

SRNK GOVT. DEGREE COLLEGE, BANSWADA

KAMAREDDY (DIST.), TELANGANA.

(AFFILIATED TO TELANGANA UNIVERSITY)

NAAC ACCREDITED WITH 'B' GRADE



JIGNASA 2017-18

STUDENT STUDY PROJECT

DEPARTMENT OF BOTANY

TITLE: "PALYNOTAXONOMICAL STUDIES OF NIZAMABAD DISTRICT"

SUBMITTED BY:


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3. 1705-5034-445-556 V.LAXMI BZC(T/M) I YEAR
4. 1605-5034-445-528 K. MOUNIKA BZC(T/M) II YEAR
5. 1605-5034-445-501 A.SPANDANA BZC(T/M) II YEAR

GUIDED BY:

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ASST. PROF OF BOTANY

SRNK GOVT. DEGREE COLLEGE, BANSWADA



PALYNOTAXONOMICAL STUDIES
ON
NIZAMABAD DISTRICT

Introduction

Pollen morphology is one of the most effective tools to help the taxonomist in solving many hitherto unexplored problems by using the genetically controlled morphology of tiny microscopic grains.

Pollen Grains as a rule only of few hundred of a millimeter in size can be studied in an enlarged state and can be used as a solid mean for identification, classification, determination of affinity and so on. Several characteristics features of plants are used to determine the rank of the taxa by palynological evidences have proven useful at all taxonomical levels.

The knowledge of Pollen Morphology has been to substantiate many taxonomical revisions some times even up to the formation of new taxa.

Segregation of Bombacaceae from Malvaceae, trapaceae from Onagraceae, Amalgamation of Cannaceae, Musaceae and zingeberaceae in to Scitaminae and Moraceae and Cannibineceae in to Urticaceae are a few examples of the contribution of the Pollen Morphology to taxonomy.

Aims and Objectives

- To Explore, inventorying and the documentation of Phyto Diversity of the District.
- To preserve the collected plant samples in dried and pressed condition in a scientific manner.
- To explore Pollen Morphological characters for construction of keys for identification of Taxa.
- To furnish features useful in the description and delimitation of Taxa.
- To Establish Palynarium for future reference of Pollen Grains
- To prepare Pollen Atlas of Nizamabad District.

Methodology:

Plants specimens and Pollen Material will be collected from various localities of Nizamabad District. The study of Pollen Grains will be subjected to Light and scanning Electron Micro Scope(SEM) by the standards methods of discribed by Erdtman in 1952. various Pollen Characters ie., Pollen class,shape size, aperture, sporoderm stratification and exine ornamentation will be studied (NPC) analysis.

Yearwise plan of work and targets to be achived:

First Year:

- ❖ Polleniferous material and Herbarium specimens will be collected.
- ❖ During this period considerable field work and number of field trips and prepartion of reference slides of Pollen types and Harbarium specimens of local vegetation of Nizamabad district.
- ❖ Light microscopic studies of Pollain grains will be carried out to analyze the Pollain morphological characters.

Second Year:

- ❖ Field trips and collection of plant material for Herbarium and Palynarium with family wise Pollen collection will be continued and reference slides will be prepared by following acetolysis method.
- ❖ Plant specimens will be dried and pressed on Herbarium sheet also will be continued from previous year.

Third Year:

- ❖ SEM studies of Pollen grains will be carried out .
- ❖ Pollen Micro photographs will be taken with light and scanning electron Microscopes to prepare Pollen atlas of Nizamabad District.
- ❖ Based on the data collected during previous years a key will be prepared for identification of Taxa.
- ❖ Final report of the project will be prepared.

BRIEF NOTE ON NIZAMABAD FOREST DIVISION.

Nizamabad District comprises two Territorial Divisions i.e., Nizamabad and Kamareddy and there are two functional Divisions i.e. Divisional Forest Officer, Flying Squad Party, Nizamabad and Divisional Forest Officer, Social Forestry Division, Nizamabad. The following are the statistic details of the Division.

Geographical area of the Division	:	4952 Sq.Kms.
Forest area of the Division	:	767.38 Sq. Kms.
Percentage of the Forest in the Division	:	15.50%

Geographical area of the District	:	7956 Sq. Kms.
Forest area of the District	:	1708 Sq. Kms.
Percentage of the Forest in the District	:	21.46 %

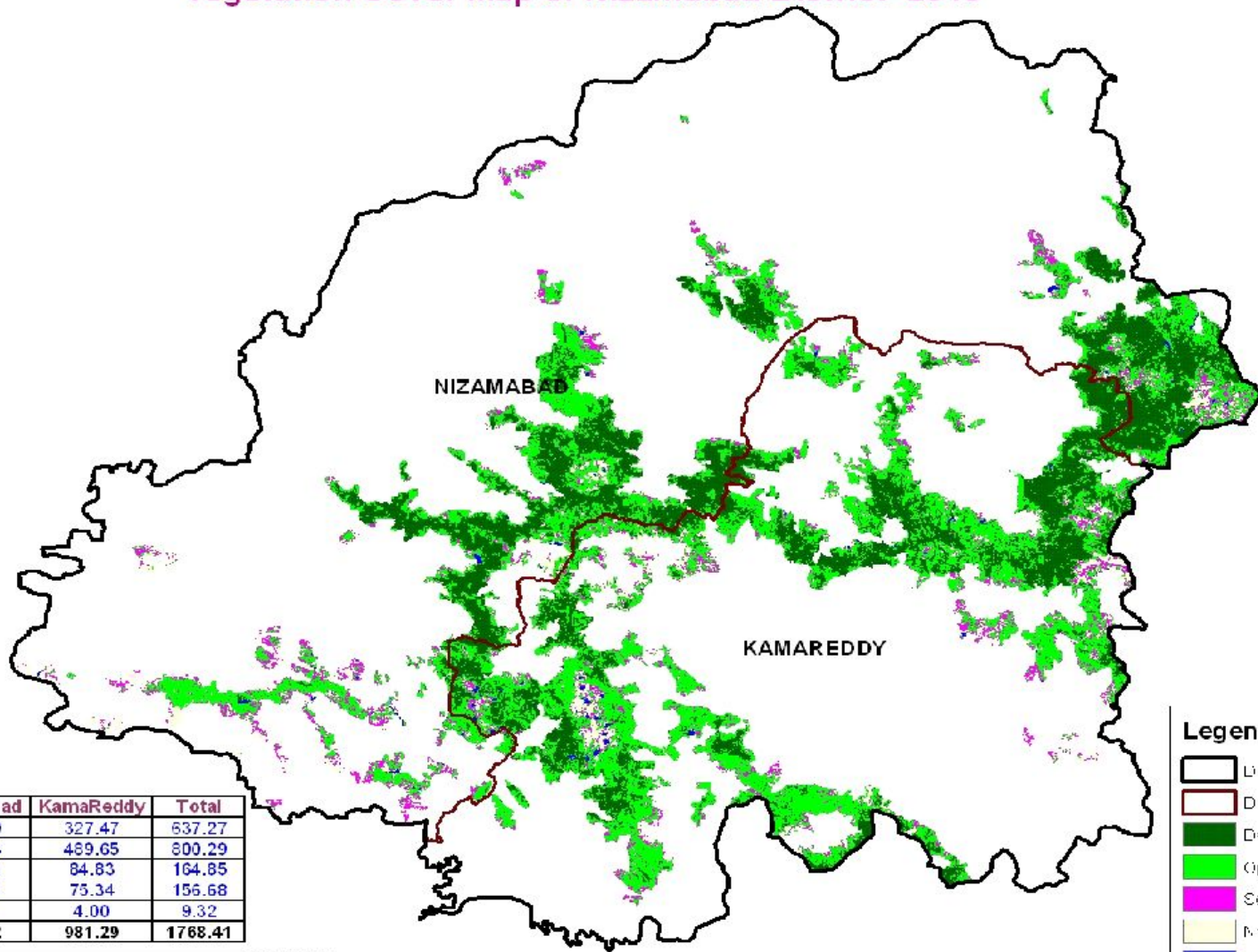
Type of Forest	:	Trophical dry deciduous
Main species	:	Teak, Nallamaddi, Chennangi, Naravepi, Bojja, Nemalinara, Yegisa, Nalla Kodisa, Pala Kodisa, Bandaru, Battaganupu, Billudu, Are, Danthi and Abnus etc.

Nizamabad Division is having mainly dry deciduous Forests with sporadic appearance of teak in certain patches. The overall forest composition consists of moderate dense forest to open forest and scrub forests. The Teak associates like Terminalia tomentosa, Buchanania Lanza, Anogeissus latifolia, Lagerstromia parviflora, Madhuca latifolia are also available in these Forests.

Details of Forest Cover in Nizamabad Division as follows

S.No	Name of the Division	Type of Forest	Area in Ha.
1	Nizamabad Division	Moderate Dense Forest	30920
2		Open Forest	30964
3		Scrub Forest	8003
4		Other Forest	6851
		Total Forest area	76738

Vegetation Cover Map of Nizamabad District -2010



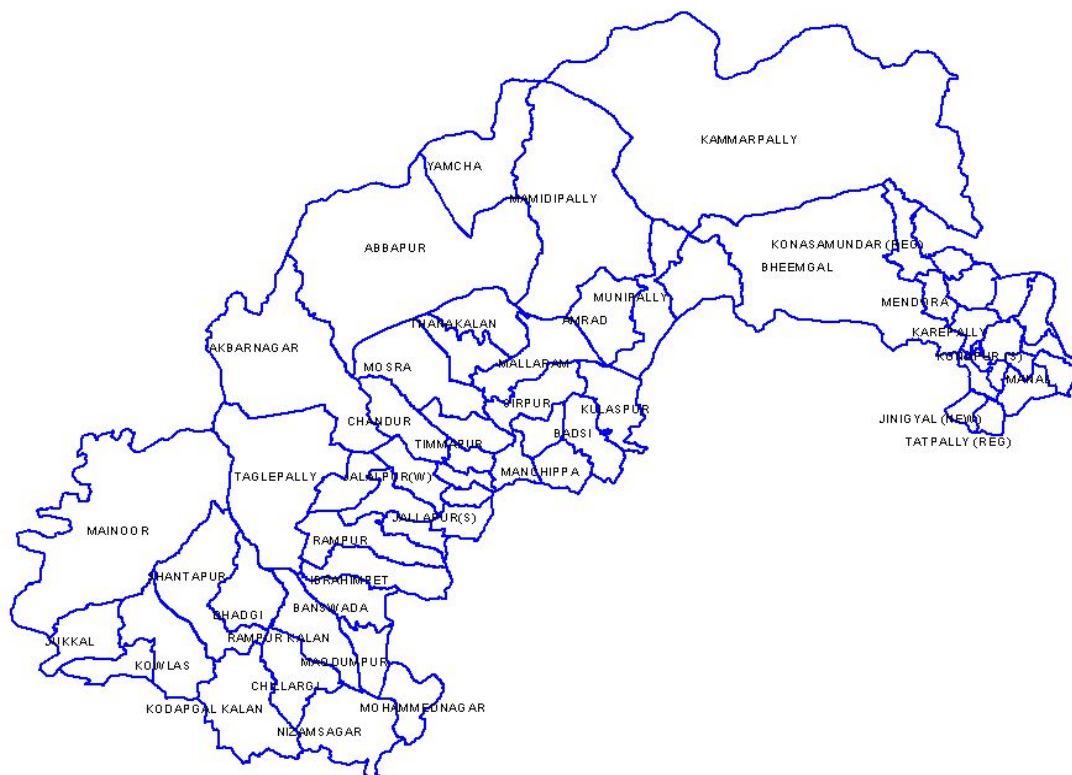
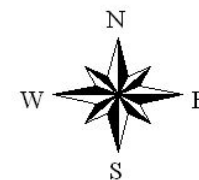
Class	Nizamabad	KamaReddy	Total
Dense	309.80	327.47	637.27
Open	310.64	489.65	800.29
Scrub	80.02	84.83	164.85
NonForest	81.34	75.34	156.68
WaterBody	6.32	4.00	9.32
Total	787.12	981.29	1768.41

Legend

- District Boundary
- Division Boundary
- Dense
- Open
- Scrub
- Non-forest
- WaterBody

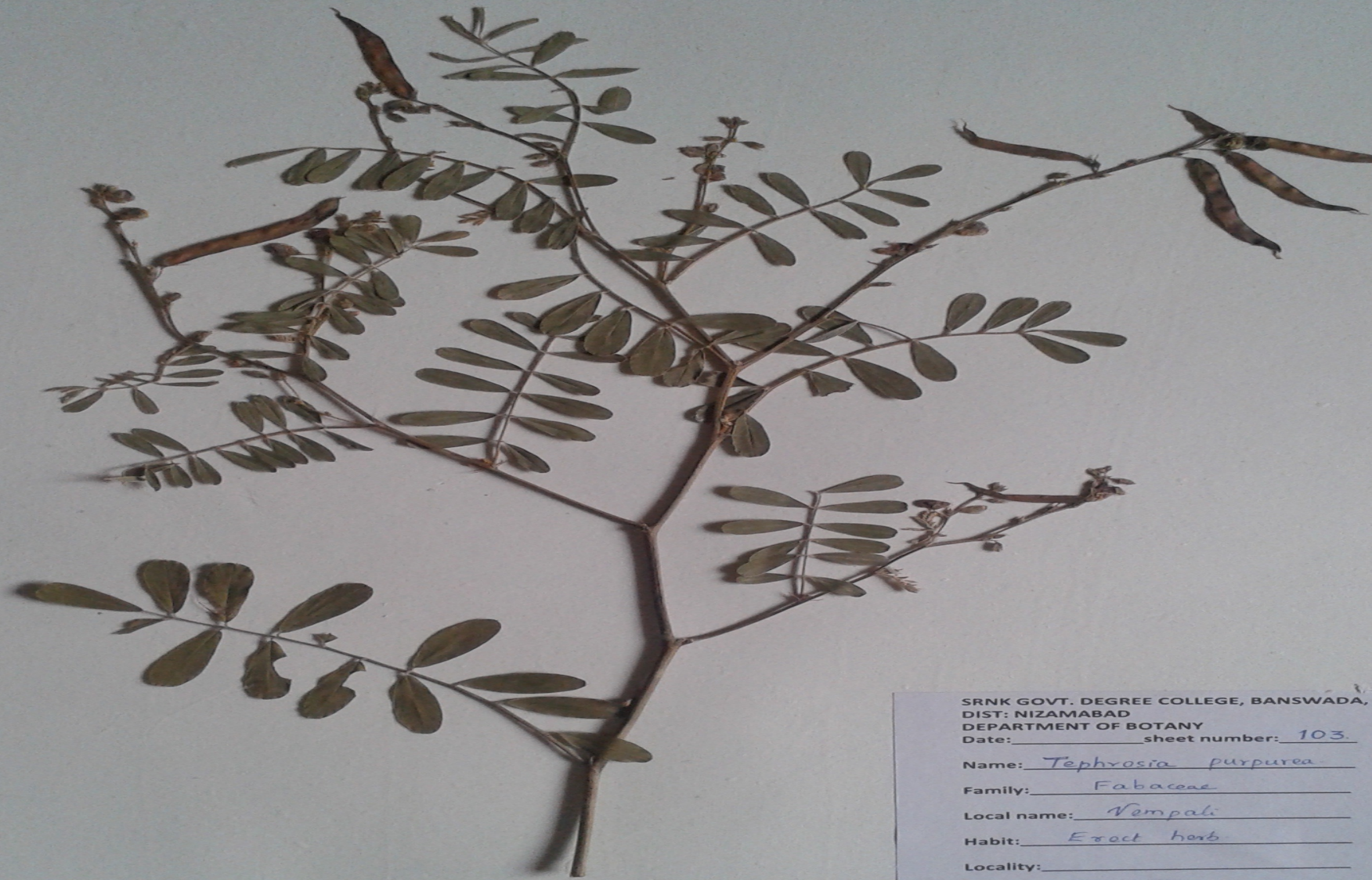
0 0.05 0.1 0.2 0.3 0.4 Kilometers

MAP OF NIZAMABAD FOREST DIVISION



 Gw-niza.shp

20000 0 20000 40000 60000 80000 100000 120000 140000 160000 Meters



SRNK GOVT. DEGREE COLLEGE, BANSWADA,
DIST: NIZAMABAD
DEPARTMENT OF BOTANY
Date: _____ sheet number: 103.

Name: Tephrosia purpurea

Family: Fabaceae

Local name: Nempali

Habit: Erect herb

Locality: _____

Flower and fruit: through out year

Remarks: _____

Collected by: P. Ravi Raj

Identified by: _____



SRIK GOVT. DEGREE COLLEGE, BANSWADA,
DIST: NIZAMABAD
DEPARTMENT OF BOTANY
Date: _____ sheet number: 109

Specimen name: Pterocarpus marsupium Roxb.

Family: Fabaceae

Local name: Yegisa

Habit: Deciduous tree

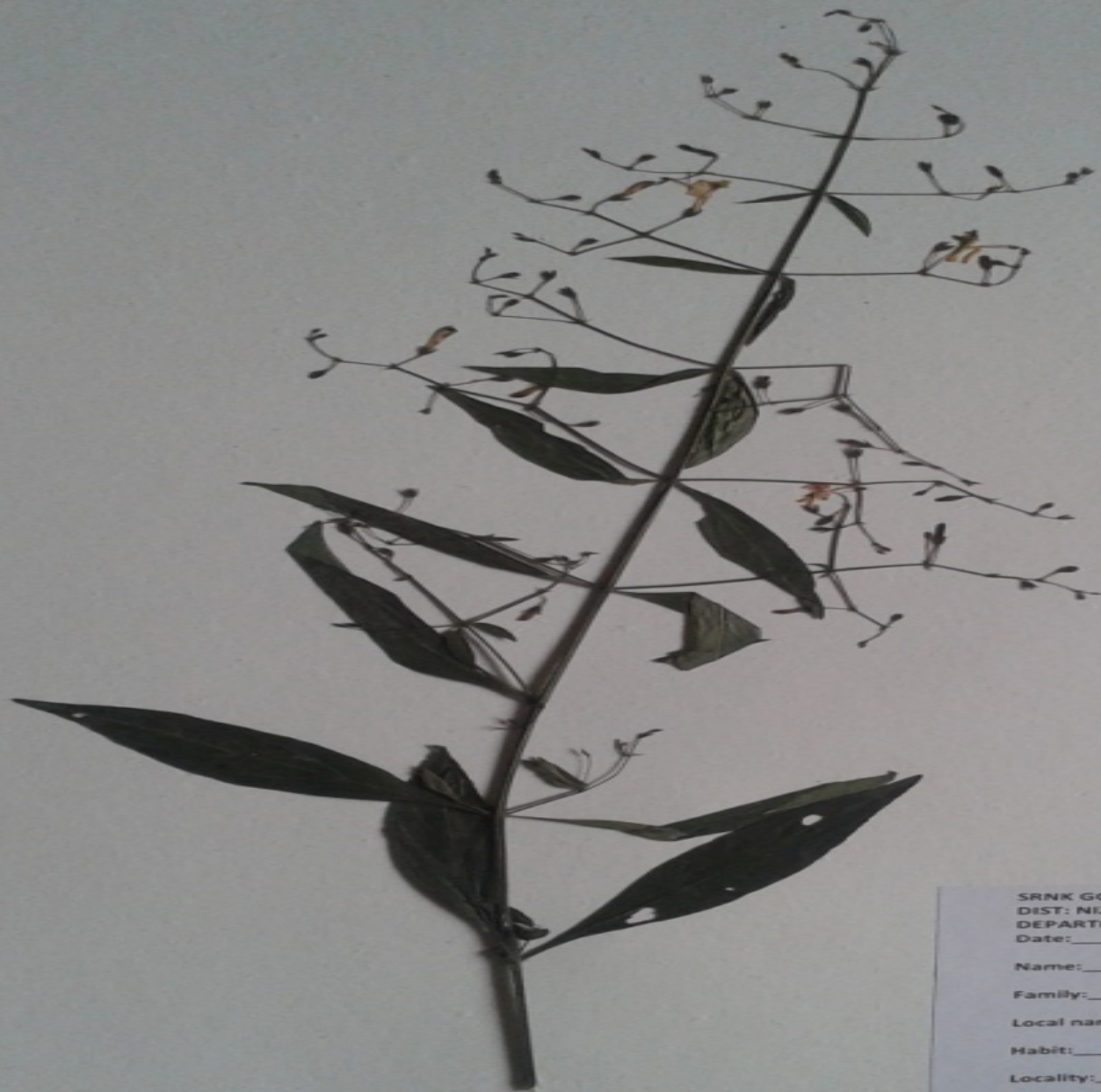
Locality: _____

Flower and fruit: Oct - Nov

Remarks: _____

Collected by: P. Ravi Raj

Identified by: _____



SRNK GOVT. DEGREE COLLEGE, BANSWADA,
DIST: NIZAMABAD
DEPARTMENT OF BOTANY
Date: _____ sheet number: 101

Name: Andrographis paniculata.

Family: Acanthaceae

Local name: Nelavemu.

Habit: Erect branched herb.

Locality: _____

Flower and fruit: Nov - April

Remarks: _____

Collected by: P. Rao, G. J.

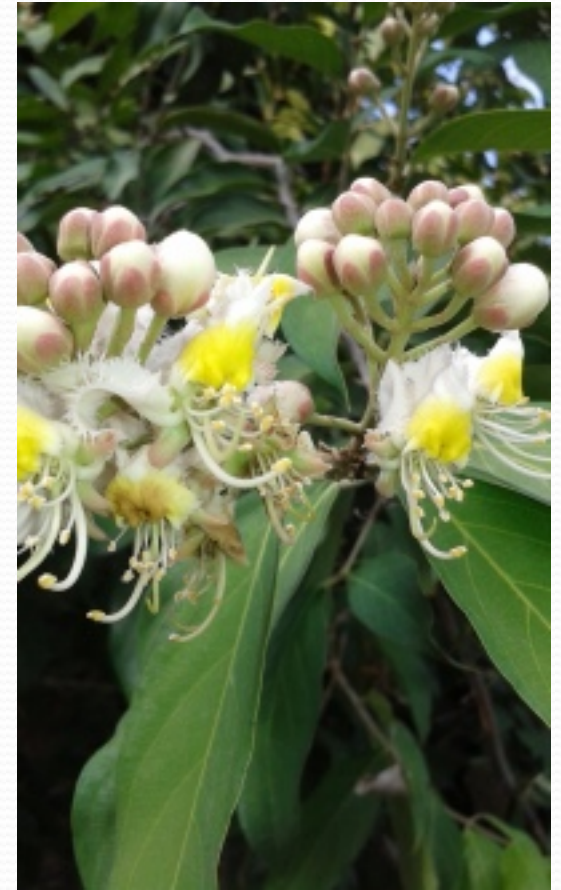
Identified by: _____

So far about 68 plants spices are collected from Nizamabad forest division some of them are as follows:

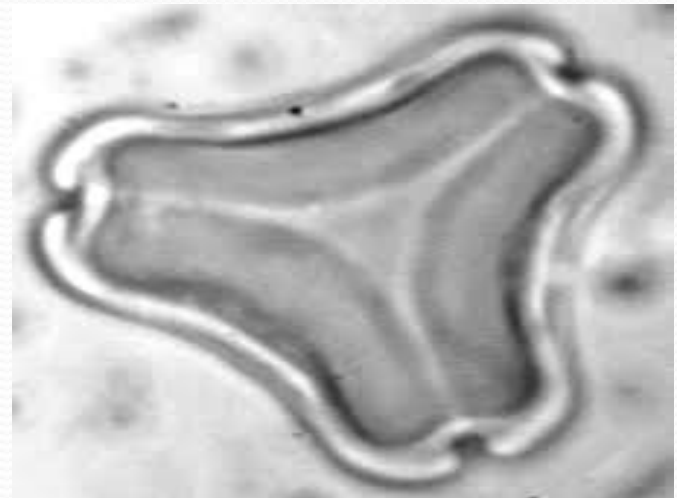
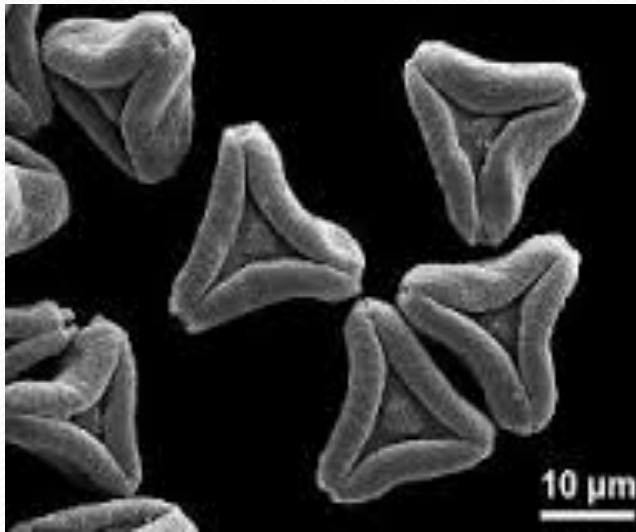








So far 20 Pollen slides are prepared belonging to different families.





THANK YOU