

PRESENTS  
**GULMOHAR NEWSLETTER**



## INDEX

- Editor's Desk
- Ecological importance of Mangroves
- Poison Garden
- Bird Nest Fungi
- Aromatherapy
- Photo Gallery

## FROM THE EDITOR'S DESK

by Shubham Patkar

TY B.Sc

A warm welcome to our first edition of the year 2020-2021. In this edition we have tried to publish some interesting articles and photographs. In this, you will get to know about the ecological importance of mangroves, how they play an important role in maintaining the ecosystem. You will get to know about Aromatherapy and how aroma plays an important role in skin care, reducing stress, etc. We have also put an article about the Poison garden. This is a garden featuring many intoxicating and poisonous plants. We have also put information about the Bird nest fungi. Last but not least don't forget to check out the photography section which shows amazing photography skills of the students.

**HAPPY READING!**



# ECOLOGICAL IMPORTANCE OF MANGROVES



## What are Mangroves?

Mangroves are salt-tolerant vegetation that grows in intertidal regions of rivers and estuaries. They are referred to as 'tidal forests' and belong to the category of 'tropical wetland rainforest ecosystem'. Mangrove forests occupy around 2,00,000 square kilometres across the globe in tropical regions of 30 countries. India has a total mangrove cover of 4,482 sq km. A mangrove ecosystem is the interface between terrestrial forests and aquatic marine ecosystems. The ecosystem includes diversified habitats like mangrove-dominant forests, litter-laden forest floors, mudflats, coral reefs and contiguous water courses such as river estuaries, bays, inter-tidal waters, channels and backwaters.

Mangroves are trees and shrub species that grow at the interface between land and sea in tropical and subtropical regions of the world, where the plants exist in conditions of salinity, tidal water flow and muddy soil. The structural complexities of mangrove vegetation create unique environments which provide ecological niches for a wide variety of organisms.

## Help provided by the Mangroves

Mangroves serve as breeding, feeding and nursery grounds for most of the commercial fishes and crustaceans on which thousands of people depend for their livelihood. Mangroves give protection to the coastline and minimise disasters due to cyclones and tsunami. Recent studies have shown that mangroves store more carbon dioxide than most other forests. Mangroves are an intermediate vegetation between land and sea that grow in oxygen deficient waterlogged soils which have Hydrogen Sulfide. They perform important ecological functions like nutrient cycling, hydrological regime, coastal protection, fish-fauna production, etc. Mangroves act as shock absorbers. They reduce high tides and waves and help prevent soil erosion. They also provide livelihood opportunities to coastal communities.



# POISON GARDEN



The gate of The Poison Garden



The cascade at the centre of The Alnwick Garden

One might know the Alnwick Castle for the Harry Potter fame—was used as a location for the famous Hogwarts school in the first two movies. But that's not the only interesting tidbit of the castle in North England, adjacent to it is the Alnwick Garden. It is over 12 acres of land and attracts around 600,000 visitors annually. While in most of the gardens, visitors may be allowed to pluck flowers, here they are prohibited from tasting, touching or even smelling any plant or flower. One might wonder why? The reason lies beyond the iron gates; these gates lead to the Poison Garden, that houses around 100 intoxicating and narcotic plants. Although it is situated in the Alnwick Garden, Poison Garden is open for guided tours only.

## The foundation and transformation of the Alnwick Garden

The foundation for Alnwick garden was laid back in 1750 by the first Duke of Northumberland and was later developed by his successors until it was closed in 1950 due to the shabby mess it had grown to be. And it remained in those desperate conditions until the 12th Duke and Duchess of Northumberland moved into the castle and the Duchess, Jane Percy, took it upon herself to revamp and redevelop the Alnwick Garden in 1997. She hired Belgian landscape artists Jacques and Peter Wirtz to redo the garden. The garden went under direly needed transformation for four years and was opened to the public in 2001. The transformation took place in phases, and the Poison Garden was completed only in 2005.

# BIRD NEST FUNGI



## What are bird's nest fungi?

Bird's nest fungi are a group of organisms named for their resemblance to miniature bird's nests. These fungi can be found all over the world, growing and reproducing on decomposing organic matter. In temperate regions, bird's nest fungi can be found virtually anytime there are damp, shady conditions, but they are most commonly seen in the autumn.

## What do bird's nest fungi look like?

The tiny fungi are best identified by the appearance of a brown, gray, or white outer “nest”, with brown or white “eggs” inside. The “eggs” are actually spore-containing structures called peridioles that rest inside the cup-shaped fruiting body (reproductive structure). Individual fruiting bodies are usually only  $\frac{1}{4}$  in. in diameter and vary in shape, size, and color depending upon species.

## Where do bird's nest fungi come from?

Bird's nest fungi are classified in the fungal group gasteromycetes. *Cyathus* spp., *Nidula* spp., *Crucibulum* spp., *Nidularia* spp., and *Mycocalia* spp. are the most common genera of bird's nest fungi. These fungi are often found in moist, shaded areas, and typically survive on soil, plant remains, decaying wood, or horse and cow excrement. The characteristic “cup and egg” structure of the bird's nest fungi provides a unique method of dispersing spores. In a storm, the “eggs” are splashed out of the “cups” by raindrops. “Eggs” can travel a distance of a meter or more before sticking to another object. When the “egg” dries, it splits open releasing fungal spores.



# AROMATHERAPY



## Aromatherapy

It is defined as the therapeutic application or medicinal uses of aromatic substances (essential oils) for holistic healing. It involves the inhalation and application of volatile essential oils from aromatic plants to restore or enhance health, beauty and well-being. It is the therapeutic use of essential compounds obtained from flowers, plant parts and aromatic shrubs. The primary form of aromatherapy application involves use of essential oils topically to the skin via massage, inhalation, aromatic baths etc.

## Applications of Aromatherapy:

- Aromatherapy is a complementary therapy which supports conventional treatments of various diseases or disorders.
- It soothes the nervous system and heals the patient not only at physical level but also at mental levels.
- Aromatherapy also treats the patients spiritually and develops the sixth sense of intuition and extrasensory perception.
- Aromatherapy oils balances and lift up energy levels of body.
- Inhaling essential oils stimulates the olfactory system, the part of the brain connected to smell, including the nose and the brain. As the oil molecules reach the brain, they help to regulate emotions, anxiety, agitation, stress and depression.
- It enhances blood circulation in body and regulates the heart rate, blood pressure and breathing.
- It cures respiratory problems like cough, cold, congestion, bronchitis, etc.
- It controls hormonal balance and useful in treating menstrual and menopausal problems.
- It is very effective in case of nausea, fatigue and insomnia.
- It is also used commercially for skin care and hair care.

# PHOTO GALLERY



*Lantana camara*

Anjali Vijaykumar (Fybsc C )



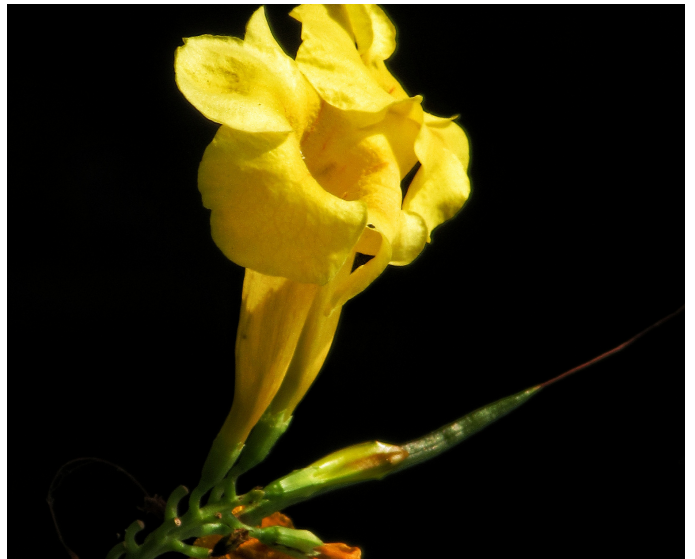
*Tabernaemontana divaricata*

Gaurav Patil ( Fybsc C)



*Nauclea*

Ankita Chauhan (Fybsc C)



*Tecoma stans*

Felix Sekar (Fybsc C)

---

**Teacher incharge:** Dr. Mahavir Gosavi (HOD, Department of Botany, SIES College)

**Editor:** Mr. Shubham Patkar

**Layout designer:** Ms.Raghavi Vasanth Kumar, Ms.Jeba reshma, Ms.Vaishnavi Sawant

**Web manager:** Ms, Dhanashree Pujari, Ms.Sneha Swain, Ms.Meenaz Khan, Ms.Ruhi Khan, Ms.Muskan Sayyed

Email address: [botanynewsletter@gmail.com](mailto:botanynewsletter@gmail.com)

Instagram: [gulmohar\\_botany\\_newsletter](#)

Facebook; [Gulmohar- Botany Newsletter](#)