Micromorphological Studies On *Pavonia Odorata* Willd.

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Absract: Roots of *Pavonia odorata* Willd, Malvaceae were studied and detailed pharmacognostical and phytochemical evaluation was done. Morphology of the roots have been studied to aid pharmacognostic and taxonomic species identification using camera lucida diagrams, parameters presented in this paper may be proposed to establish the authenticity of this plant and can possibly help to differentiate the drug from its other. It is known as sugandhabala in native Indian sub-tropical areas, the roots and shoots of this plant are extremely aromatic. Ayurveda, the oldest of all healing sciences has recorded the use of Sugandhabala herb and its extract as cooling, demulcent, carminative, diaphoretic, and diuretic, fever.
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Key words: camera lucida, Pavonia, pharmacognostical, phytochemical, sugandhabala

Introduction

India is one of the mega diversity countries in the world and medicinal plants form the backbone of traditional systems of medicine in India, thousands of tribal communities still use folklore medicinal plants for the cure of various diseases. Indian medicinal plants have been studied for potential source of bioactive compounds. The great interest in the use and importance of medicinal plants in many countries has led to intensified efforts on the documentation of ethnomedical data of medicinal plants Dhar *et al*. (1968). Earlier there were a few or no synthetic medicine and species of higher plants were the main sources of medicines for the world Duke (1990). Medicinal plants are the rich source of novel drugs that forms the ingredients in traditional systems of medicine, modern medicines, nutraceuticals, food supplements, folk medicines, pharmaceutical intermediates, bioactive principles and lead compounds in synthetic drugs Ncube *et al*. (2008) Many plants synthesize substances that are useful to the maintenance of health in humans and animals. The roots yield an essential oil that contains isovaleric acid, isovaleraldehyde, aromadendrene, pavonene, α-terpinene, azulene and pavonenol. Roots and aerial parts are regarded in ayurveda as cooling, demulcent, carminative, diaphoretic, diuretic and fever. It is also used in inflammation, hemorrhage from internal organs. Leaves and young shoots were used as an emollient. It has anti-bacterial and anti-inflammatory activity and also used in a number of ayurvedic formulations. Hence the present investigation was undertaken the uses of this plant as traditional medicine confirms that it may possess some important biological activities. is an herb and roots have musk like aromatic odour.

Materials And Method

The whole plant of *Pavonia odorata* was collected from Kolli hills of Tamilnadu, India, identified by botanist of CSMDRIA Chennai,Tamil Nadu. Fresh hand sections were taken and treated with chloral hydrate and phloroglucinol and HCl. Microscopical characters were studied Evans and Trease and Evans (1997). Camera lucida diagrams were drawn. The dried powdered was treated with Jeffereys reagent, ruthenium red.

Results

i) Botanical Description

Swamp mallow, woody pubescent herbs, Leaves ovate, base cordate, upper leaves entire, covered with sticky hairs, flowers solitary in the axil of leaf, bracts 10-12, linear, sepals 5, petals pink, twice longer than sepal, fruit spherical, mericarps smooth, wingless.

ii) Macroscopic Characters

Roots are of various sizes length and width, surface rough,colour brown externally Cork peelable, musk like aromatic odour.

iii) Microscopical Characters

A transverse section of the root shows a thin zone composed of phellem, phellogen and phelloderm. Cork 6to 12 layered,thin walled,irregular in shape, filled with brown colour cell content, rich in starch and druses.Cortex collenchymatous cells circular to oval with thick intercellular spaces.Cortex consists of abundant agglomerated starch grains and druses A few raphides are also present. Discontinuous layer of sclerenchymatous cells forming the pericyclic fibre. Vascular bundles without a bundle cap or limiting layer radial with xylem and phloem alternating with each other,cambium inconspicuous. Many bundles embedded in the parenchymatous tissue,xylem

interspersed with uniseriate and triseriate medullary rays, pith absent.

The above parameters help in identifying the species and to establish the authenticity of this plant and can possibly help to differentiate the drug from its other adulterants.

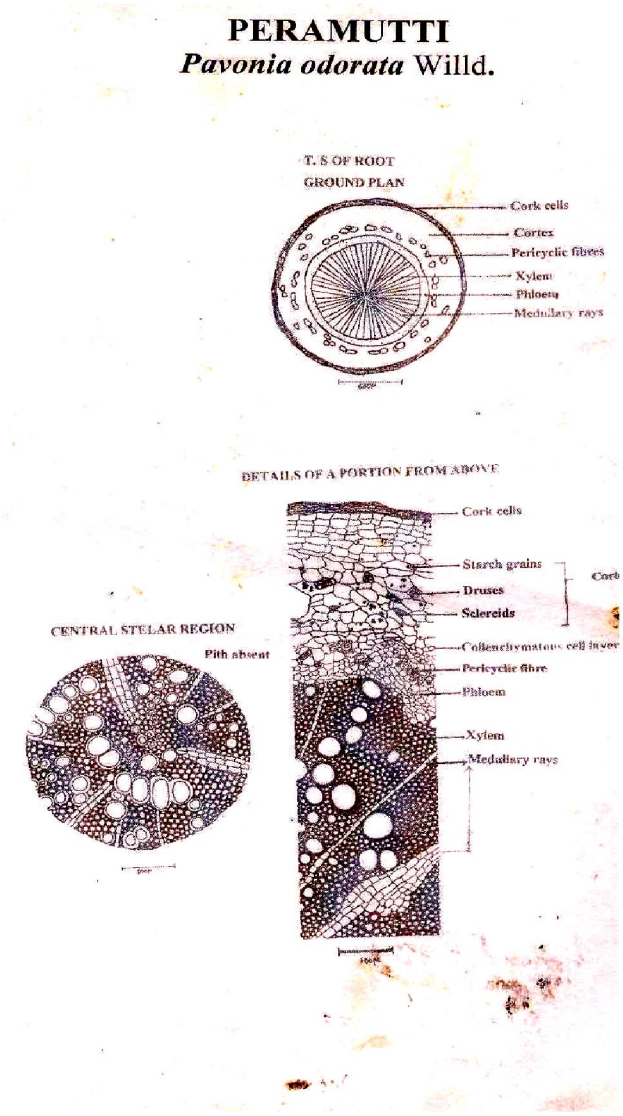

Figure I: A Transverse Section Of Root Of *Pavonia Odorata* Willd

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