

Ethnobotany and Ecology of Pith Plant *Aeschynomene aspera* L.

Manoj Kumar Jena¹, Satikanta Sahoo² and Nibedita Sahoo³

¹Ph. D. Research Scholar, Department of Plant Protection, Institute of Agriculture and Horticulture Sciences, Warsaw University of Life Sciences, Nowoursynowska 159, 02-776, Warsaw, Poland

²Jr.Lecturer in Botany, Department of Botany, N.C.(Autonomous) College, Jajpur-755007, Odisha, India

³Junior Assistant, DSR Office, Jajpur Town, Jajpur-755007, Odisha, India

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Abstract

Pith plant *Aeschynomene aspera* L. belongs to the family *Fabaceae*. It grows widely in wild in aquatic habitats including rice field. This plant has many health benefits. It contains carbohydrate, reducing sugars, glucosides, tannins, alkaloids, steroids, gum and flavonoids. The plant also possesses ethno medicinal properties. Although it is found widely in waterlogged areas, it has been presently a threatened species and included under IUCN red list. Beside this, the plant is ecologically and socioeconomically very important.

Introduction

Aeschynomene aspera, is commonly called Shola (Bangladesh), Sola (Odia), Phool shola (Bengal) and Laugaun (India), is widely distributed in tropical Asia to North Australia. Mostly, it grows in shallow water bodies including rice field. Mostly, the plant is a common weed in rice field. In India, it is distributed in Assam, West Bengal, Bihar, Odisha and Peninsular India (Mohanty *et al.* 2012). The plant is very popular because it is used by traditional craftsman as raw material for preparing artistic and decorative materials. Besides this, the plant possesses medicinal properties. The crude extract of the plant is recommended for painful micturition and to break down uric acid calculi (Caton *et al.* 2004). Mumps, cold, cough and fever are treated by root and aerial parts. It is also proven that semen consistency is increased by using the crude extract (Panda and Misra, 2011). Again, the plant has nitrogen fixing ability, hence ecologically it is very important.

Taxonomy

The plant belongs to the family *Fabaceae* and Order *Fabales* and Class *Magnoliopsida*. The plant is a perennial under shrub with spongy floating stem. Leaves

almost sessile 7-10cm long; leaflets 30-40 pairs, opposite, sessile, linear, 5-12mm long, obtuse apex, glabrous, racemes corymbose, simple, 2-4 flowered, peduncles and pedicels hairy; bracts ovate, acute, flowers yellow, bracteoles 2, broadly ovate, acute, calyx hispid, upper lip rounded, lower 3-lobed. Pods nearly straight. Flowering occurs during July-October and fruiting occurs in November-January.



Photo 1. *A. asperaplant*

Associates

The plant is associated with *Aeschynomene indica*, *Oryza rufipogon*, *Hygrophyla auriculata*, *Cyperus* species, *Ipomoea aquatica* and *Alternanthera sessilis*.

Uses

1. Economic Uses

From stem, bark is removed and used for making toys, artificial flowers, models and sun hats. Stem is also used in making toy boats. From pith of the plant, artificial crowns are made out. Plant is also used as fuel.

2. Ecology

A Root nodule of the plant the plant helps in nitrogen fixation by which the soil is enriched with nitrogen. It is very important for rice plants.

3. Phytochemicals and Medicinal Uses

The plant contains different phytochemicals like carbohydrate, reducing sugar, glucosides, tannin, alkaloids, steroides, gum and flavonoides. Literature reveals that the plant has many pharmacological effects like antioxidant, analgesic activity, antidiarrheal activity and anthelmintic activity (Imtiaz *et al.* 2020). Aerial part juice is given to cure cough and cold fever, dried young shoot powder with half teaspoon powdered sugarcandy is given to increase the consistency of semen (Panda & Mishra, 2011).

Conclusion

Traditionally, *A. asperais* used by the craftsman. It is very popular in India as it provides livelihood. The rural craftsmen use this plant for the preparation of different handicrafts and artistic elements. It is eco-friendly as it is biodegradable. As the plant contains different phytochemicals, it is used for the preparation of many formulations to cure different diseases. Now the plants are in threat in their natural habitat due to many factors. Hence, conservation of this plant is very urgent for future. So, further study is needed in this connection to explore more knowledge to support the traditional use of this plant.

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