# FIELD REPORT

B.Sc (Honours) SEMESTER - III (2023) under CBCS



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# Achavya Jagadish Chandra Bose Indian Botanic Garden

Date : 19th January, 2024

Accompanying Teachers : Smt. Sangita Das Chowdhury & Mr. Avik Majumdar

Team : Botany honours & general students of 3rd semester of Maria'dhar Girls' College.

EXAMINED
Dept. of Botany
Dinabandhu Andrews College Centre (052)
Garia, Kolkata-700084

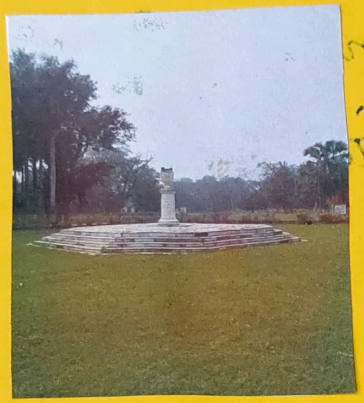
Botanical garden is a scientifically planned collection of trees, shrubs, climbers etc., which serve as a living repository of plants. In a planned Botanic Garden, plant having close association or resemblances are usually grown together for better understanding of various plants groups. For eg. different species of Bamboos are grown in exclusive group called Bambooschum, similarly the gymnosperms in Pinchum screwpines (Ponadanus) in Ponclanatum woody tree species in Arbarchum and Orchids are grown in Orchidarium etc. The Botanic Garden not only acts as a place of aesthech's beauty attracting tourists and nature lovers but also offers a lot of opportunities to botanists, horticulturies and researchers to study various aspects of plant Biology for introducing, improvering and describing a large number of economic plants such as Tea, Rubber, Jute, Sugarcane, Mahogony etc.



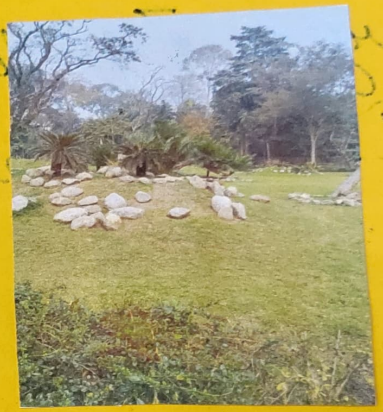
## Indian Botanic Garden

Situated on the West bank of the river Ganga in Howrah district of West Bengal The Indian Botanic Garden is one of the most important Botanic Garden not only in this country but in the coorld.

Established in 1787 by Col. Robert Kyd under the East India Company's patronage



Kyd Monument



Cycas sp.


CNH Building

the company began. At present day, Indian Botanic Garden serves as a platform for first introducing and subsequently shipping out economically important plant species of this region, like Cardamom, Paper, Cotton, Tobacco, Indigo, coffee, Teak etc. and plant products like timber for ships, buildings etc. to England.

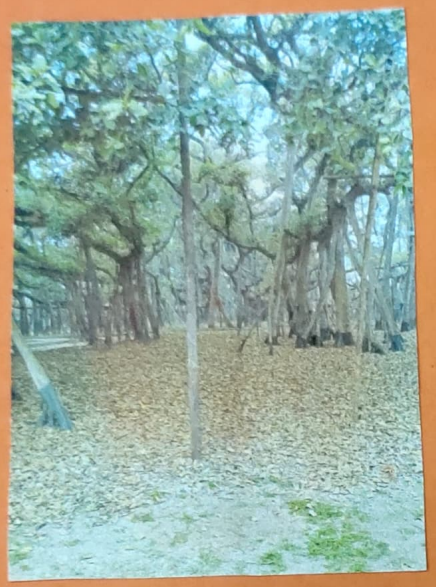
Col. Robert Kyd. secretary of the Military Board as Fort William Calcutta, also functioned as honourable superintendent of this garden from 1787 to 1793 and he was succeded by the first superintendent William Roxburg in 1793 who remained till 1814. The objectives to the garden were re-oriented to a large extent towards plant taxonomy in India by establishing a large herbarium, the present day central National Herbarium (CAL) and is rightly called 'Father of Indian Botany' William Roxburgh left behind a huge collection of coloured icons, more than 2500 original coloured painting of Indian plant brief idea.

Apart from William Roxburgh and the other eminent botanists who served as sperindent during the pre-independence period were:

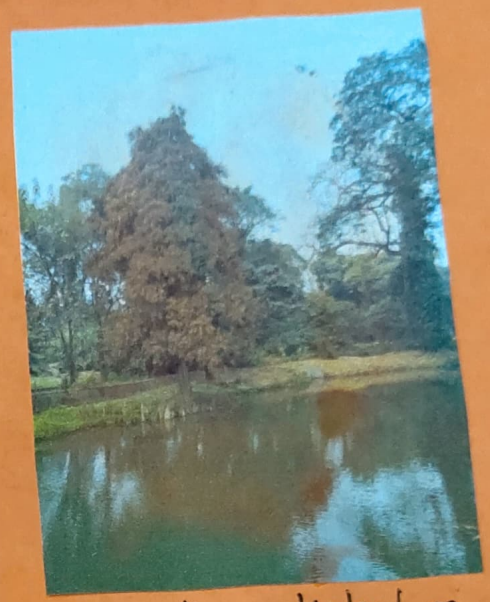
Thomas Henry Calebroe from 1813 to 1814

Buchanon Francis Haliton from 1814 to 1815

Nathaniel Wallich from 1815 to 1816



Ficus benghalensis



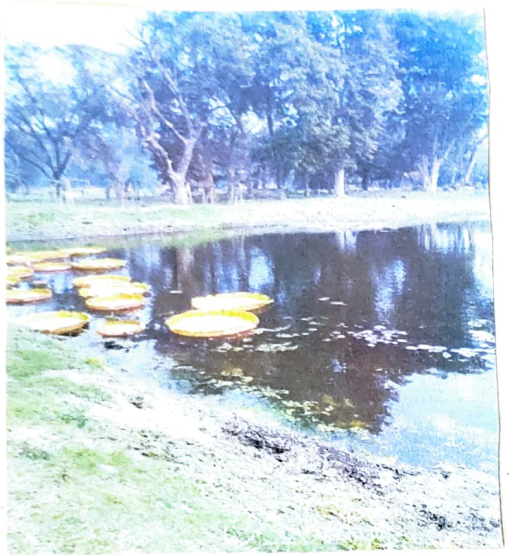
Taxodium distichum

Roxburgh house

Thomas Casey from 1816 to 1817
Nathaniel Wallich from 1817 to 1842 (left due to ill health)
William Griffith from 1842 to 1845
Nathaniel Wallich from 1845 to 1847
Hugh Takaner from 1847 to 1855
Thomas Thompson from 1855 to 1861
CB Clanker from 1869 to 1871
Captain George Ieing from 1871 to 1897
David Prain from 1897 to 1905
St. Col. Gage from 1906 to 1923
C.C Calder from 1923 to 1937
K. Biswas from 1937 to 1955

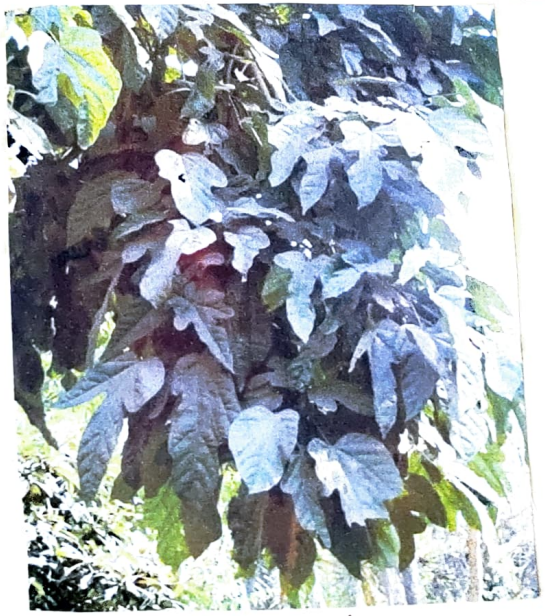
## Some Important Plants of Acharya Jagadish Chandra Bose Indian Botanic Garden

| Name of the plants | Family |
|---|---|
| Hyphaene thebaeca (branching palm) | Arecaceae |
| Asclepias fruticasa (phuchica plant) | Asclepiadaceae |
| Adansonia digitata (Babool Kalpa Vriksa) | Bombacaceae |
| Elaeocarpus serratus (Rudraksh tree) | Elaeocarpaceae |
| Couropita guianensis (Cannon Ball tree) | Lecythidaceae |
| Ficus krishnae (Krishna Bath) | Moraceae |
| Saraca asoca (Ashok) | Leguminaceae |
| Michelia champaca (Champa) | Magnoliaceae |
| Myristica fragrance (Jaiphal) | Myristicaceae |
| Euryale ferox (Makhana) | Nymphaeaceae |
| Andrographis paniculata | Acanthaceae |
| Pandanus fachila | Pandanaceae |
| Dendrocalamus giganteus (Bamboo) | Poaceae |



Victoria kruziana

Shorea robusta



| | |
|---|---|
| Theobroma cacao (chocolate tree) | Sterculariaceae |
| Pterygota alata var irregularis | Sterculariaceae |
| Strychnine nux-vomica | Fabaceae |
| Amherstia nobilis (queen of flowering plants) | Fabaceae |
| Bromea coccinea | Fabaceae |
| Polyalthia longifolia (Sonn.) Thwaites | Annonaceae |
| Carega arborea | Lecythidaceae |
| Cleome rudidiosperma | Cleomaceae |
| Coccinea indica | Cucurbitaceae |
| Cucumis mela | Cucurbitaceae |
| Dregea volubilis | Apocynaceae |
| Globba sp. | Zingiberaceae |
| Pylocereus undatus | Cactaceae |
| Nelumbo nucifera | Nelumbonaceae |
| Physalis minima | Solanaceae |
| Victoria sp. | Nymphaceae |
| Argyreia nervosa | Convolvulaceae |

Psilotum nudum

Brownea sp.

Dillenia indica

Hyphanae thebaica

Vanda sp.

Bambusa sp.

# SALIENT FEATURES OF INDIAN BOTANIC GARDEN

Situated at a distance 8km away from Howrah Railway station & 25 km away from Calcutta International Airport (Netaji International Airport). The Indian Botanic garden covers an area of about 273 acers on the west bank of river Ganga. The Indian Botanic Garden is one of the most famous garden of the world like the Royal Botanic Garden, Kew, England. The unique landscape was initiated by Sir George King. The garden is divided into 25 devisions each specified for growing different types of plants. There are 24 lakes in the garden which are intercomected with underground pipes & connected with river through gate for the regular inlet of water. The roads inside the garden, avenues and lakes are named after the famous botanists & other technical staff of the garden. The garden is the living repository of more than 120000 trees, shrubs and climbers, representing over 1400 sp. together with a large number of wild & cultivated herbs. Unlike other earlier established garden in India which were take on or turned into either horticulture or fruit gardens, the Indian Botanic Garden preserves one of the best collection of native & exotic plants and a large number of curios rare and endengered species. Rich collection of Bamboos screwpines, palms, Jasmines, Bouganvilleas, Legumes, water lillies, Orchids etc. are some of the proved passessions of the garden.

We have also seen few species of Gymnosperms growing
These are

| Name of the plants | Family |
|---|---|
| Cycas circinalis | Cycadaceae |
| Cycas revoluta | Cycadaceae |
| Pinus roxburghii | Pinaceae |
| Podacarpus nerifolicus | Podocanpaceae |

Pteridophyte growing in the garden -

| Name of the plant | Family |
|---|---|
| Psilotum nudum | Psilotaceae |

## CONCLUSION

It was a great experience to visit Acharya Jagadish Chandra Bose Indian Botanic Garden where we came across different plant species of the world & species are growing in harmony with the indigenous. Here we gathered knowledge on various types of plants belonging to different families. In the Botanic garden we observed ex-situ conservation of plants - the medical plant in 'Charak Udyan' orchids in the 'National Orchidasium', several species of palm in the large palm house, few species of Cactus and other suculents in the 'Cactus House/Glass House', different sp. of gymnosperms in the Pinatum, bamboos in the Bamboo sehum etc. We also saw the famous 'Great Banyan Tree', Giant lily, Branching palm, Cannon ball tree, Mad tree etc. which are the most attaching plant of the garden.

During this excursion, we visited the Central National Herbarium (CNH) which is situated inside the garden where we got some useful knowledge on herbarium methodology. It was an opportunity to visit the type section of CNH where we had a look at Wallich Catalouge and beautiful colour icon. The icon were unique as these paintings were made with natural dye during 19th-20th century mostly by the native artists.

It was obvious that this visit had increased our interest on plants environment & their conservation. We are greatful to our teachers of our Botany department for conducting this educational excursion.

S. Deschowdhury

23-3-24

# New Garia Excursion

Date : 16th December, 2023

Accompanying Teachers : Smt. Sangeeta Das Chowdhury & Mr. Avik Majumdar

Team : Botany honours & general students of 3rd semester & 1st semester of Muralidhar Girls' College

Sida acuta Family: Malvaceae

Identifying Features - It's flowers are borne singly or in small clusters in the leaf forks on short stalks. Flowers have 5 yellow petals and 5 sepals.

Tridax procumbens Family: Asteraceae

Identifying Features - The leaves of Tridax are opposite, pinnate, oblong to ovate and acute apexes. Flowers have white rays and yellow disk florets

Urena simuata Family: Malvaceae

Identifying Features - Leaves simple, alternate, with the upper surface rough & lower surface grayish. Flowers small, showy, hibiscus-like, solitary on short stalks, rose or pink.

Wedelia calendulaceae Family: Asteraceae

Identifying Features - Wedelia is a mat forming perennial herb with rounded stems. Flowers are yellow-orange in colour.

Ipomoea carnea Family: Convolvulaceae

Identifying Features - Inflorescence axillary, 1-many flowered cymes, bracteolate

Amaranthus viridis Family: Amaranthaceae

Identifying Features - light green stems that grow about 60-80 cm in height. Numerous branches

Sida acuta

Tridax procumbens

Urena sinuata

Wedelia calendulaceae

Ipomoea carnea

Amaranthus viridis

Ricinus communis Family: Euphorbiaceae

Identifying Features - Leaves glossy, 15-45 cm long, long stalked, alternate and plamate with 5-12 deep lobes with coarsely toothed segments.

Commelina benghalensis Family: Commelinaceae

Identifying features - Creeping stems which assume an ascending position, are 15-40 cm long Flower blue in colour.

Musa sp. Family: Musaceae

Identifying Features - Trees four to five feet long with three foot leaves that are green, pink bracts

Calotropis procera Family: Apocynaceae

Identifying Features - Large shrub growing 1-4 m tall. Flowers are slightly cup shaped.

Lantana camara Family: Verbanaceae

Identifying Features - Thorny shrub, half climbing

Leucaena leucocephala Family: Fabaceae

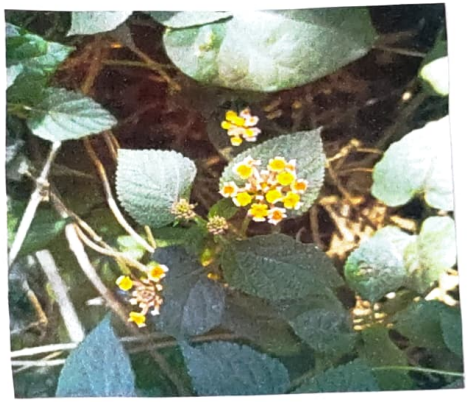
Identifying Features - Flowers clustered on the end of branches in dense ball-like heads about 3/4 inch in diameter.

Ricinus communis

Commelina benghalensis

Musa sp.

Calotropis procera



Lantana camara

Leucaena leucocephala

Glycosmis pentaphylla Family: Rutaceae

Identifying features: Medium sized shrub. Leaves are compound, consists of 5-7 leaflets and small lemon fruits.

Vernonia cinerea Family: Asteraceae

Identifying Features: Stems are rounded and solidly hairy and its leaves are alternately spiral & elliptic

Oxalis corniculata Family: Oxalidaceae

Identifying features: heart-shaped leaflets on trifoliolate leaves and cylindrical seed pods.

Barleria cristata Family: Acanthaceae

Identifying Features: Leaves are dark green on the upper surface and pale green on the lower surface, elliptic to narrowly ovate. Flowers whitish violet.

Asystasia gangetica Family: Acanthaceae

Identifying Features - Evergreen herbaceous perrinial with a creeping growth habit. Flowers whitish violet

Solanum verbascifolium Family: Solanaceae

Identifying features: Leaves ovate-oblong, acuminate, Flowers white in colour.

Conclusion - Plants are identified according to their morphological features.

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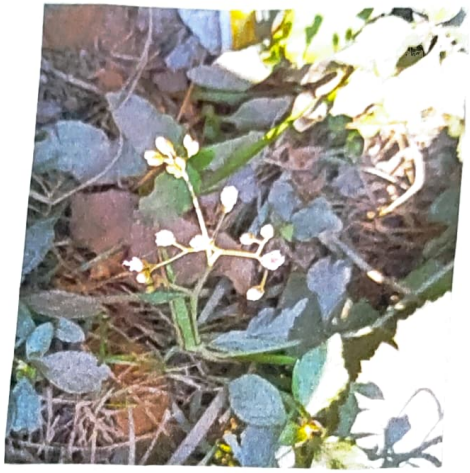
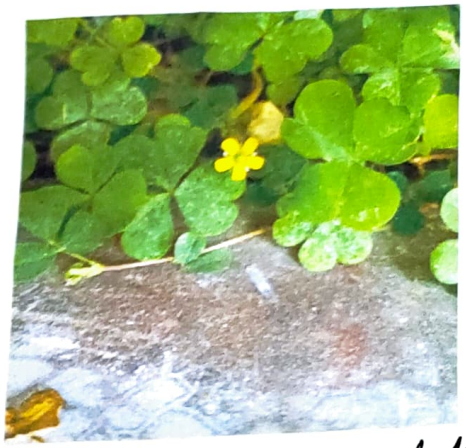
23.3.24

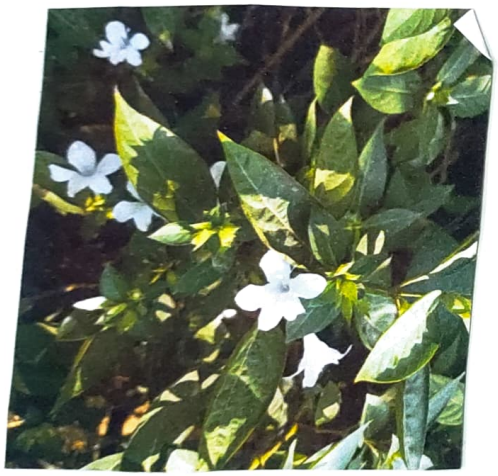
Glycosmis pentaphylla



Vernonia cinerea



Oxalis corniculata



Barleria cristata

Asystasia gangetica

Solanum virginianum