated in Table 1.

Table – 1: Organoleptic studies of the samples of *Strychnos potatorum* L.f.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Sample</th>
<th>Colour</th>
<th>Odour</th>
<th>Taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Leaf</td>
<td>Light green</td>
<td>Pungent</td>
<td>Bitter</td>
</tr>
<tr>
<td>2.</td>
<td>Stem</td>
<td>Dark green</td>
<td>Pungent</td>
<td>Bitter</td>
</tr>
<tr>
<td>3</td>
<td>Bark</td>
<td>Brown</td>
<td>Pleasant</td>
<td>Bitter</td>
</tr>
<tr>
<td>4</td>
<td>Seed</td>
<td>Cream</td>
<td>Pleasant</td>
<td>Bitter</td>
</tr>
</tbody>
</table>

Fluorescence Analysis

The fluorescence colour is specific for each compound. A non-fluorescent compound may fluoresce if mixed with reagents (Kala *et al.*, 2011). The powdered samples of each part were extracted in water, 1 N NaOH, 50% H₂SO₄ and 1N HCl. The fluorescence of these extracts were observed under ordinary visible light and also under UV light (365 nm) and recorded in Table 2.

Table- 2: Fluorescence analysis of the samples of *Strychnos potatorum* L.f.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Samples</th>
<th>Treatment with reagents</th>
<th>Under ordinary light</th>
<th>under UV light(365nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stem</td>
<td>With water</td>
<td>Light green</td>
<td>Green Green Cream Brown</td>
</tr>
<tr>
<td></td>
<td>Leaf</td>
<td></td>
<td>Green</td>
<td>Green Cream Brown</td>
</tr>
<tr>
<td></td>
<td>Seed</td>
<td></td>
<td>Cream</td>
<td>Cream Brown</td>
</tr>
<tr>
<td></td>
<td>Bark</td>
<td></td>
<td>Brown</td>
<td>Brown</td>
</tr>
<tr>
<td>2</td>
<td>Stem</td>
<td>With 1 N NaOH</td>
<td>Light yellow</td>
<td>Light yellow Green Yellow Black</td>
</tr>
<tr>
<td></td>
<td>Leaf</td>
<td></td>
<td>Light green</td>
<td>Green</td>
</tr>
<tr>
<td></td>
<td>Seed</td>
<td></td>
<td>Light yellow</td>
<td>Yellow</td>
</tr>
<tr>
<td></td>
<td>Bark</td>
<td></td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>3</td>
<td>Stem</td>
<td>With 50%H₂SO₄</td>
<td>Light yellow</td>
<td>Yellow Green Cream Yellow Black</td>
</tr>
<tr>
<td></td>
<td>Leaf</td>
<td></td>
<td>Light green</td>
<td>Yellow Green Cream</td>
</tr>
<tr>
<td></td>
<td>Seed</td>
<td></td>
<td>Creamish yellow</td>
<td>Cream</td>
</tr>
<tr>
<td></td>
<td>bark</td>
<td></td>
<td>Brown</td>
<td>Black</td>
</tr>
</tbody>
</table>
The fluorescence analysis of the powdered trunk bark of *Spondias mangifera* showed the colour change of the powder both in day light and UV light at 254 nm and 365 nm (Arif *et al.*, 2009). Fluorescence analysis of bark and seed powder of *Mimusops elengi* under visible and UV light were reported by (Bhartgami and Parabia 2010).

**CONCLUSION**

Standardization is essential measure for quality, purity and sample identification. The present report on the “pharmacognostic studies on the selected parts of *Strychnos potatorum* L.f.” was useful for further pharmacological and therapeutical evaluation along with the standardization of plant material.

**REFERENCE**