INTRODUCTION
Murdamnia lanuginosa (C. B. Cl) Brucek, (Commelinaceae), an endemic plant to Western Ghats of Peninsular India. It is categorized as regionally endangered taxon owing to its restricted habitat and low population status in atretic plateaux of Maharashtra and Karnataka. It is observed in higher abundance in atretic plateaux and hilly slopes at an altitude range of 900 to 1600 m. M. lanuginosa found on open grassy plateaux along with herbs like M. simplex, M. versicolor, lechaemum impressum, Glypochloa forficulata, Paspalum canare, Smithia bigemina, S. purpurea, Rotala densiflora, Pogostemon decanensis, etc. Extent of occurrence of M. lanuginosa estimated to be 4,000 sq. km and found only at few locations. This paper presents morphological, anatomical, palynological as well as cytological studies on Murdamnia lanuginosa (Wall.ex C. B. Cl.).

BACKGROUND INFORMATION
Murdamnia is a pantropical monocot genus that is comprised of about 50 species. Morphologically, the genus is characterized by leaves that are arranged in a spiral, a sessile lamina, and a supravolute unfolding pattern. Its most distinctive feature is the presence of 3 fertile stamens attached in front of the sepal alternating with 3 sterile stamens (staminodes) attached in front of the petals. Anatomically, Murdamnia shows much variation like 6 to 4 cell clad stomata, but some diagnostic features include the presence of a nearly continuous hypodermis, patterned cuticle, and marginal sclerenchyma. Pollen shows much variation.

MATERIALS AND METHODS

Flowing Times: Observations of the flower opening times in the greenhouse and infeld were noted over multiple days. Morphology: Descriptions of the plant were made from living collections at the Shivaji University Departmental Garden. Palynology: Pollen grains were Acetolysed and observed/photographed by SEM

Anatomy: For anatomy of leaf, stem and root hand cut sections as well as microtechnique is used. Sections observed under light microscope and photography made......

A. MORPHOLOGY

06 to 16 inch., erect to ascending herb with tough tuberous roots. Stem pubescent, stout to prostrate. Leaves sessile, linear to linear lanceolate with broad base, finely acuminate, pubescent on both sides, margin undulate. Flowers hermaphrodite, axillary 1 to 5 from upper leaf sheaths, pedicillate, pink coloured at the time of opening then after turn orange yellow and blue when fading starts. Fertile stamens 3 densely bearded while 3 sterile faintly bearded and shorter than fertile one with lobed pseudoanthers. Ovary comes out from one side with short and curved style and simple stigma. Capsules 0.5 to 0.7 cm long, oblong, trigonous, long - ovisulate with style. Seeds biseriate, rectangular to pentangular, grayish black with ridges; hilum elliptic; embryotegia lateral. Flowering and fruiting during August to November.

Best seen at Kaas plateau. Dist. Satara.(Maharashtra)

Phenology: Plant flower in the morning for three or more hours a day with overlapping time periods.

B. PALYNOLOGY

Pollen are monosulcate, elliptic to bean shaped.

Scanning Electron Micrographs () show that the exine is spinulose and punctate.

The spindles - wafts are blurs and randomly arranged.

C. ANATOMY

Leaf Anatomy: Transverse section of the leaves show thin smooth cuticle, an upper & lower epidermis usually composed of more or less Isodimetric of a single, adaxial palisade layer & an abaxial spongy mesophyll generally composed of three to four cell layers. A hypodermis present only in the midrib region & its too small. Sclerenchyma is present in between the midrib. Stomata are usually present on both surfaces. Six celled, irregularly arranged. Epidermal hairs simple, 3 to 4 celled also present on the both the surfaces.

Stem Anatomy: Cuticle ribbed like that epidermis of the sheath. Epidermis shallow, slightly thick walled and lie that on abaxial surface of sheath. Cortex 3 to 6 celled, very narrow without vascular bundles. Hypodermis differentiated into 1 to 3 layers. Chlorenchyma with well developed intercellular spaces. Inner limit of cortex represented by a distinct compact uniseriate parenchyma sheath commonly described as an endodermis. Central cylinder limited extremely by conspicuous 1 to 4 layered sclerotic cylinder. Peripheral vascular bundles having Metaxytem and which constitute 2 wide vessels likewise Cortical vas. bundies too. Both are embedded in sclerotic cylinder. Xylem lacunae are present in both the vascular bundles.

Root Anatomy: Exodermis large celled one layered. Cortex is of two types inner and outer both comprises of 3 to 6 celled containing number of Starch granules. Endodermis cells expanded tangentially. Cortical cylinder, due to diameter of root. Xylem cells arranged on peripheral region while phloem strands irregularly arranged. Murdamnia lanuginosa strongly develop sclerenchyma in the central cylinder. Even the cells of neighboring vessels are sclerified.

D. CYTOLOGY

Muracanna lanuginosa (C. B. Cl) Brucek.