

Field Note Book

UNIVERSITY OF CALCUTTA
B.Sc. 4 year Honours with Research In
Botany.
Under CCF, 2022.

SUBJECT : BOTANY (BOTM)

PAPER: DSCC-2 (Plant Systematics)

ROLL NO.: 233044-11-0004.

REGISTRATION NO. 044-1211-0248-23

B.Sc. Botany Exam 20.12.11-0248-23
E. J. JEM.

Examined
3/10/23



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TO WHOM IT MAY CONCERN

This is to certify that Ms. Sudipa Saha bearing Roll.No. 233044-11-0004 Registration No. 044-1211-0245-23, an examinee of B.Sc. 4-year Honours with Research in Botany (under CCF, 2022) examination, 2024 of University of Calcutta has successfully completed **Three** educational excursions (New Garia, AJC Bose Indian Botanic Garden & Central National Herbarium, Tinchuley, Takdah, Lamahatta, Chalsa) under my supervision. This is part of their DSC Core syllabus (Plant Systematics Practical) on Field Work and Field Records.

The examinee submitted field reports on local flora of the abovesaid regions which partially completes the Practical part of paper BOTM DSCC-2.

Shampriya Chowdhury 25/9/24

Dr. Shampriya Chowdhury

Associate Professor and HOD

Dept of Botany

Kinjalkini Biswas

Dr. Kinjalkini Biswas 25.9.24

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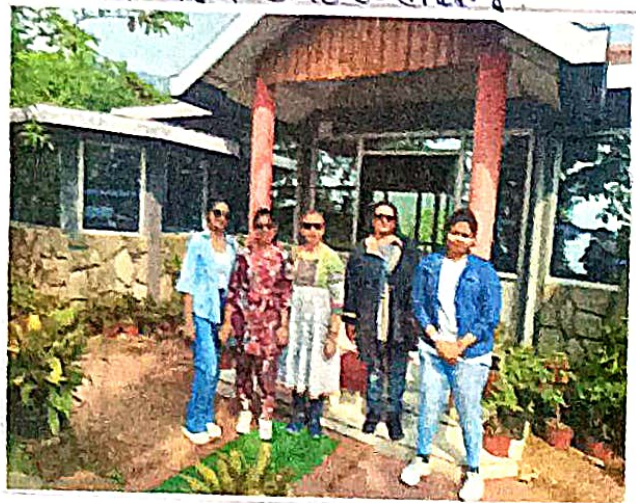
EXCURSION TO PHYTOGEOGRAPHIC
REGION (EASTERN HIMALAYAN REGION) -
TAKDAH, TINCHULEY, CHALSALAMAHATTA

DATE: 15th May 2024 - 20th May 2024.

Participants: 2nd & 3rd Semester students Botany
(Hons.), 2nd Semester students with Botany as minor

Accompanying Teachers: Mrs Sangita Das chowdhury

Mr. Sontu Bugh, Mr. S. Sampriya chowdhury

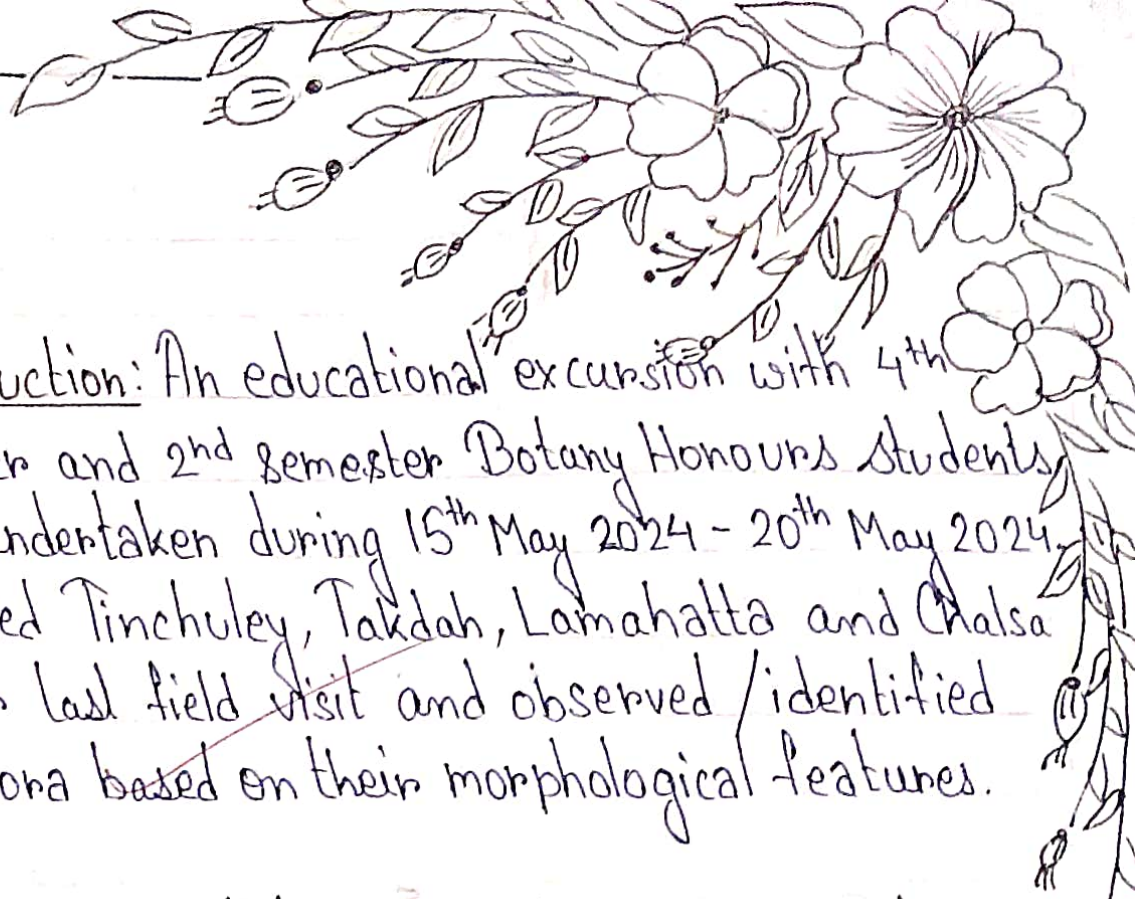




Brugmansia suaveolens

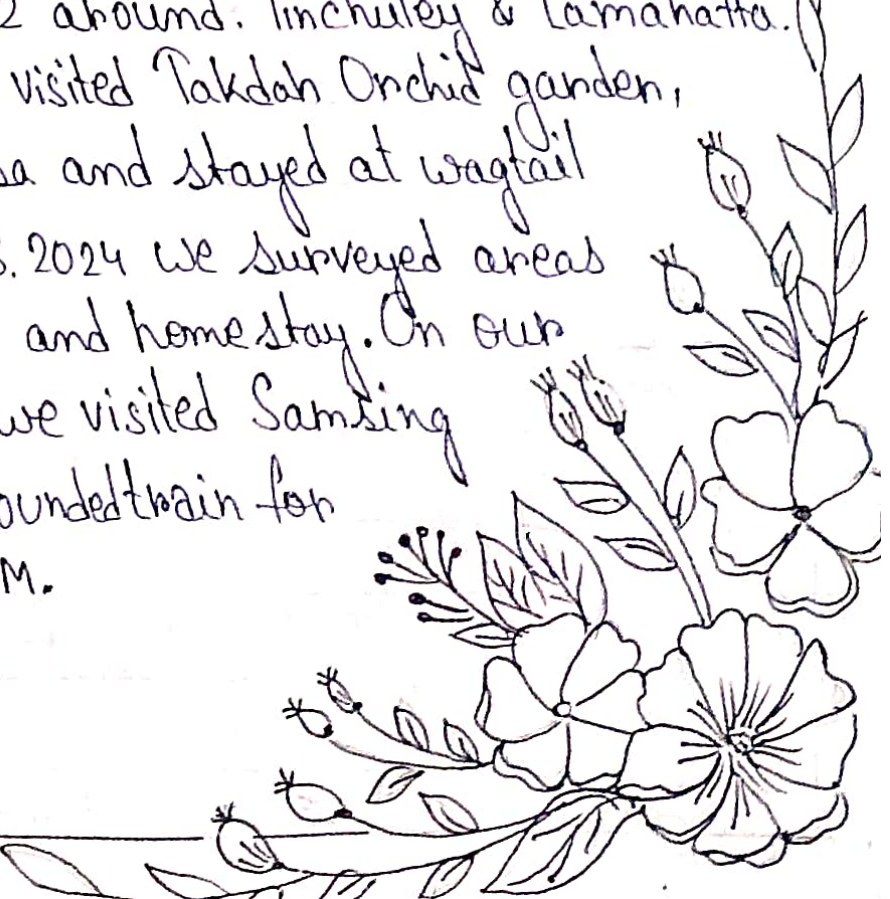


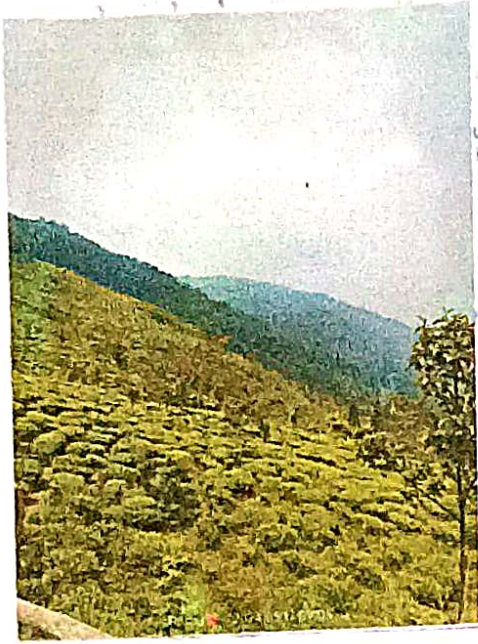
Sambucus canadensis



Introduction: An educational excursion with 4th Semester and 2nd Semester Botany Honours students were undertaken during 15th May 2024 - 20th May 2024. We visited Tinchuley, Takdah, Lamahatta and Chalsa for our last field visit and observed/identified local flora based on their morphological features.

Route: We boarded Kanchan Kanya express from Sealdah on 15.05.2024 at 7:30 PM reached Malbazar on 16.05.2024 at 9:30 AM. We proceeded for Chola Mangwa and reached "Darjeeling Blossom Eco Tourism" home stay by noon. On 17.05.2024. We surveyed areas in 2 around Tinchuley & Lamahatta. On 18.05.2024. We visited Takdah Orchid garden, Proceeded for Chalsa and stayed at Wagtail homestay. On 19.05.2024 we surveyed areas near Murty river and homestay. On our return journey we visited Samsing Tea Estate and boarded train for Sealdah at 5:30 PM.





Tea plantation



Tea plantation

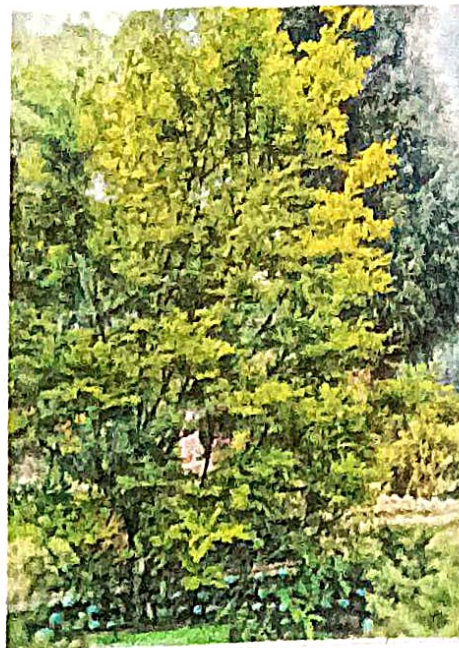
TINCHULEY

Tinchuley is a small hamlet which is about 24 km from Takdah. Tinchuley is famous for two things, wonderful views of the snow peak of Kanchenjunga and orange orchids. The village is a popular destination for those seeking a peaceful retreat away from the hustle and bustle of city life. Visitors can enjoy trekking, nature walks, and exploring the local culture. The area is also noted for its beautiful sunrise views. It provides a picturesque and tranquil atmosphere.





Lamahatta



Metasequoia
glyptostroboides



Ginkgo biloba



Pilea pumila



Lamahatta lake

LAMAHATTA

Lamahatta is a village located in the Darjeeling district of West Bengal, India. It's known for its serene environment and stunning natural beauty. Situated at an elevation of about 5,700 feet (1700 meters) above sea level. Lamahatta offers panoramic views of the surrounding hills and valleys, as well as the majestic Kanchenjunga mountain range, which is the third highest peak in the world. Lamahatta Eco Park is a prominent attraction, known for its beautiful landscape and well-maintained walking trails. The Park offers stunning views of the mountains and valleys, and it's a wonderful place for leisurely walk and photography. Lamahatta enjoys a temperate climate with cool weather throughout the year. The village has a rich cultural heritage with a blend of various communities. Visitors can experience local traditions, cuisines.



Citrus sinensis



Dicksonia antarctica



wild mushroom

TAKDAH

It is a small village about 28 km. from Darjeeling and located at altitude of 4000 ft. It once used to be a military cantonment during British day of early 1900's when several British Bungalows came up here for of the officers. Some of them still exist. Takdah is known for its serene environment, lush tea garden, and colonial architecture. There is the range of orchids. It also have himalayan orchid. Cactus house, several herbe, medicinal plants are also present here.

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Dendrobium fimbriatum



Cymbidium Sp.



TAKDAH ORCHID CENTRE

Takdah Orchid Centre stands as an ideal reason to fall in love with the place. Normally accessible to the visitors from the months of February to April, Takdah Orchid Centre is an exclusive sanctuary to a rarest and a wide variety of Orchids. This remarkable Orchid Center sprawls over an area with historical Importance.

Amongst the largest variety, this place conserves the wild orchids, including the rare variety of Himalayan orchids.

The center also boasts of a herbal garden that has a host of medicinal plants, grown and cultivated for the medicinal purposes.

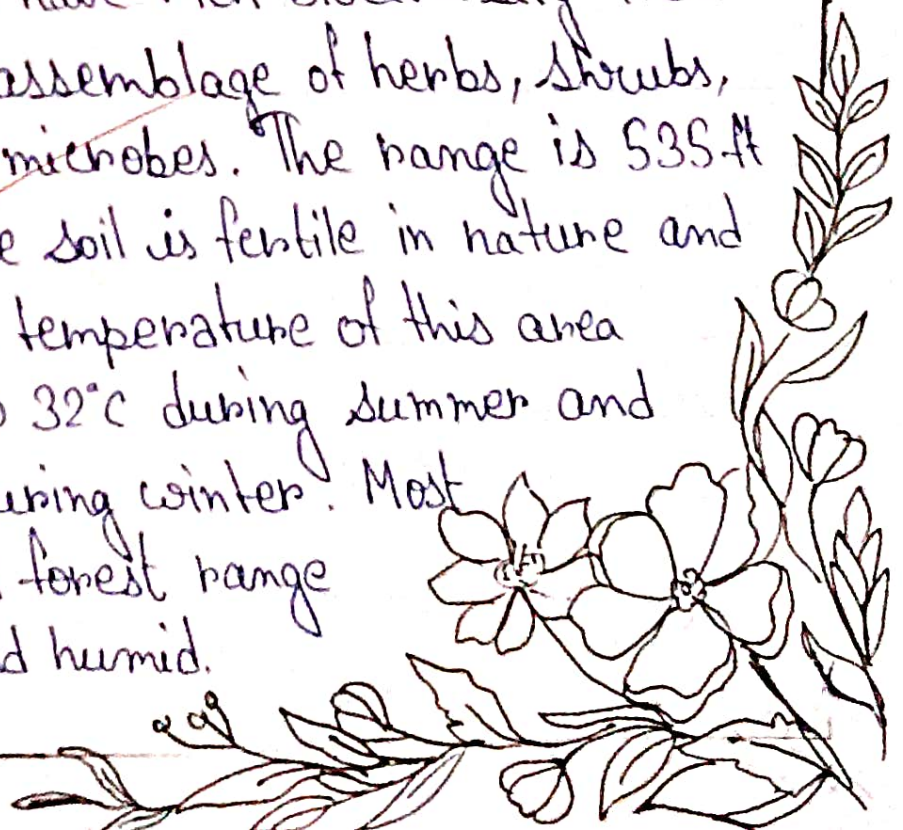
Normally, the flowering season remains at peak in the month of October. Still, the place extends a magical experience throughout the year. Experts deem of Takdah Orchid Centre presents an incredible experience, sufficing the aesthetic quest for every kind. Be it a nature lover, peace seeker, botanical enthusiasts, and more alike.



Erigeron karvinskianus

CHALSA

Chalsa Forest Range, a Himalayan foot hill forest range, represents one of the unique biodiversity region of world which is under little but continual disturbance by biological and anthropogenic factors. It is situated in Malbazar Subdivision of district Jalpaiguri, West Bengal, India. Vegetation of the forest is unique in the Nature. The forest is characterized by dense vegetation of the and a Rich wild life. The forest range is also very close to the river Jaldhaka. In addition Mithi river, Raidak river and Diana river are also very close to the forest range. Jaldhaka basin in the chalsa region created some excellent habitats which have rich biodiversity that contains diverse assemblage of herbs, shrubs, trees, animals and microbes. The range is 535 ft from sea level. The soil is fertile in nature and strongly acidic. The temperature of this area varies from 20°C to 32°C during summer and from 8°C to 22°C during winter. Most of the area of this forest range is wet annual and humid.





Curcuma aromatica

The forest is famous
timber vegetation like -

Shorea robusta C.F. Gaertn.
Lagerstroemia speciosa (L.) Martyn.
Terminalia belirica Wall.
Chukrasia tabularis A. Juss.
Terminalia tomentosa Wight & Arn.
Stercuria villosa Roxb.
Persea fructifera Kosterm.
Beilschmiedia roxburghiana Nees. etc.

However there is no reliable study on different types of non timber Plants, their habitat ecology and phytosociology. The forest range is also a source house of endemic and exotic medicinal Plants. The plants having various properties, which are useful in our day to day life. Some are used as medicine, while some are consumed as edible nutritious vegetables or fruits.

Different tribal communities belonging to the villages adjacent to such forest are dependent upon the forest resources for their day livelihood practice. Many of the traditional healers, Kabinaj, Bez, also collected the medicinal plants for treatment of various disease



Fragaria vesca

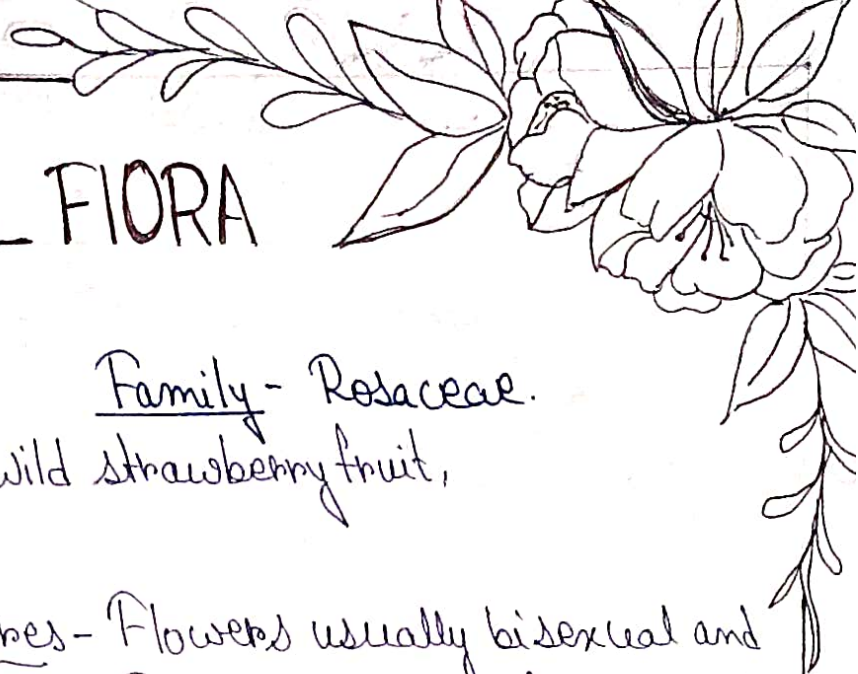


Sonchus arvensis



Curculigo orchioides

LOCAL FLORA



Fragaria vesca

Family - Rosaceae.

Common name - Wild strawberry fruit,

Status - wild.

Identifying Features - Flowers usually bisexual and regular, pentamerous. Petals 5 or more, free, inserted on receptacular cup or hypanthium, Stamens numerous. Ovary superior or inferior, ovules on axile place-
-ntation. Carpel 1-many, free or connate.

Sonchus arvensis

Family - Compositae (Asteraceae)

Common name - Perennial sow thistle

Status - wild

Identifying Features - Inflorescence - capitulum i.e., head, surrounded by involucre of bracts. Flowers - generally bisexual, epigynous, actinomorphic or zygomorphic

Curculigo orchoides

Family - Cyperaceae.

Common name - Golden eye grass

Status - wild

Identifying Features - Small to medium herbs, with grass like leaves and an invisible stem, modified into a corm or rhizome. Flowers are trimerous.

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Zephyranthes carinata



Senna sophera

Cuphea sp.

Family - Lythraceae

Common name - Pink cigar plant

Status - Wild

Identifying Features - Herbs to trees; leaves simple opposite; hypanthium present; corolla crumpled; ovary superior; seeds non-endospermic.

Zephyranthes carinata Family - Amaryllidaceae.

Common name - Pink rain lily

Status - wild/cultivated.

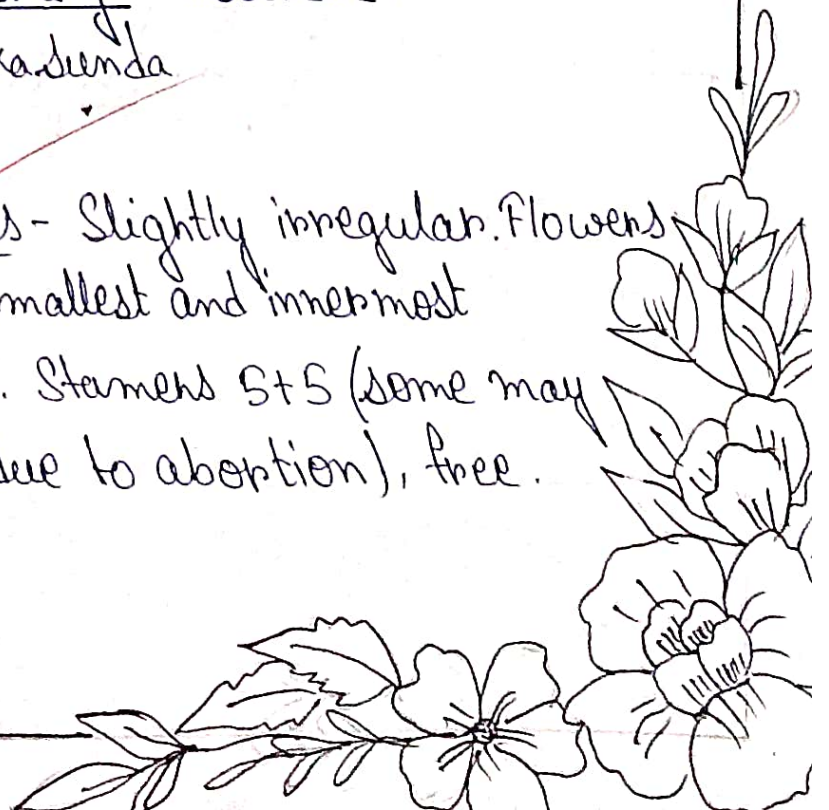
Identifying Features - ~~Inflorescence~~ - commonly umbellate cyme. Flowers - bisexual, epigynous, actinomorphic or medianly zygomorphic. Stamens 6, epipetalous, Ovary inferior, syncarpous, Fruit - Capsule.

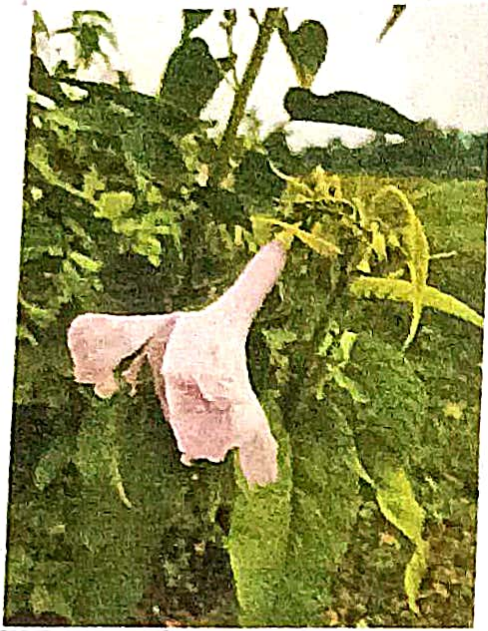
Senna sophora Family - Fabaceae.

Common name - Kalkadu

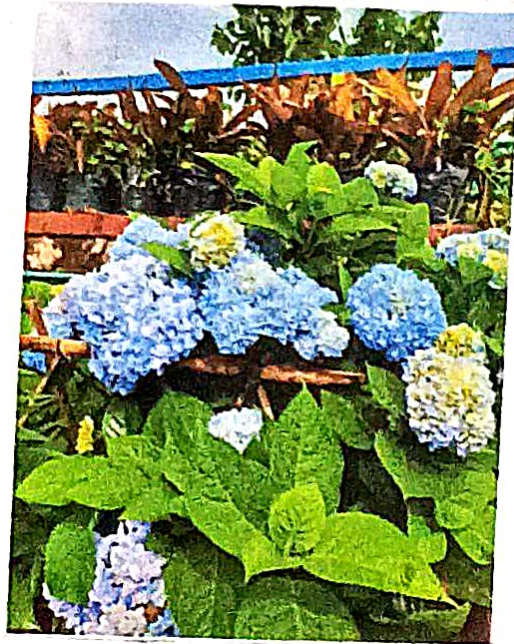
Status - wild

Identifying Features - Slightly irregular. Flowers petals 5, odd petals smallest and innermost Aestivation - imbricate. Stamens 5+5 (some may be sterile) or less (due to abortion), free.





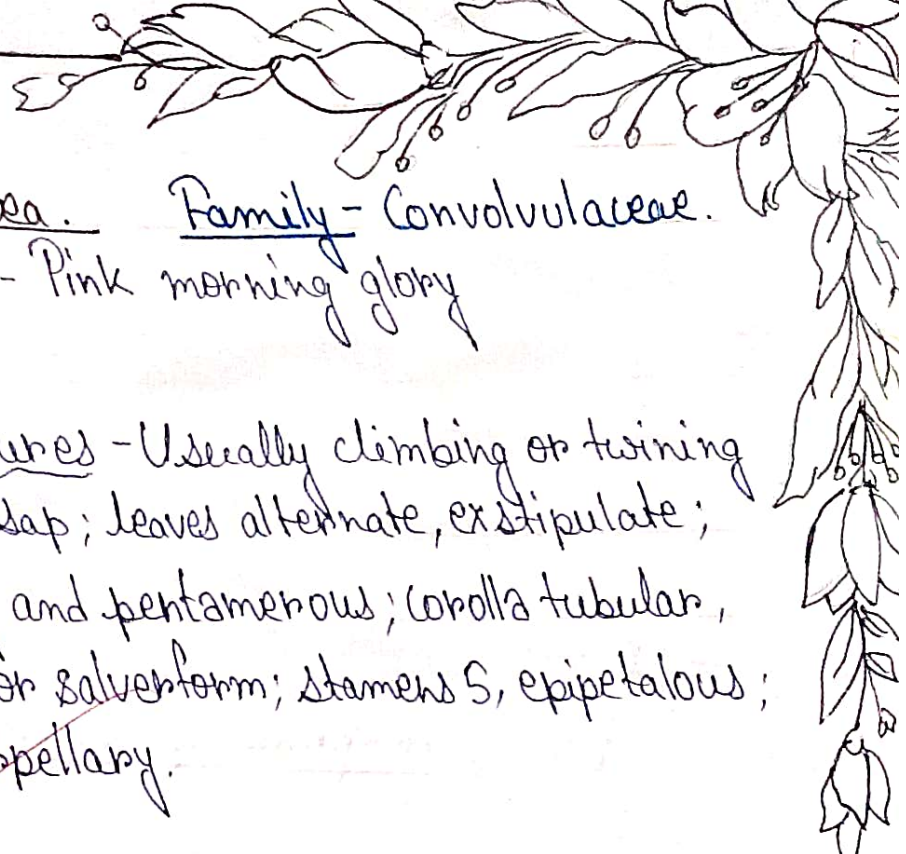
Ipomoea
Carnea



Hydrangea
macrophylla



Rhynchosstylis retusa



Ipomoea carnea. Family - Convolvulaceae.

Common name - Pink morning glory

Status - wild

Identifying Features - Usually climbing or twining vines with milky sap; leaves alternate, exstipulate; Flowers axillary and pentamerous; corolla tubular, infundibuliform or salverform; stamens 5, epipetalous; gynoecium bicarpellary.

Hydrangea macrophylla Family - Hydrangeaceae

Common name - Big leaf hydrangea

Status - wild / cultivated.

Identifying Features - Flowers in terminal, round or umbrella-shaped clusters in colors of white, pink or blue, or even purple.

Rhynchostylis retusa Family - Orchidaceae

Common name - Foxtail Orchid

Status - wild

Identifying Features - Perennial herbs; perianth inconspicuous, leaves 2-ranked; flowers zygomorphic, usually trimerous; usually labellum, pollinia and gynostegium present; ovary inferior.



Pseudognaphalium affine



Geranium wilfordii

Pseudognaphalium affine Family - Asteraceae.

Common name - Mouse yeast grass

Status - wild

Identifying Features - Herbs, vines, or shrubs, rarely trees; Inflorescence an involucrate head or capitulum; pappus often present; stamens syngenesious, Carpels 2, united; ovary inferior, fruit cypsela.

Pseudocyclosorus esquirolii Family - Thelypteridaceae

Common name - Christ ching

Status - wild

Identifying Features - Popularly known as marsh fern family. The rachis is grooved on its upper side and is covered with fine hairs. Small needle like hairs are present on the leaves.

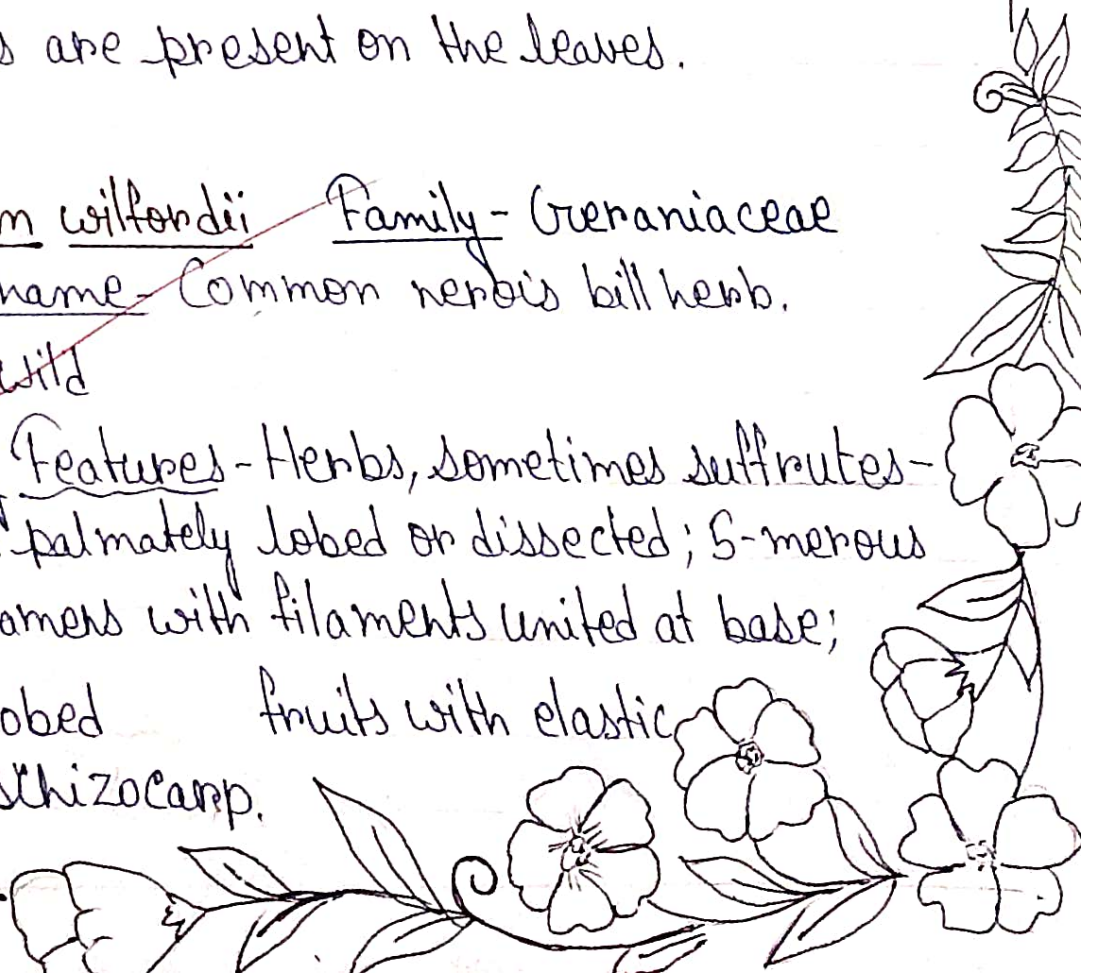
Geranium wilfordii Family - Geraniaceae

Common name - Common nerbis bill herb.

Status - wild

Identifying Features - Herbs, sometimes suffrutescent; leaves palmately lobed or dissected; 5-merous flowers; stamens with filaments united at base;

beaked or lobed fruits with elastic dehiscent schizocarp.



Papaver somniferum

Family - Papaveraceae

Common name - Opium poppy,

Status - Cultivated.

Identifying Features - Herbs, leaves alternate, often lobed or divided, exstipulate; flowers bisexual; poisonous latex usually present; petals rolled or crumpled in the bud; stamens numerous; ovary unilocular, fruit Capsule.

Rhododendron simsii Family - Ericaceae

Common name - Red Azalea

Status - Cultivated

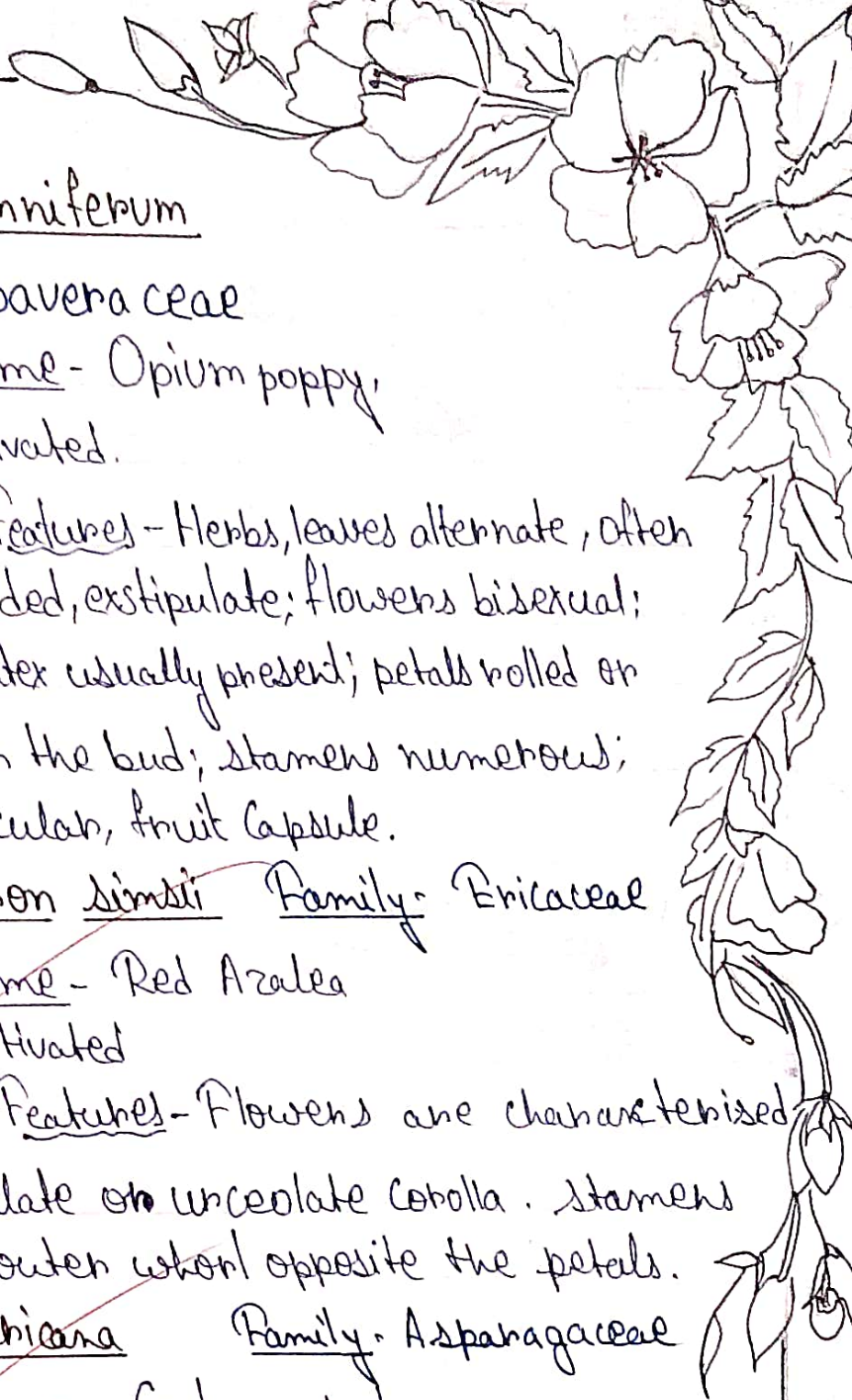
Identifying Features - Flowers are characterised by campanulate or urceolate corolla. Stamens 8-10 with outer whorl opposite the petals.

Agave americana Family - Asparagaceae

Common name - Century plant

Status - Cultivated.

Identifying Features - Inflorescence ascending, axillary, simple or compound racemes, with flowers in lateral, small fascicles.





Digitalis purpurea



Digitalis purpurea f. albiflora

Alstroemeria aurea Family - Alstroemeriaceae

Common name - Peruvian lily

Status - Cultivated.

Identifying Features - Flowers are trumpet shaped and have six petals. They can be found in many colors. They often have flecks, stripes and darker streaks.

Digitalis purpurea Family - Scrophulariaceae

Common name - Lady's glove

Status - Cultivated.

Identifying Features - Leaves are rosette at the base. Flowers are funnel shaped, pink or white. They have purple and white spots on the inside and are arranged around the stem.

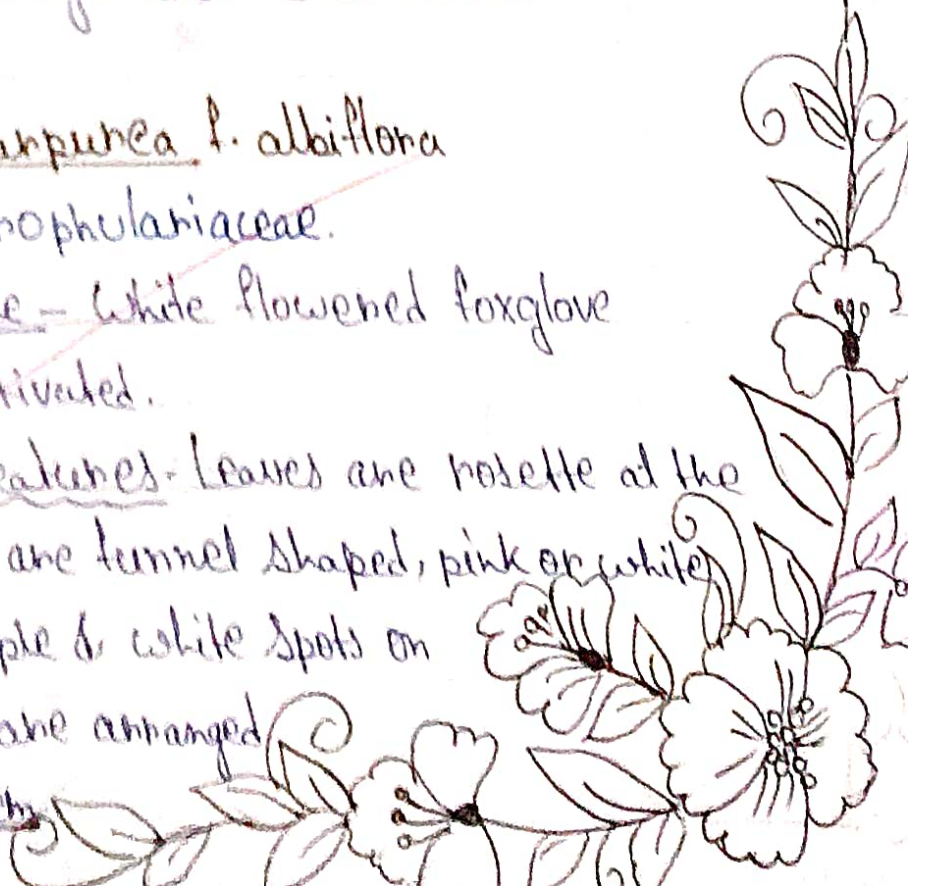
Digitalis purpurea f. albiflora

Family - Scrophulariaceae.

Common name - White flowered foxglove

Status - Cultivated.

Identifying Features - Leaves are rosette at the base. Flowers are funnel shaped, pink or white. They have purple & white spots on the inside & are arranged around the stem.





Phaius tankervilleae



Rhododendron indicum

Phaius tankervilleae

Family - Orchidaceae

Common name - nun's hood orchid

Status - Cultivated

Identifying Features - Perennial herbs; perianth in conspicuous, leaves 2-ranked; flowers zygomorphic, usually trimerous; usually labellum, pollinia and gynostegium present; Ovary inferior

Rhododendron indicum

Family - Ericaceae

Common name - evergreen azalea

Status - Cultivated.

Identifying Features - Flowers are characterised by campanulate or urceolate corolla. Stamens 8-10 with outer whorl opposite the petals.

Anthurium schubertianum

Family - Araceae.

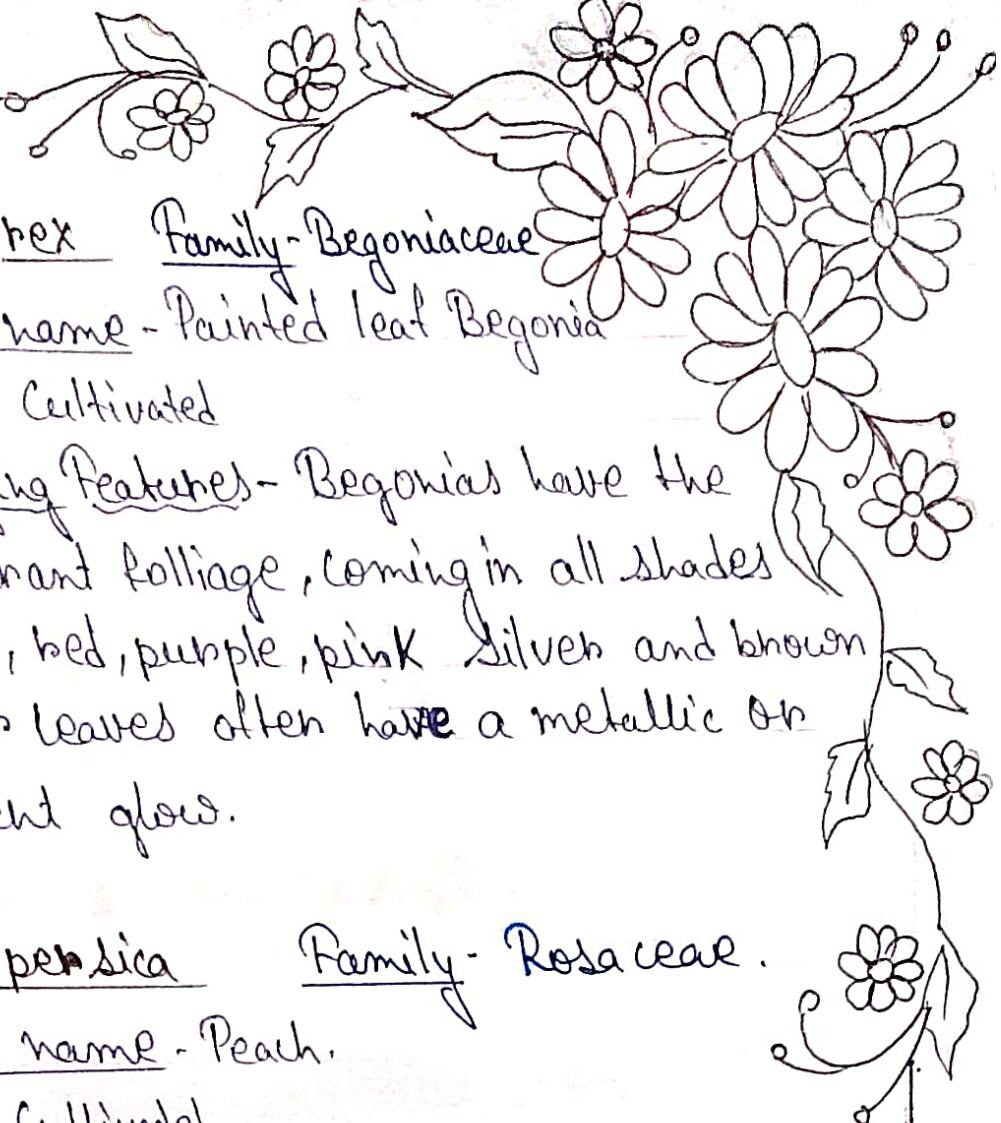
Common name - Pigtail Anthurium

Status - Cultivated.

Identifying Features - Rhizomatous or tuberous herbs, found in both aquatic and terrestrial habitats; inflorescence of spadix subtended or enveloped by a single spathe; flowers small and often bad smelling; fruit berry



Prunus persica



Begonia rex Family - Begoniaceae
Common name - Painted leaf Begonia

Status - Cultivated

Identifying Features - Begonias have the most vibrant foliage, coming in all shades of green, red, purple, pink. Silver and brown and their leaves often have a metallic or iridescent glow.

Prunus persica Family - Rosaceae.

Common name - Peach.

Status - Cultivated

Identifying Features - Flowers usually bisexual & regular, pentamerous. Petals 5 or more, free inserted on receptacular cup or hypanthium, stamens numerous. Ovary superior or inferior, ovules on axile placentation. Carpel - 1 - many free or connate.

Bauhinia sp. Family - Fabaceae.

Common name - Butterfly tree

Status - Cultivated

Identifying Features - Slightly irregular. Flowers petals - 5, odd petals smallest & inner most Aestivation - imbricate. Stamens 5-5 (some may be sterile) or less (due to abortion), free.



Clerodendrum sp.

Conclusion

From this trip I gathered important information regarding floristic composition of Tinchuley, Takdah, Lamahatta and chalsa.

Considering the location (Eastern Himalaya Phytogeographic Zone). The climate was comparatively cool and humid. I observed various wild and cultivated plants characteristics of both tropical and temperate climate.

Orchids requires special mention as many were in full bloom although the following season was over (*Riptomenia japonica* was abundant in Lamahatta Ecopark).

Beauty of nature and the views through the clouds filled our minds with great pleasure overall it was an amazing and successful excursion.

S. Sarchowdhury
27.09.24