

Pharmacognostical standardization of *elaecarpus ganitrus* leaf. Family: elaeocarpaceae.

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ABSTRACT

The present study was carried out in an attempt to study the pharmacognostical characteristics of the leaves of *Elaeocarpus ganitrus*, Family: Elaeocarpaceae, commonly called as "Rudraksh". Rudraksh beads have been used since ancient times as an adornment to ward off evil spirits and omens.

Keywords: Standardization, Rudraksh, Elaeocarpus, Elaeocarpaceae.

INTRODUCTION

Plant Description: *Elaeocarpus ganitrus* Roxb. (Synonym: *Elaeocarpus sphaericus*), Family: Elaeocarpaceae, is commonly known as Rudraksh. It is a medium sized tree occasionally cultivated for ornamental purpose¹. The plant contains phytosterols, alkaloids, fat, carbohydrates, proteins and tannins². The seeds of the plant have been reported to have good anticonvulsant activity³.

MATERIALS AND METHODS

Plant material: The leaf of *Elaeocarpus ganitrus* was collected from the medicinal garden of C.U Shah College of Pharmacy & Research, Wadhwan, Gujarat in the month of February, 2011. It was identified by Late Prof.

Taxonomy

Division	Magnoliophyta
Class	Magnoliatae
Order	Malvales
Family	Elaeocarpaceae Juss. ex DC.
Genus	Elaeocarpus L.
Species	<i>Elaeocarpus ganitrus</i> Roxb.

Dr. M A Iyengar. Voucher specimen was deposited in Department of Pharmacognosy, C. U Shah College of Pharmacy & Research, Wadhwan, Gujarat. Fresh leaf was taken for the study purpose.

Pharmacognostical study of *Elaeocarpus ganitrus* leaf:

Macroscopy: The morphological & organoleptic characters of the leaf were studied^{4,5}. The findings are tabulated in Table 1.

Microscopy: Free hand transverse sections of the fresh leaf were taken and treated with various reagents and observed under the Binocular research microscope⁶. The photomicrograph of the same is provided in Fig. 2.

RESULTS AND DISCUSSION

Microscopy: The transverse section revealed typical features of a dorsiventral leaf from midrib to margin:

Lamina:

Epidermis: It was found to be single layered, compactly arranged parenchyma cells covered externally with a cuticle. Trichomes were found to be absent.

Mesophyll: Mesophyll was found to be present in between the two epidermal layers (Upper & Lower). It comprised of Palisade cells which were made up of two layers of elongated, compactly arranged chlorenchyma cells, found only in the lamina region. Spongy parenchyma was also found which consisted of a few layers of loosely arranged oval chlorenchyma cells. A few vascular strands, prisms of calcium oxalate were also found in the mesophyll.

Midrib: The epidermal layers were found to be continuous over the midrib region. 3-4 layers of collenchyma cells were found below the upper epidermis and above the lower epidermis. Bulk of the midrib region is made up of oval parenchyma cells which are arranged without intercellular spaces. A few prisms of calcium oxalate were also found scattered in the cells of the midrib. 3-7 vascular bundles are found in the centre of the midrib region. The vascular bundles are described as conjoint, collateral and closed. A patch of pericyclic fibres were found above and below each vascular bundle.

CONCLUSION

The present study has been an effort to standardize the



Fig. 1: *Elaeocarpus ganitrus* leaf

Table 1: Morphological study of *Elaeocarpus ganitrus* leaf revealed the following features:

Shape of the leaf	Oblong-Lanceolate
Apex	Acute
Base	Symmetric
Margin	Undulate
Size	10-15cm (Length) 6-8cm (Width)
Colour	Green
Odour	None
Taste	Slightly bitter

TRANSVERSE SECTION OF ELAEOCARPUS GANITRUS LEAF (X 100)

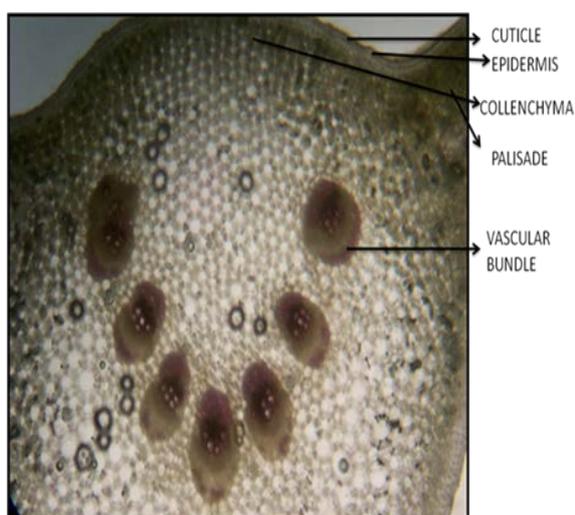


Fig. 2: Transverse section of *Elaeocarpus ganitrus* leaf (X 100)

leaves of *Elaeocarpus ganitrus*, a plant of importance since vedic times. Extensive studies are required on this important plant in order to unravel its potential.

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Fig. 3: Vascular Bundle

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