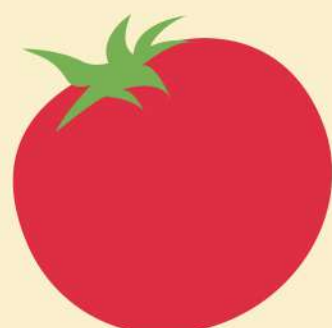
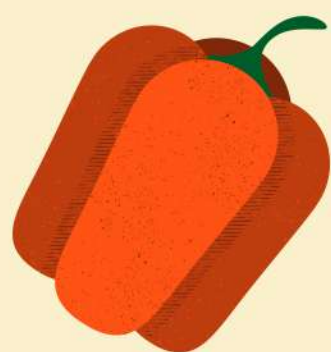


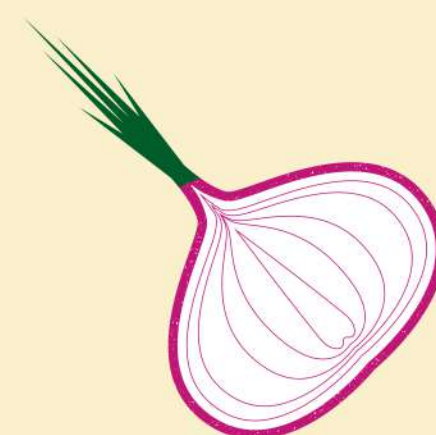


Kalindi College

Department Of Botany



BOTANY NEWSLETTER



AMARANTH TIMES

**VOLUME 2
ISSUE 2
AUGUST 2022**



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FACULTY EDITORIAL

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Editor and Teacher In-charge

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Dr. Remya Krishnan

Dr. Monika Keisham



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MESSAGE FROM PRINCIPAL'S DESK



It gives me immense pleasure that the Department of Botany is coming up with their second volume of their newsletter "Amaranth Times" for the academic session 2021-22. With the hard work of the newsletter team of teachers and students, they are releasing the issue of even semester for the academic session 2021-22 . The newsletter helps students and faculty to come out with their creative side and gives them satisfaction after their hard work comes to life. I am sure that readers will benefit from the informative and artistic contents as well as the updates about the biological world.

I wish them all the very best!

~Prof. (Dr.) Anula Maurya



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MESSAGE FROM EDITOR & TEACHER-IN- CHARGE

It gives me immense pleasure that we are releasing our second volume and issue of the newsletter "Amaranth Times" for the academic session 2021-22. It gives me a great deal of satisfaction that we are doing a little effort in bringing out the creative sides of students. In this journey we have identified many poets, writers and artists among our students.

This volume also includes many entries from other departments of our own college and winners of competitions from other colleges of Delhi University.

The theme of this volume is "Heirloom Plants". Heirloom plants are native or indigenous plants/crops growing in any country. Some very well known examples of India include Black rice of Manipur which was given Geographical Indication (GI) tag in the year 2020. Very recently, GI tag has been given to Mithila Makhana (*Euryale ferox*) belonging to Bihar. India has a variety and a number of native crops but these are vanishing rapidly because of preference for hybrid varieties by consumers. After the Green Revolution, the demand for hybrid varieties increased and many of our native crops vanished. The Government should take necessary steps to promote growth and production of these plants so that they do not become extinct.

This newsletter is a small effort to make readers aware of the importance & need of these native crops.

I am really thankful to our Editorial team, especially the student Editorial Head Ms. Kanupriya Chaudhary and her team for their hard work, dedication & sincerity in bringing out this issue. I am also thankful to all the students who have contributed articles for this issue.

I hope readers find this issue interesting and benefit from the variety of articles.

~Dr. Ranjana Roy Mishra



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MESSAGE FROM CO-EDITOR

It is with immense pleasure that, I whole heartedly welcome you to the newly invigorated issue of Amaranth Times with a special theme "Heirloom plants". With the University gearing itself for a four year undergraduate courses, we wish the students good luck and hope it turns out to be a wonderful year post Covid crises. This volume would like to shed some light on the importance of heirloom plants.



Heirloom plants are floras with lavish history, juicy flavor and colorful appearances. These special characteristics are imbibed by them through the genes inherited non-stop year by year of open-pollinated system without any human intervention. Well, yes here only the bees know the best. Not only this, these crops do justice to our cultural heritage like Poona Kheera (*Cucumis sativus* L.) heirloom crop from Poona, Maharashtra India. It looks exquisite with its initial light coloured skin that darkens to resemble a rosette potato. It holds a cultural significance to Marathi people as it is offered to Lord Krishna on Janmashthami (A festival celebrated to honour the birthday of Lord Krishna). It is a part of Chappan Bhog i.e., 56 food items offered to Lord Krishna on his birthday. Furthermore, this cucumber is an excellent source of electrolytes where it balances the body fluids and also contains Vitamin C and A, thereby boosting immunity. This is one of the few examples of heirloom crops that are rich in genetic resources, nutritional values and are disease resistant and also hold cultural/ethnic importance.

In the current newsletter, other than articles on Heirloom plants there are general articles, self composed poems, photographs, paintings, etc. to keep the reader in awe of the talents of the students of botany and life sciences in particular.

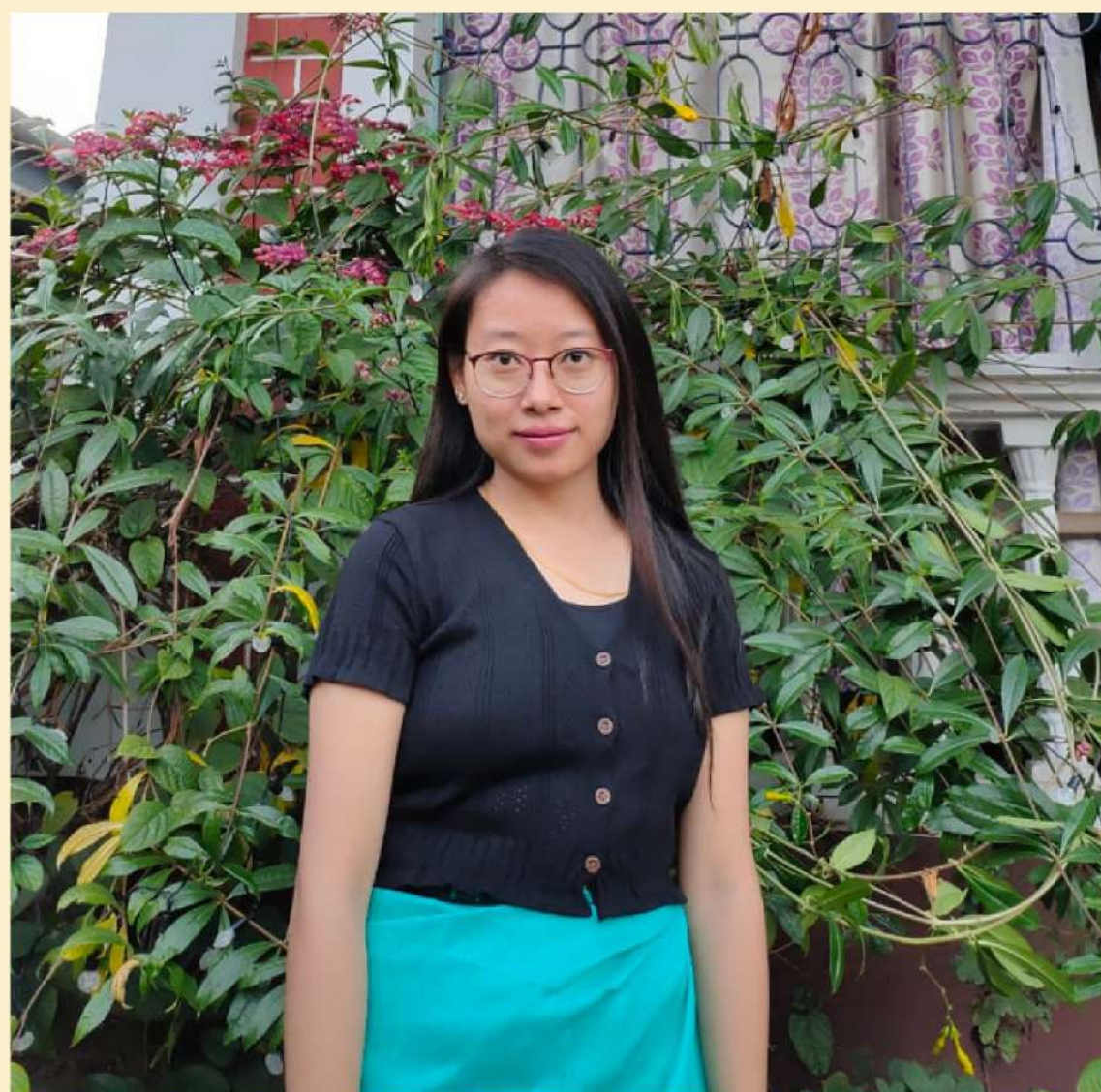
I hope you enjoy reading it as much as I enjoyed while editing it.

~Dr. Remya Krishnan



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MESSAGE FROM CO-EDITOR



It gives me immense pleasure to finally release this issue of "Amaranth Times" with our team. This would not have been possible without the contributions of our beloved students, the hard working student editorial team and the support of all the faculty members. In this edition, the focus is on "Heirloom plants" which are living artifacts. Read on and learn about the fascinating aspects and contributions of Heirloom plants. We truly appreciate the support of our Principal ma'am without whom we would not have come this far.

~Dr.Monika Keisham



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STUDENT EDITORIAL BOARD

Editorial Head



Hello everyone! I am honored to be the editorial head of our prestigious newsletter 'Amaranth Times'. I love reading books and writing is my passion. I would like to thank all my teachers who found me capable for this post. I hope you will enjoy reading this newsletter edition. Joining this team and working with such amazing and talented people has developed my skills tremendously. The theme chosen for this edition is very interesting. Heirloom plants are colorful and have innumerable uses. They can be used as decorative plants or even as food ingredients in the kitchen. They also make great garden additions because of their traditional look and their ability to survive without much care or attention.

Kanupriya Chaudhary
B.Sc. (H) Botany, II year



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STUDENT EDITORIAL BOARD

Co-editor



Hey everyone! I am a happy-go-lucky person with an approachable personality. I look forward to expanding my interests and knowledge. The ability to volunteer at different places is a strength of mine, and I am presently volunteering at NSS, RHA, and Tele-Upchaar. Having the opportunity to be part of the newsletter team is an exciting and interesting experience. Today, pollination is accomplished more by humans than by nature. The purpose of this newsletter is to cover natural pollination theories using bees, wind, bats, and water as the means of pollination. A focus has been placed on heirloom plants, which are passed down from generation to generation and rely on open pollination to survive.

Janvi

B.Sc. (H) Botany, II year



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THE INHERITED JEWELS- HEIRLOOM SEEDS

Anubhuti Mathur

B.Sc. (Prog.) Life science, II Year



Sparkling diamond rings or a polished set of pearls- are these the ideation that strikes you when you hear the word heirloom? Well, it doesn't have to be that way. Any cherished possession that has been passed down through generations is an heirloom. And if those treasured possessions are the seeds of sappy and juicy tomatoes your grandma always talk about, or the glossy bright apples that remind her of your great grandma's pie that you might never get a hold of, they are heirloom crops.

These crops are succulent and indulgent with flavors and vivid colors and even have more evocative memories of lavish history and culture. Heirloom crops are genetically one-of-a-kind and open pollinated without human intervention which makes for a produce that is true to its parent. These seeds have evolved through years of isolation for their specific traits that aided them to prosper in a distinct region and climate, resisting regional pests and diseases. Moreover heirloom seeds can be restored and used for the next round of cultivation unlike the proprietary hybrid crops which bars farmers from seed saving.



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In the wake of the catastrophic World War-II ,the agricultural industry shifted towards a monocultural approach for maintaining consistency and boosting production with hybrids. Subsequently, a varied legion of delectable fruits and vegetables succumbed to the industrialization and lost their unique stand in the local food agriculture. According to the UN food and agricultural organization around seventy-five percent of crop diversity was eradicated after the 1900s. An entire string of generations may not be able to savor these flavors that their folks can recall as their core memories.



Some of these valuable crops with fascinating names are- White Horse Apples, Cherokee purple tomatoes, Lemon Drop, Stars watermelon, Magadi Tomato, Poona Kakadi, White okra and Yellow pear Tomatoes.

It is imperative to conserve these varieties pertaining to the need to preserve biodiversity. With hybrid varieties there is always a chance of an entire species of getting wiped out with the arrival of a new disease (without a warning). Further, having numerous varieties also have an added advantage of an availability of a more assorted list of fruits and vegetables with intense flavors and divine aromas.

But there's more to heirloom fruits and vegetables than just the conservation of biodiversity and the maintenance of intricate ecological relationships.



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These seeds sprout into stories from Grandmas and Grandpas, they convey migrant stories to people who yearn for the presence of their ancestors through cultural farming traditions and foods. It also empowers local communities to be self-reliant and allows them to identify their heritage.



Heirloom crops withhold the power to write the new future when it comes to sustainability in an ever growing population and an inevitable stress of climate change. It is an incredible tool to restore the genetic diversity all while providing local communities with crops that would not only sustain them but keep them rooted in their ancestral history.



HEIRLOOM PLANTS- A THREAD

Aastha Chauhan

B.Sc. (H) Botany, II Year



Heirloom plants are grown in an open pollinated area. They are pollinated by insects or wind without human interference. Collection of heirloom seeds is very simple because of their unique colour and size. The process of pollination occurs with natural agents like wind, water and insects. This type of pollination is known as open pollination and heirloom plant's seed are harvested only from open pollinated plants. The heirloom seeds are extracted and then preserved from the plants of a particular crop each year.

The benefits of growing heirloom plants are superior flavour, size, colour and easy production. Some heirloom plants varieties can be traced back hundred of years. Heirloom plants have been passed down through not only the family tree but also via a whole group of people who recognised their special characters and choose to preserve seeds. One of the greatest benefits of the heirloom plants are maintenance of the diverse genetic base represented so as not to lose these crucials. Heirloom vegetables are nutrition rich as compared to its counterparts - the hybrid varities.



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One of the major advantage of growing heirloom plants is the ability to preserve their special characters. As the effects of climate change and the world population is rising, more attention is being given to heirloom plants as a way of restoring genetic diversity for future generations. These changes are done to achieve sustainable development and feed the growing population, while safe guarding the food supply of diverse regions. Specifically some heirloom plants are often selected, preserved, and planted again because of their superior growth in a particular area .

Over many crop cycles these heirloom plants develop unique adaptive qualities to their environment, which empowers local communities and can be helpful in maintaining the genetic resources of the world. Some examples of them are as follows:

- Potato: A heirloom potato is grown consistently year after year for decades or longer, maintaining its original characteristic tuber. Old Potatoes have been preserved through the years by small scale farmers and home gardeners.
- Some heirloom tomato varieties are Cherokee purple , yellow brandywine, green grape etc.



HEIRLOOM PLANTS-A GIFT

Nishu Seherawat
B.Sc. (H) Botany, II Year

Heirloom seeds are passed down from one generation to other. One generation meticulously selects, grows and preserves the seeds after which they are passed over to the subsequent generations. These are different from other plants because of their longevity and persistence in survival from decades. Heirloom plants are god gifted gems.



They are extremely delicious, hardy and crack-resistant. These plants are open pollinated which means that they are pollinated by natural sources like wind, insects and birds. All heirlooms are self pollinated but not all self pollinated plants are heirlooms. These plants are non-genetically modified. There is no alteration in their DNA by human interferences. They are unique due to their unique taste, colour & appearance.



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General Article Section



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THE ERA OF DIY

Janvi

B.Sc.(H) Botany, II Year



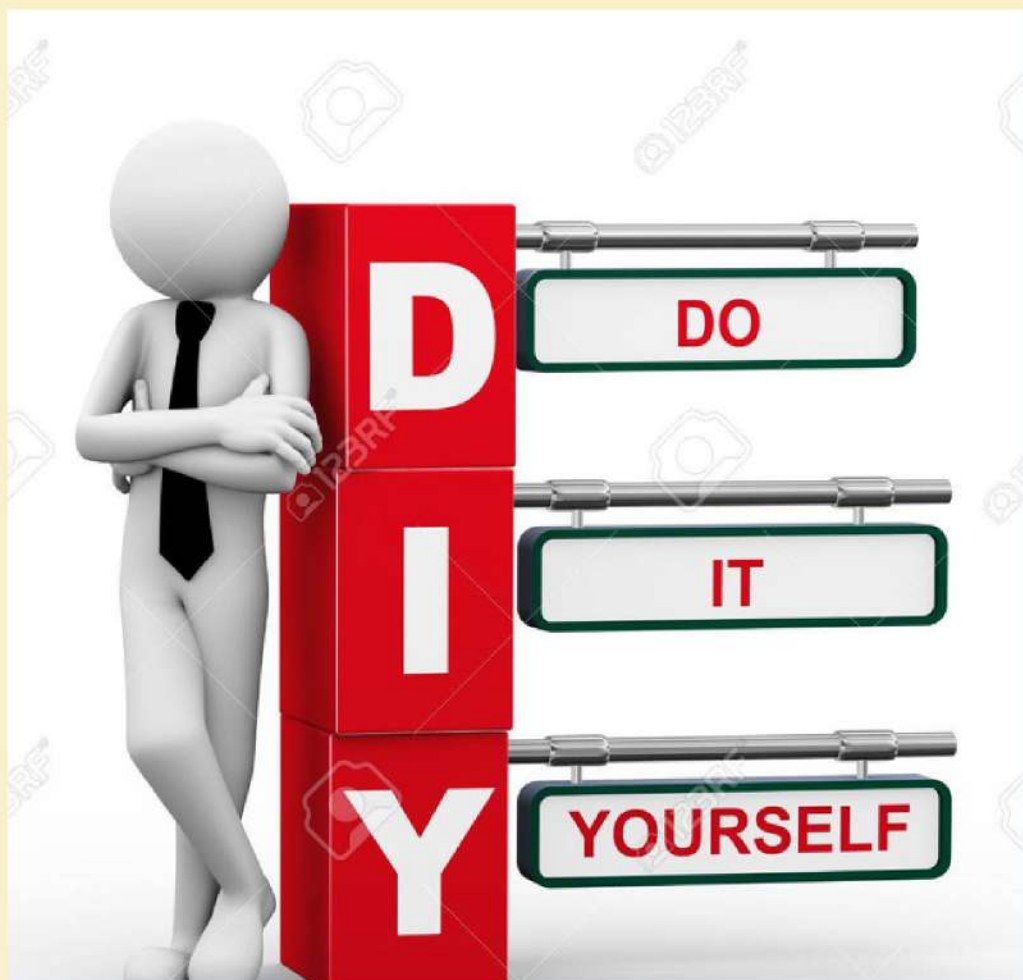
Since COVID-19 has hit us and people have been forcefully trapped in their houses. They have shown immense interest in innovating new things with in a creative manner, be it a new dish, an item, or some home decor. People are becoming more imaginative and self-reliant. Moreover, they are exploring new ways to make the most out of their time.

Therefore, we have entered an era of '**Do It Yourself**' or popularly known as **DIY**. No one can find any flaws in this interesting trend. It is a great way to expand your creativity and dedicate your time into making something useful and beautiful. Most DIYs allow the use of waste material lying unused deep inside our cupboards. Thus, this is like a cherry on top.

As we are fully aware of the poor waste management in Indian households, this came out as an ice breaker to prove everyone wrong. People are using shoe boxes, their old clothes, and other handy items to make such attractive and intellectual things. From re-using their old t-shirt to small plastic containers people have changed their room aesthetics with their intelligence.



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These smart and clever ideas were brought to light through the medium of YouTube, Instagram, and Facebook. These platforms have helped a lot in motivating kids and adults to use their skills for the art of recycling and reusing. All of the mentioned apps are enriched with content related to DIYs and recycling.

People are now interested in learning the witty skill of up-cycling their old clothes. Old pieces of denim are now being turned into denim skirts and shorts, t-shirts are now designed into beautiful tie-dye t-shirts and printed tees. These stylish ideas will not only save our hefty bucks but will also help in lifting your style. Brands like Levi's and H&M are happily supporting this upcycling trend for the good.

This craze might sound new and modish to the Gen-Z but this has been in the air for a long time. Though people have started appreciating it now, this might be the common point where all the Millennials and gen-z meet and learn something from each other. So let's appreciate the art and go DIYing by using the items we have kept unused for a longtime.



IMPORTANCE OF EDUCATION IN RURAL AREAS

Kanupriya Chaudhary
B.Sc.(H) Botany, II Year



Education is important for everybody, whether it is about learning new facts, skills or trades. Having the opportunity to learn always benefits the individual. Over the past years we have seen a focus on providing education to females all over the world. However if we take a step further, we can think about educating communities, especially in rural areas.

Providing education in rural communities will lead to a healthier and sustainable future. An education system in rural communities has the potential to build capacity and knowledge in rural populace helping them to make informed decisions. Education can lead to many positive outcomes, such as an improved ability to understand policies, procedures, rights, duties, government schemes, legislation, available benefits, and protection of laws.

In rural areas, education plays a crucial role in maintaining population, as it helps keep them populated. As young people move to urban areas for better opportunities in education and employment, improved rural education is one possible strategy for keeping them attached to their roots.



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It was recently documented that 69% of India's population lives in rural areas. Quality education is a pertinent tool for enhancing quality of life, creating awareness and capability, increasing freedom, and improving overall holistic human development for the people and the nation.

Education develops leadership qualities, with education, and helps in gaining confidence, knowledge, skills, and experience — all factors that increases an individual's ability to effectively and efficiently lead a group of people towards success. Education helps to identify and develop those leaders in our communities who will battle against low-quality education, and poverty, leading to a successful and strong community.

**"EDUCATION IS THE PASSPORT TO FUTURE
FOR TOMORROW BELONGS TO THOSE WHO PREPARE FOR IT
TODAY"**



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GILOY- A LIFE SAVIOR

Neha Kumari

B.Sc. (H) Botany, II Year



As the number of cases of novel corona virus are rapidly increasing every day worldwide, researchers have intensified their search for an effective COVID-19 treatment and vaccine. Multiple clinical trials are happening around the world and various medicines and herbs have come out as a possible treatment for the COVID-19 virus.

It includes Giloy (*Tinospora cordifolia*). Whether you believe it or not, herbs do play a vital role in boosting your immunity and eradicating the virus from the body. This has been scientifically proven. Though we are not sure if Giloy can completely cure the coronavirus disease, they do have a significant role to play in the treatment of this viral infection.

This Ayurvedic herb is a powerhouse of antioxidants that neutralizes free radicals and prevents inflammation. Also, it purifies blood, boosts immunity, flushes out toxins from the body and fights against bacteria and virus effectively. Consuming Giloy juice can help you get rid of fever, which is one of the symptoms of COVID-19. Its anti-inflammatory properties help in tackling respiratory problems like cough, cold, and breathing problems.



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BLIGHT OF TOMATO

Shruti Shrivastava

B.Sc. (H) Botany, I Year



Tomato is one of the most widely grown heirloom plants within the world. It is highly rich in water-soluble vitamins and minerals such as phosphorus, potassium and calcium. Due to its high palatability, it is used in various dishes. It is a very important commercial crop bringing in maximum revenue. But soil borne and foliar fungal diseases are a significant limiting factor for its production. These crops are prone to biotic (fungi, bacteria, viruses and nematodes) and abiotic (temperature, drought etc.) stresses.

These diseases are contagious and might spread from plant to plant in a field. Fungi being the most common reason behind infectious plant diseases and may be very destructive causing common diseases like damping-off, early blight, leaf spot, blight, mould, wilt, grey leaf spot etc. Starting with Early Blight, which is caused by *Alternaria solani*, one of the most common and damaging diseases of tomato. It is primarily a leaf spot and foliage blight, but it may cause a black spotting around the stem end and ripe fruits in late autumn.

The primary symptom of early blight is the appearance of small dark brown spots on old leaves. These vary in size from a pinpoint to 1/2 inch in diameter



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In high humidity, these spots enlarge in a concentric-ring pattern due to daily growth and spore production. There's usually a narrow yellow zone round the spots, which fades in green. The spots enlarge, become irregular, and make the leaflets turn yellow leading to their death. Symptoms generally begin to set in mid-season after many fruits have set, but become severe later when a significant fruit load, high soil temperatures, or dry weather stresses the plant. Spots may appear on the main stem to cause partial girdling and further damage to the plant parts above such areas.

Ripe fruits are also invaded by the first blight fungus near the point of attachment in the stem. They exhibit concentric patterns like those on the lower leaves. When environmental conditions are right and a *Lycopersicon esculentum* is nearby, spores arise and infect leaves as described above. The various spores within the new leaf spots then get splashed in rain or irrigation water to other tomato plants under stress, until several disease cycles are completed and also the weather has cool down. Inadequate fertility and organic matter, minor element deficiency, and lack of soil moisture predispose tomatoes to infection and set the stage for a pandemic where plants haven't been protected by fungicides. The fungus may be carried on and under the epidermis. Blight is caused by the fungus *Phytophthora infestans* and frequently appears in mid or late August.



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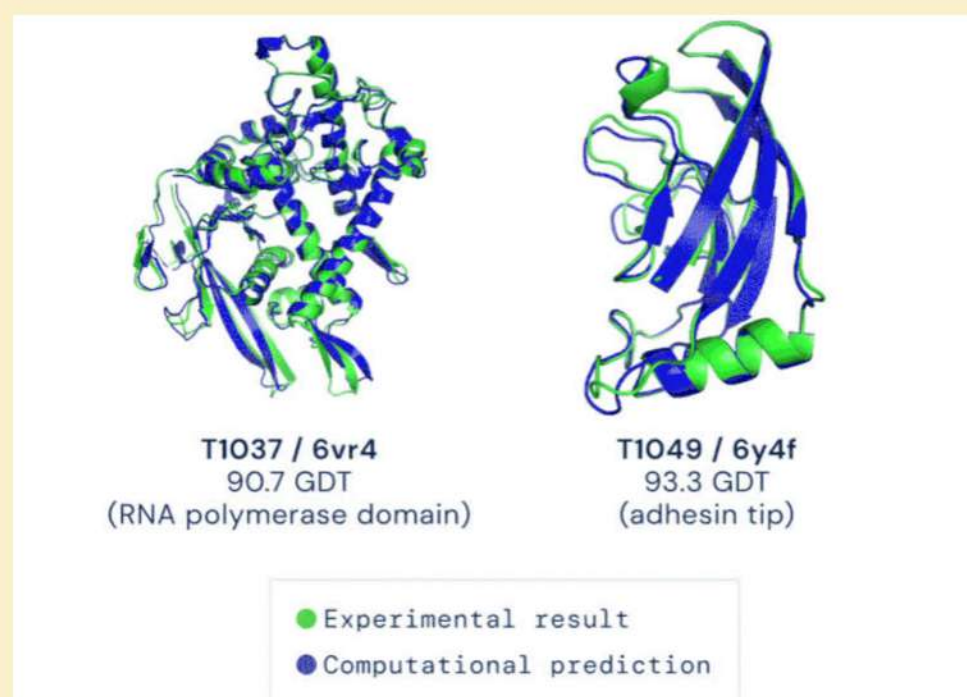


The fungus may be a wet weather disease favoured by cool nights and warm days. Temperatures above 30°C are considered unfavourable for blight development. Disease symptoms and signs appear on tomato leaves. Lesions begin as indefinite, water-soaked spots that enlarge rapidly into pale green to brownish-black lesions and might cover large areas of the leaf. On the undersides of larger lesions, a hoop of mouldy growth of the pathogen is usually visible during humid weather. As the disease progresses the foliage turns yellow and brown, curls, shrivels, and dies. During wet weather, lesions are also covered with a gray to white mouldy growth of the pathogen. Affected stems and petioles may eventually collapse at the onset of infection, resulting in death of all distal parts of the plant. Blight treatment begins with fungicide treatments. Crop rotation helps in prevention of spread of disease.



BIOLOGY AND DATA INTEGRATION

Kavita Chetan Pandya
B.Sc. (H) Botany, I Year



Biology is a dynamic field involving solid research, ground work, analytics both physical and theoretical, with constantly evolving species and discoveries that were at once considered to be impossible and exceptions in about every corner. It is safe to say that biology does not follow a set of strictly written rules unlike mathematics, a subject in which every step is predetermined. Through the years subjects like maths, physics, statistics etc. have all been represented in the form of data on computers where as biology has stayed away from digitization until recently.

The journey of digitization roughly began around 1999 and had mostly been about biodiversity informatics. It was not until April 2003 when the Human Genome Project at NHGRI (National Human Genome Research Institute, USA) was able to write the A's, G's, C's and T's as binary codes in ones and zeros. Gene sequencing transforms certain genetic data or entire of living organisms into code that computers can analyse. In 2010 J. Craig Venter's team created a living bacterium from digital DNA sequences.



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Not only digitization has helped us in learning and analyzing subjects like taxonomy, genetics, ecology etc. it has solved a few of the biggest problems in biology. Due to the introduction of AI systems biologists have finally solved the protein folding problem. CASP14 (2020) (Critical Assessment of Protein Structure Prediction) a new AI system called the “AlphaFold” was able to predict the 3D shape of a protein in minutes down to the atomic level.

Digitization has made the visualization of complex networks of biology simple and accessible to everyone due to the launch of free software like **cytoscape** which allows the user to plot graphs of biological networks using nodes and edges, and provides merged access to a lot of public data bases like **mentha** and **PSYCHIC** etc. so that researchers don't have to waste their time collecting data from various sources.

Software has been developed for almost every field of biology like DNA Analysis Software, Protein Analysis Software, Plasmid mapping, Biochemical engineering, Phylogenetic Analysis etc and the list could go on. We have reached so many milestones in the last few years it's hard to keep up, but with these new inventions and discoveries we have the possibility of creating a lot more.



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Travel Destination



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GOA: FAVOURITE DESTINATION IN INDIA

Credits- Cleartrip and Thillophilia

Aisha Bhatt

B.Sc. (H) Botany, II Year

Goa is one of the most popular vacation destinations in India. It has attractive palm fringed beaches, miles of golden sands, lush country-side places, an out of this world mosaic of cultural heritage, splendid churches, temples, forts and monuments and a singular cultural synthesis of the east and west. With its tropical climate, Goa may be a traveller destination for all seasons. It has a treasure trove of culture, music, dances and art forms enjoyed throughout native festivals and celebrations.

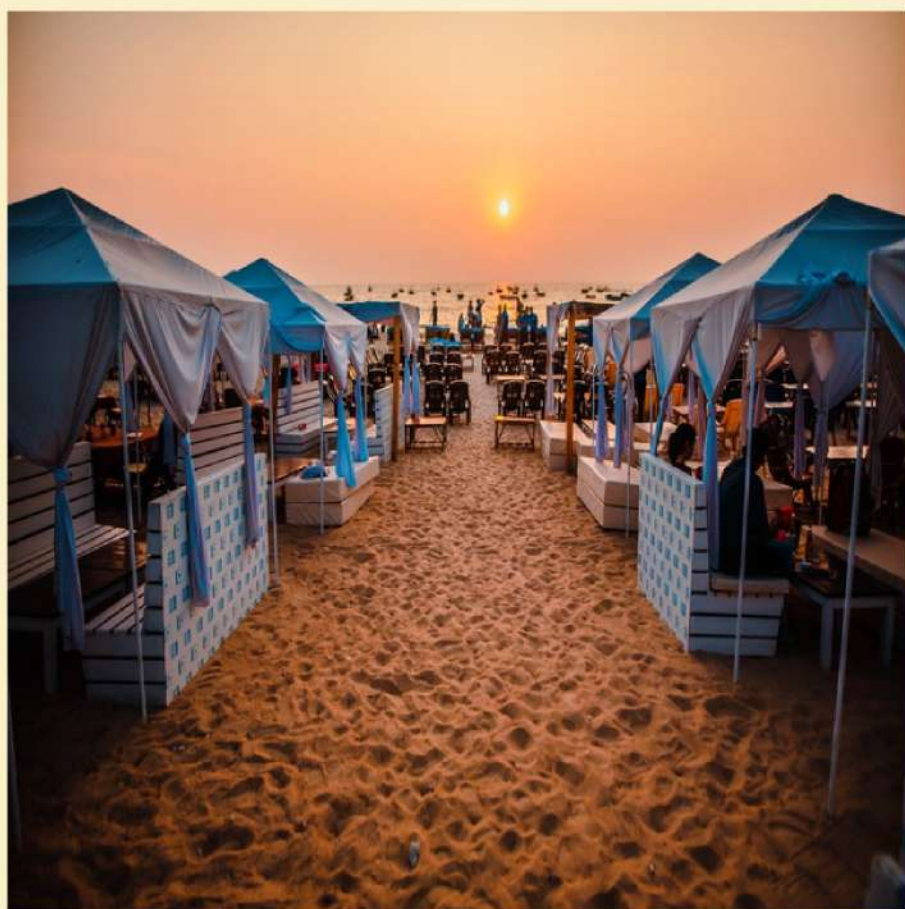
Calangute Beach

“Queen of beaches”, Calangute beach may be a paradise for nature lover holding the spectacular beauty and charm. The beach reflects the distinctive Goan culture with an excellent read of the landscape serving as an ideal retreat for travelers. Calangute Beach has it all. Moreover, it will provide you with a one-of-a-kind beach expertise, one that's tranquil and idyllic, and can't be found anywhere else in Goa, the fearless stuff you will do is glide, jet ski, banana ride, water sports and sand pleasures.



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Baga Beach



Baga beach may be a far-famed beach destination in North Goa that draws thousands of tourists and watersports lovers to its heart. The beach shares its coastal line from the geographical region of Sinquerim, Candolim, and Baga, with the Baga shore being additional spirit and attraction. This bubbly beach is one among the most attractive in Goa that stays awake the entire night and hence referred to as "The town of Nightlife". Baga beach is acknowledged for its cranky music celebrations by late-night, savory food, designer outlets, and journey sports.

Palolem Beach

The most standard beach of South Goa, Palolem is additionally one of the foremost picturesque beaches within the state, by a thick forest of coconut palms, Palolem is standard amongst family vacationers , backpackers and young crowds. The beach is as excellent for a quiet easygoing vacation as for partying.



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The side of the beach is a spot where one can see family vacationers enjoying their quiet and reposeful vacation. Within the centre and south of palolem beach, backpackers and young crowd is seen hanging out at the beach shacks or enjoying water sports. It is one among the foremost beautiful beaches of South Goa and usually far-famed among foreign tourists and UN agency flock here typically.

Basilica of bom Jesus



The church is believed to be one of the oldest churches in Republic of India and is partly in ruins. The Bom Jesus of Nazareth Church has been designed on the lines of Gesu, a fine example of Jesuit design, built in 1695. It is characterized by Baroque design and scores for its pillars and fine description, graven from volcanic rock elaborations creating it one among the richest facades in Goa. The Basilica is home to the mortal remains of St. Francis Xavier and may be a monument typical of the classic varieties of design introduced by the Society of Jesus of Nazareth, otherwise referred to as the Jesuits. It is the sole church in recent Goa that's not plastered on the surface.

The facade although un-plastered, may be a splendid example of baroque design combining parts of Doric, Ionic and Corinthian style, the inside of the church may be a study in contrasts.



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Fort Aguada



Fort Aguada has been standing stern on the beach facing the sea from 1612. This was built to supply defense against the offensive Dutch and therefore the Marathas. It absolutely was a grand recent fort in its time with the capability to carry seventy nine cannons among alternative weapons of defense. It absolutely was one among the prized possessions of the Portuguese. Today, it stands as far-famed Goa looking places dividing the Sinqerium Beach and Candolim Beach.

There is associate in Nursing recent pharos standing among the fort that was in-built 1864, the oldest pharos of its form and size in Republic of India. Fort Aguada may be a good spot to explore by the travellers. The design provides an honest insight into the building techniques of recent Portuguese architects and it's some superb views you must extremely see. The fort provides an honest read of the ocean and therefore the sunset is reckoned to be beautiful.



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Scientist Section



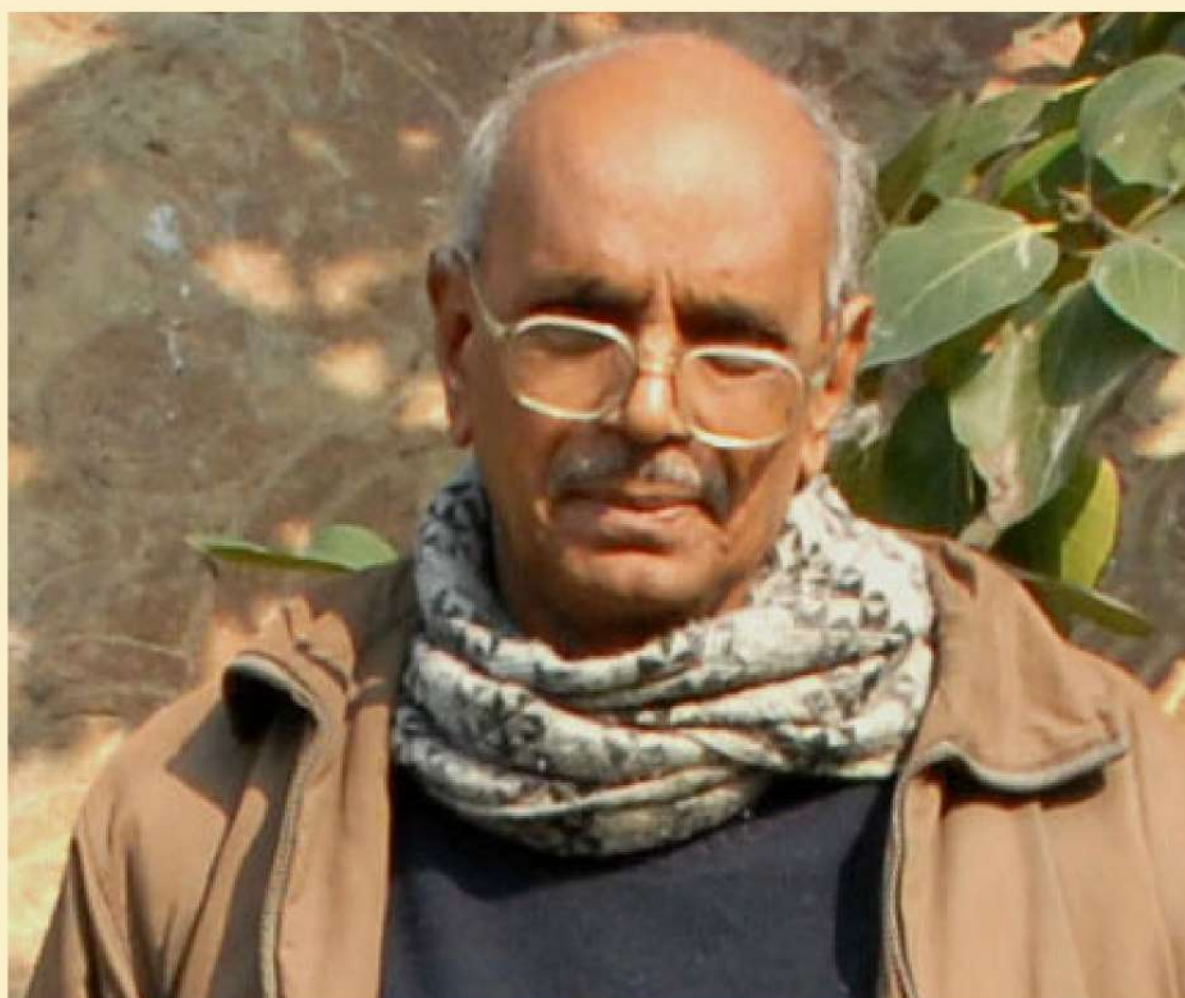
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PROF. C.R BABU

THE SCIENTIST WHO REVIVED LUNGS OF DELHI

Credits: Times of India

(From the excerpts Times of India dated July 29, 2022, Page 6)



Prof. CR Babu was given the charge to make a biodiversity park on the banks of river Yamuna in Delhi in 2001. The idea of the biodiversity park was born in 2001 when at a conference organised by the Delhi University Environmental Science Department, Prof. Babu threw light on the acute loss of biodiversity. His speech on the extinction of local species attracted the attention of then Lieutenant Governor Vijai Kapoor.

Prof. Babu, then Delhi University pro-vice-chancellor and head of the Centre for Environment Management of Degraded Ecosystems (CMEDE) under the University, found the underground water to be highly saline even at the depth of 20 feet at Jagatpur village, where the park was supposed to be made. He was appalled that the 156 acres of land only had some salt-loving bushes and common weeds. Today, looking at the Yamuna Biodiversity Park, it is hard to imagine that it is man-made and it came out of such barrenness. The park is the first of its kind globally. He took up the project as a challenge and as an opportunity. It has paid off. The park is now home to thousands of forest communities, fruit-yielding species and medicinal herbs, biologically rich wetlands and hundreds of animals, birds, butterflies and insects.



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He recruited scientists with the help of the Delhi Development Authority and studied the river basin stretch from Allahabad in Uttar Pradesh to Haridwar in Uttarakhand to identify plant species along the stretch. After 40-45 plant communities were identified, their saplings were planted at the site. For two years, success eluded the team as most of the plant species died because of the excessive salt. Then they found some grass species in a saline area and the grass improved the soil from 12 pH to 7 pH. It made the soil neutral. It took almost 10 years to develop the three-storey forest communities with a tree canopy as high as 45 feet. They desilted the wetlands and used the material for landscaping and introduced aquatic plant species. In the first year of restoration of the wetlands, thousands of migratory birds arrived there.

The park now attracts a large number of wild animals, birds and insects. Species of birds that were given up as lost have returned to the park, such as the black crowned night heron that has reappeared in the *Tamarix* and *Phragmites* plantations. The national capital now has seven biodiversity parks, which have been developed on such barren land. It was a difficult task to create these parks. The Aravalli Biodiversity Park has been developed on a rocky habitat. Similarly, the Kamla Nehru Ridge, Tughlakabad Biodiversity Park and others had a lot of challenging problems such as monkey menace, invasive species and human disturbances. Prof. Babu, who is 81, continues to steer the Biodiversity parks. The Union ministry of environment and forest and climate change has directed all chief ministers to create biodiversity parks in each state capital and all district headquarters. Many states, including Uttar Pradesh, Bihar, Madhya Pradesh and Chhattisgarh have started making the parks.



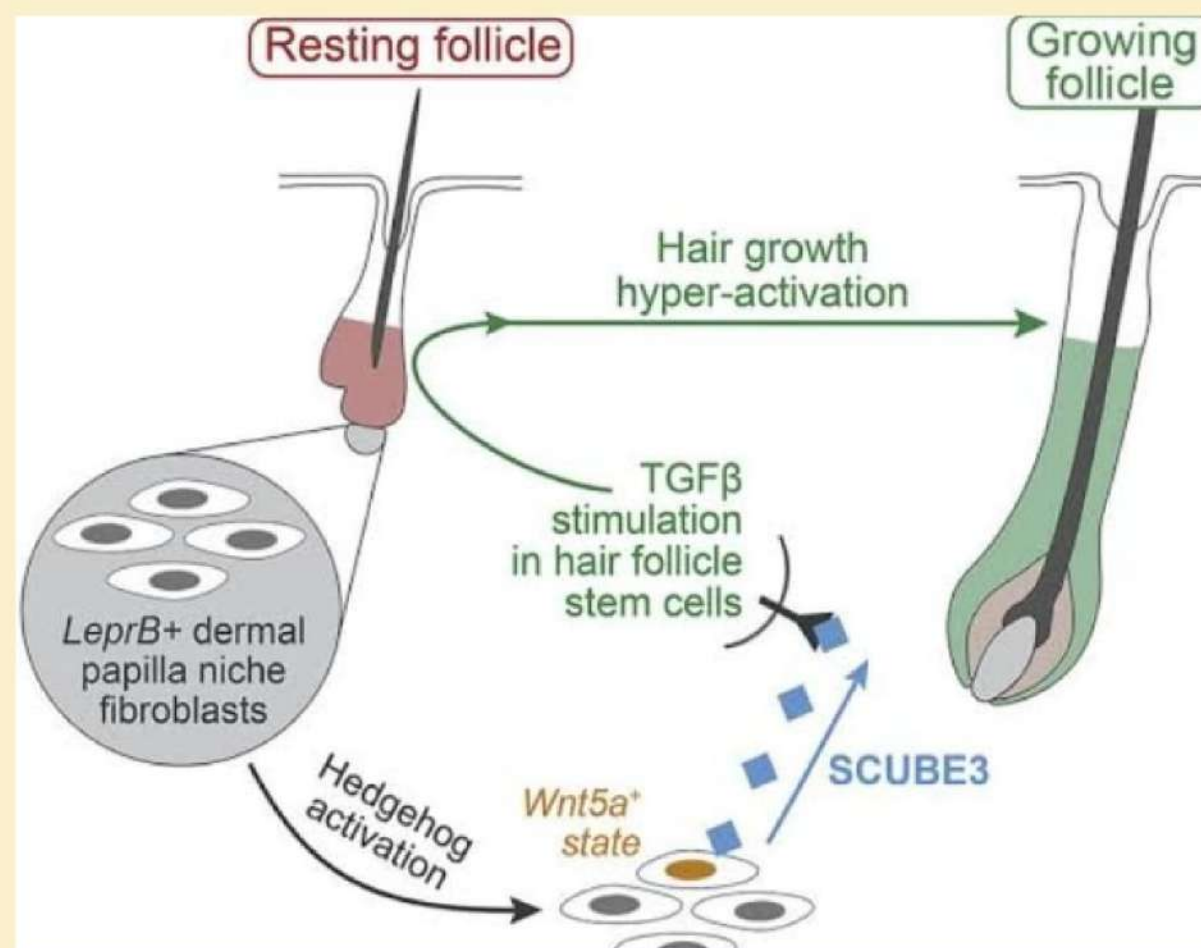
Facts Section



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BIOLOGY UPDATES

1. Signaling molecule potently stimulates hair growth



Researchers have discovered that a signaling molecule called SCUBE3 potently stimulates hair growth and may offer a therapeutic treatment for androgenetic alopecia, a common form of hair loss in both women and men.

The study determined the precise mechanism by which the dermal papilla cells – specialized signal-making fibroblasts at the bottom of each hair follicle – promote new growth. Although it's well known that dermal papilla cells play a pivotal role in controlling hair growth, the genetic basis of the activating molecules involved has been poorly understood.

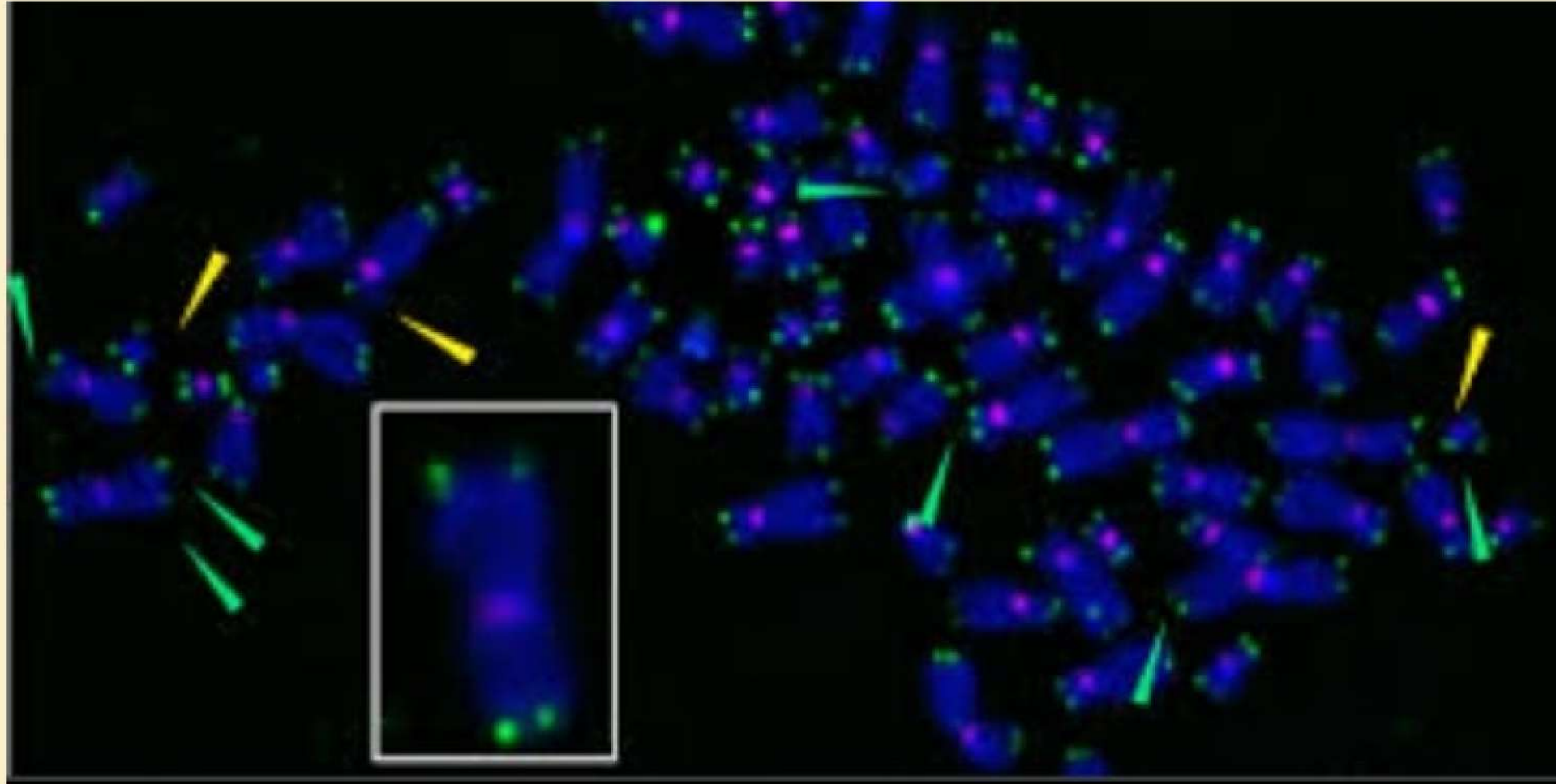
LINK:

<https://www.sciencedaily.com/releases/2022/06/220630142211.htm>



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2. New pathway for accumulation of age-promoting 'zombie cells'



Senescent cells – those that have lost the ability to divide – accumulate with age and are key drivers of age-related diseases, such as cancer, dementia and cardiovascular diseases. In a recent study, researchers have uncovered a mechanism by which senescent, or “zombie,” cells develop. The study shows for the first time that oxidative damage to telomeres – the protective tips of chromosomes that act like plastic caps at the end of a shoelace – can trigger cellular senescence. These findings could eventually point to new therapeutics that promote healthy aging or combat cancer.

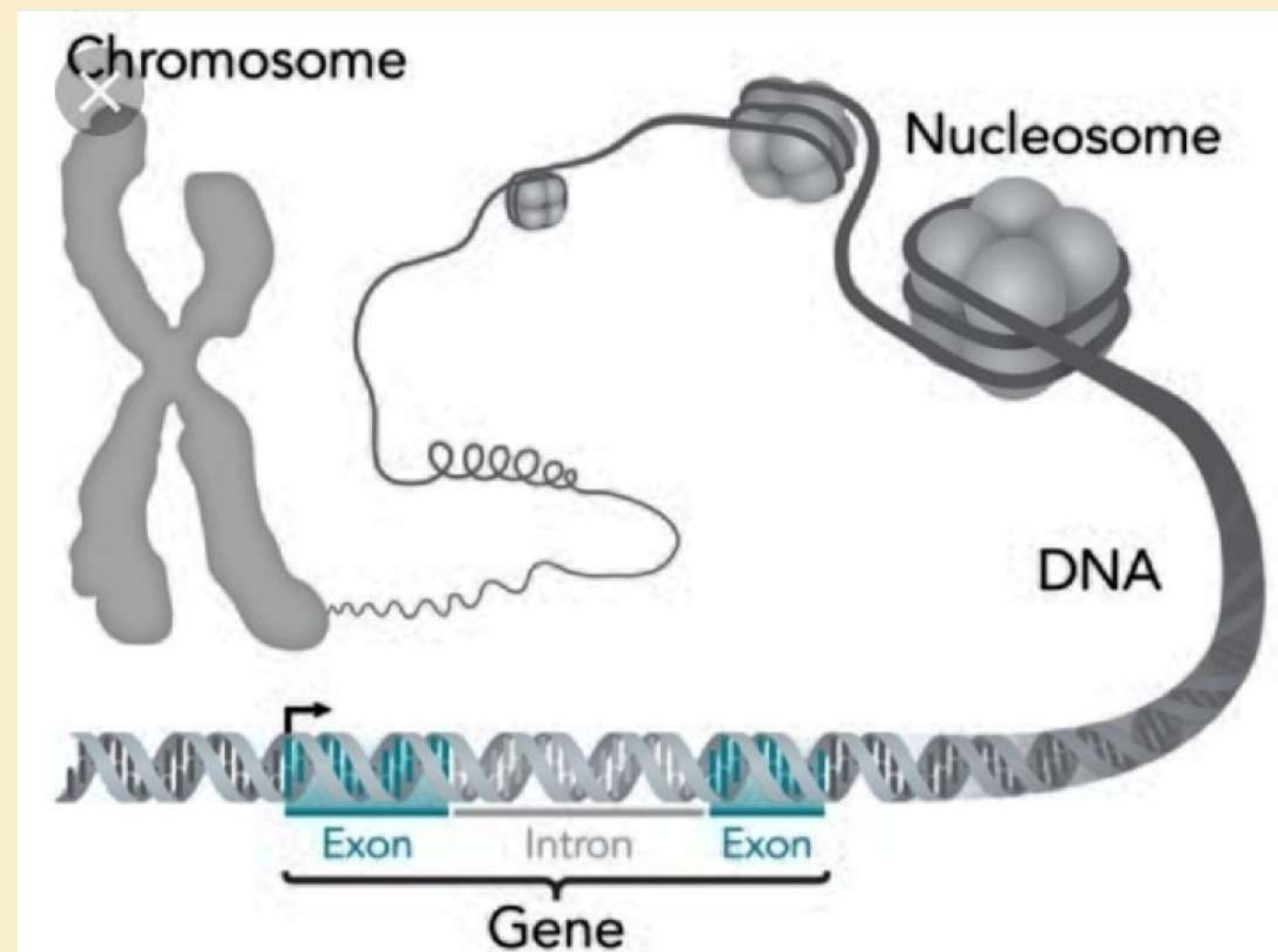
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3. Novel gene for Alzheimer's disease in women identified



The researchers conducted a genome-wide association study (GWAS) for Alzheimer's in two independent datasets using different methods. One approach focused on dementia in a large extended family of Hutterites, a founder population of central European ancestry who settled in the mid-west region of the country. They are often studied for genetic determinants of disease because they have a relatively small gene pool due to their isolated, insular culture. In this study, the individuals with Alzheimer's were all women. The second approach, predicated on evidence suggesting a link between Alzheimer's and breast cancer, analyzed genetic data from a national group of 10,340 women who lacked APOE $\epsilon 4$. In both datasets, MGMT was significantly associated with developing AD.

LINK:

<https://www.sciencedaily.com/releases/2022/0622063008>



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BOTANY UPDATES

- **Immunization-related cells**

Researchers have discovered natural cellular molecules that drive critical plant immune responses on July 7, 2022. These compounds have all the hallmarks of being small messengers tailored by plants to turn on key.

<https://www.kew.org/read-and-watch/top-10-species-named-2021>

- **Scary potato orchid**

Scary potato orchid discovered in Madagascar (Great Britain, December 2020) There are more than 20000 species of orchids. Only the sunflower family has more with above 24000 species. The unique and delicate shape of orchid flower has attracted multiple admirers. Yet not all orchids possess this ethereal quality.

<https://www.kew.org/read-and-watch/top-10-species-named-2021>

- ***Uvariopsis dicaprio*, the evergreen tree**

The plant, *Uvariopsis dicaprio*, is an evergreen tree found in Cameroon. It reaches about 13 feet and has glossy, yellow-green leaves growing in bunches along its trunk. Researchers credit Leonardi DiCaprio's activism with helping save the tropical Ebo Forest, the plant's home, Chen Ly reports for New Scientist.

<https://www.kew.org/read-and-watch/top-10-species-named-2021>



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- ***Eograminis balticus*, fossil member of Arundinoideae**

The specimen studied by George Poinar Jr. (OSU) and Robert Soreng (NMNH), named *Eograminis balticus*, also represents the first fossil member of Arundinoideae, a subfamily of the widespread Poaceae family that includes cereal grasses, bamboos and many species found in lawns and natural grasslands. Findings have been published in the International Journal of Plant Sciences

<https://nmnh.typepad.com>

- ***Hydnellum nemorosum***

It is a rare tooth-fungus in the UK. Found growing in moss in Windsor Great Park under a sweet chestnut tree in 2008, this species was only described in 2021. A DNA-based analysis of European specimens carried out at Kew with collaborators in Wales and Sweden revealed that Windsor is its only known site in Britain — so it has already been proposed for inclusion on the IUCN global Red List of threatened species and for legal protection under the Wildlife and Countryside Act in Britain. Instead of gills, tooth fungi have tooth-like structures that produce spores. They thrive in poor soils with low nitrogen levels and have a mutually beneficial partnership with living tree roots, swapping soil minerals for leaf sugars. Their populations have declined across Europe due to habitat loss and elevated levels of nitrogen in the air. Today they are recognised as threatened with extinction at global and national levels and are prioritised for conservation and protection.

<https://www.kew.org/read-and-watch/top-10-species-named-2021>



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English Poetry Section



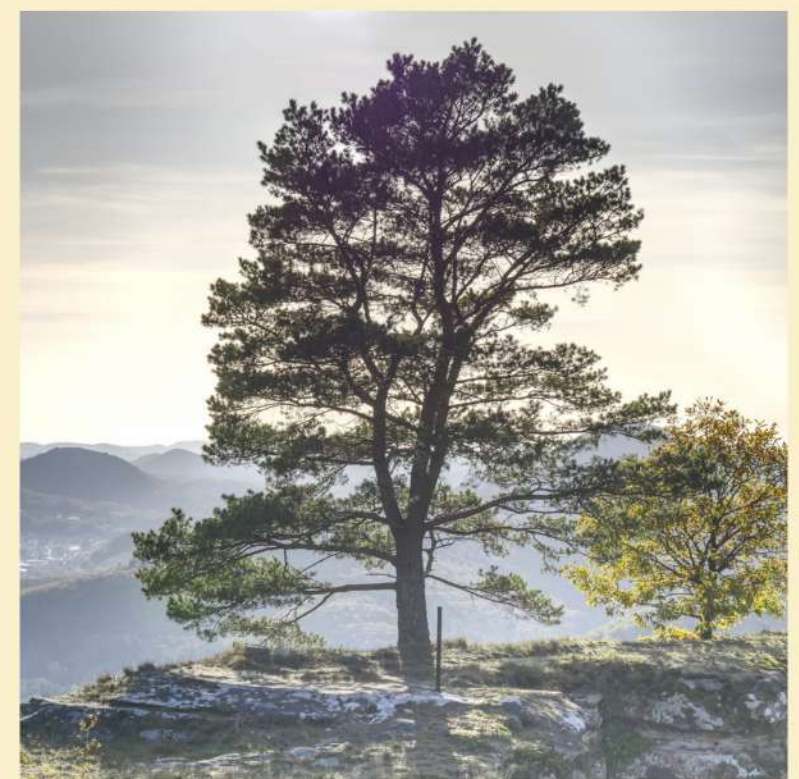
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Envisioning

By - Himanshi

B.Sc. (H) Botany, II Year

The purple beauty of the sky,
consciously reading after the dusk
Devoid of any starlit modesty
Even though words run through my mind
And my nerves with the nicotine of cigarettes,
this unstill heart of mine
couldn't stop yearning about you
What surfaced after ages it seems
I found a pattern
between the glint of leaves
that hung themselves over my head, and
Giving just enough breath
to the liquidity of the gigantism of space,
that you carry
Similar to a romantic twitch in your smile, and
The ecstatic melodies
singing through our fidgeting fingers,
A limb of horror that surrounds my earth
cries through invigorating lanes
Diminish under the swelling of sleeping sun
And the moon withers enough to not show
While the present submerges
In the serene outcome of the night
And diaphanous stillness erupts
in the purple skies,
Slowing sifting into a memory
Of pink and red silks,
Under the tilted mahogany.



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Menses: Indissoluble part of world

By - Kanupriya Chaudhary

B.Sc. (H) Botany, II Year

She woke up different one day,
Bleeding red in sheets.
Blenched, she ran to her mother,
With trembling feeble feet.
"Mother I'm hurt and
Bleeding all over the place.
Please do something Oh mother,
I've read it brings disgrace."
Disgrace is just a lie,
You're purified now my child"
She cleaned her, held her palms,
Looked at her, and smiled.
Blessed by the goddess
A boon bestowed upon you.



Now you hold the immense power.
To hold a life in you"
Will I bleed again?
What if someone knew?
They judge us when we bleed,
It's sad but its true."
But you are strong go stronger ,
With every passing day.
Be the woman fearing no one.
No matter what they say"



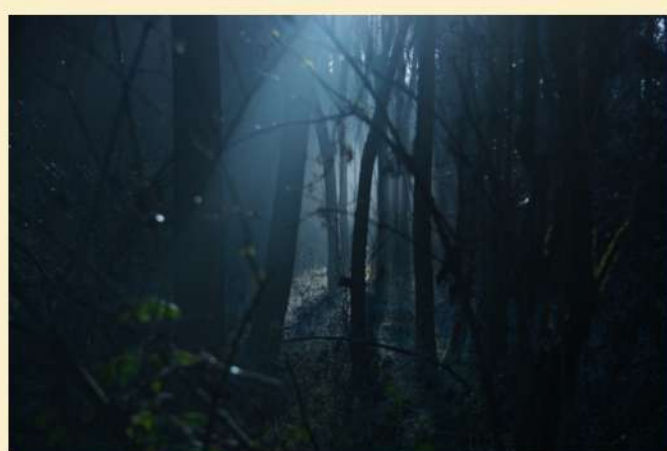
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A project what goes inside

By- Himanshi

B.Sc. (H) Botany, II Year

I will dot out the first lines
For I cannot think of anything
'Catchy enough' to get you to stay
But perhaps I shouldn't care
These words, this little poem
Its by me, for me, well not for
But you get the gist,
'People watching- Conan gray'
I like this song, more than any
I have heard so far,
I know people say its all the same
But I dont think so
I think this one's pretty, in a way
That it doesn't add to
the humping of emotions inside me
It reminds me of daffodils
Of days by myself, serene and
obtuse
Yet fizzing in a helium balloon
As it passes through the drums
A beat, a beat in my vessels lulls
Lulls into constant anti-anxiety
Might sound vague to you
But I know what I said,
Love, death, rebirth
I use words in three's,
Probably due to the kick of



Wanting to break age old norms
But if you think clearly,
What does it all matter,
What does the lilac of a flower
Printed on the fibre of another
matter?
Technically it shouldn't, but it does
Its like a science project
You have been given, and you just
Try to get it over with, yet still
Trying to make it the prettiest
And the most understandable
I guess this is perhaps the unlimpy
Theory I ever thought thats seems
Sane to me atleast, its something
I feel I am on a block with my mind
So I am just trying to do something
Create, write just about anything.

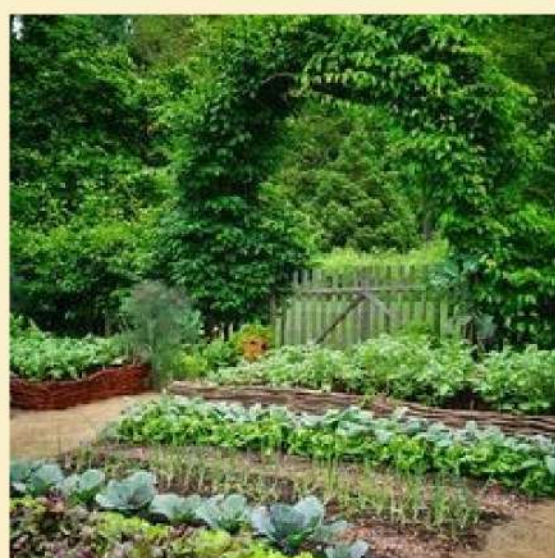


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My Grandma's garden

By - Ankita Sahoo
B.Sc. (H) Botany, II Year

While lying on my grandma's lap
And listening to the fascinating stories
Of the beauties and the beasts,
I used to think about the miraculous plants
That came into light,
In the end,
Where the stories took a twist.
From Cinderella's hazel tree to
Jack and his beanstalk,
I got completely lost in that.
Wondering,
When we both will cross each other's path.
A sign of freedom and bravery,
They showed in those stories,
But, when I came across them,
In real
I saw life blooming out of Earth's misery.
When I stepped into my grandma's garden,
Without any shame
They bow down,
Folding their leaves,
And greeted me by telling their
name *Mimosa pudica*.
I have always heard
That stones are dead,
But, my sight got caught,



On a stone taking breathe,
Whom everyone calls Lithops.
But, how is the story complete
without a villain?
Ficus altissima, is its name,
On whom others blindly trust,
But, later get strangled till death,
By getting their magical powers soaked by
it.
It's character is a bit strange,
Even Cruella de Vil's might feel ashamed,
Pretends to be the smartest,
Like Venus, then
Attracts its prey,
And slowly gobbles it down,
It's none other than *Dionaea muscipula*
Of this burning world.
Let there be million evils,
But, there must be one who does well,
Sprinkles colours of rainbow on
every sad lining in the sky,
Shedding itself to keep others in colours
of
hope,
And where,
Its name will resonate for births,
Echoing in the mountains and coming
back as
Eucalyptus deglupta.
Even after being at this age,
I feel like the main character,
In my grandma's garden.



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That time of the year

By- Utkarsh Pandey

Swami Vivekananda College

B.Sc. (Prog.) Life Science III Year



It is that time of the year, when pale dandelions,
having lent their colour to the ones who arise, glide
And the bees, their buzz.

It is when the buds tell a tale they fashioned
over the months they toiled, erupt
and the sunbirds, their chirp.

It is when the reds, yellows and whites
dust their blues away, shine
and the ants, their sizz.

It is when the auras with warmth and cheer
of the mellow sun and bloom, manifest
and the snails, their slime.

It is when noses and scented breeze
unabated, undeterred and pure, meet
and the bats, their echoes.

It is when life is flaunted with flamboyance
of colours, scents and music, galore
that we know Spring has sprung.



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SPRING BLOSSOM: A BUFFET FOR POLLINATORS

By- Keerti Bhalla

Shivaji college

B.Sc. (H) Botany, III Year

Heaven says it's time for the new life to begin,
For the brisk breeze to end, something's new to come in.

"Let's move to another world!" nomad clouds exclaimed in delight,
Sunshine showers are busy these days, can only relax at night.

It's time for the pleasant weather, for all the wings to fly,
Freely flapping, take some flight, soar in happy sky.

Butterfly, birds, fireflies, moths say, "It's time to meet the flowers,
Come let's help them take their pollen onto stigma towers".

Winds say, "Hurry up! We must blow round the valley"

Dandelions, Maple, Drumsticks need some help in anemophily.

Water streams flow as usual, but for this stance they blow with zeal, as *Hydrilla*, *Vallisnaria* need some travel assistance.

Visitor insects have to hang out at vibrant flowery places,

Loading backs with pollen grains they tie their belts and braces.

Bees and bats also came, t'was time for transportation,

Spring has come along with a buffet full for pollination.

Everyone fulfilled nature's demands, enjoying the beautiful weather,

Spring has taught that hope blooms wherein everyone is together.

Despite the darkest night, Life blossoms under moonlight,

Spring has come along with days shiny and bright.

Here comes the spring with blissful shower,

The garden blossomed with flowers.

Sky crowned with bright sunshine,

The smell of white lily touches skyline.

Birds chirping,

Frogs hopping,

Leaves mature,

River reunites,

The air changes it's course.

Rain drifts the gloomy soil,

Young mountains uplifts new hope.

Vast meadows covers the barren land.

The rainbow sparkles the cotton band.

I see happiness everywhere,

I see shimmers of hope somewhere.

Yes ! It's the season of spring, so is the reason of joy.



Maitreyi college

By- Dakshita Mall

SPRING – THE SEASON OF NEW BEGINNING



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Hindi Poetry Section



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थोड़ा सा बसंत

By- Goldy Mishra

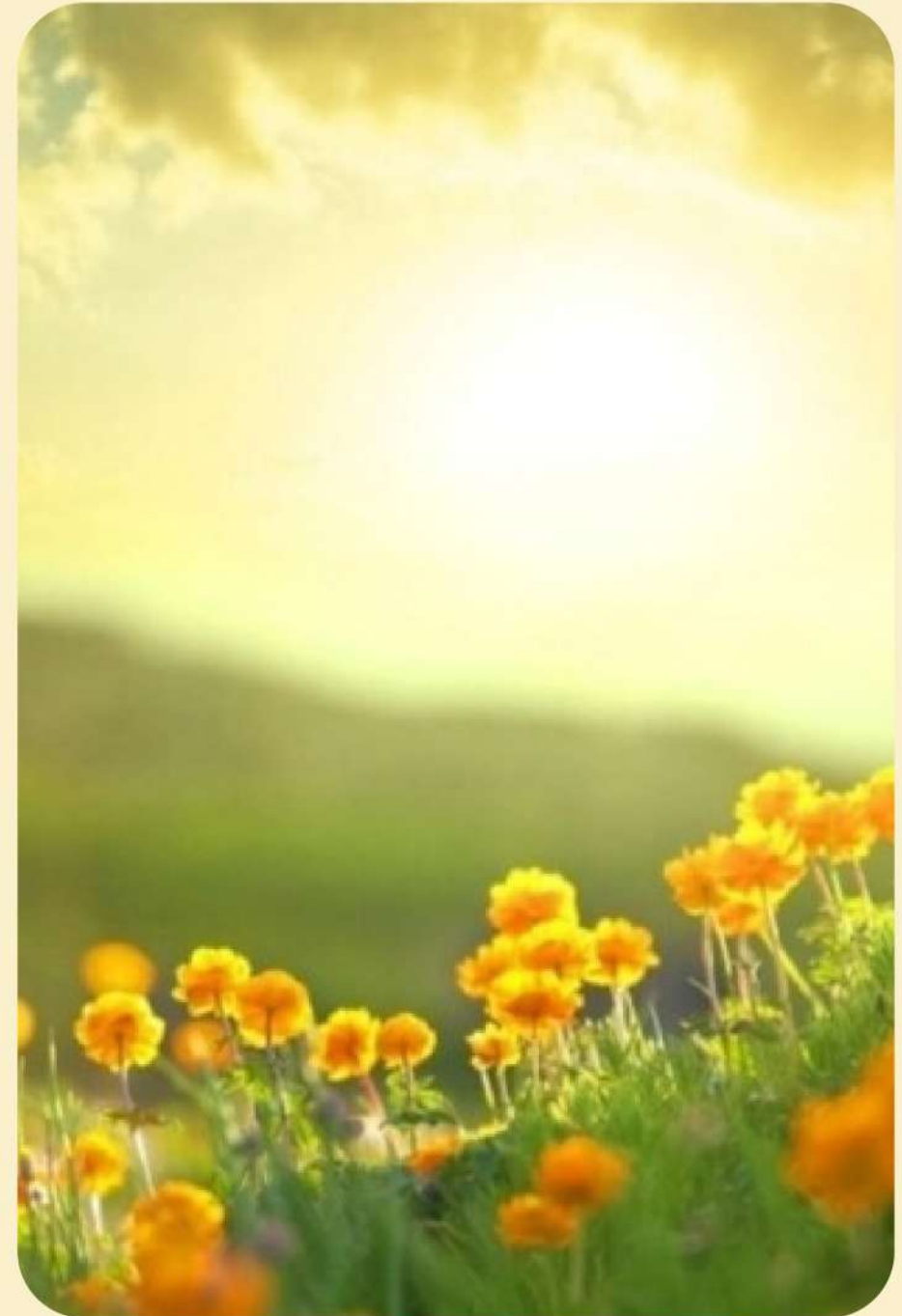
Lady Irwin college

B.Sc. (Prog.) Home Science, II Year

कोयल को कुछ कहते सुना,
कलियों को ओस की बूंदों ने भीगा दिया,
आंगन में गूंज है बसंत के गीतों की,
हर और खुशबु है बसंत बहार के आगमन की,
उजड़े बाग में नवजीवन के अंकुर पनपे है,
फूलों की पंखुड़ियों पर तितलियों ने नए गीत लिखे हैं,

यह सुबह किसी शायर की रुबाइ सी लगती है,
मानव अर्शे से झूम रही जोगण को राहत की सांस मिली,
सूखे हुए पेड़ों पर फिर पत्तों की चादर आ गई,
बिन किसी श्रृंगार के प्रकृति आज क्या खूब निखर आई है,
मौसम भी खेल उठा है,
हर कोई थिरकता दिख रहा है,

टूटे छप्पर में खड़ा कोई बसंत की बहार निहाल रहा था,
न जाने क्यों उसके आंगन में बसंत नहीं था,
फटी हतेली और नम आँखें लिए वह अपने आंगन में बैठा हैं,



चुपचाप बस दरवाजे को निहारता है,
उसकी आँखों को बसंत देखना है,
पर उसकी किस्मत का पन्ना हालातो की सियासी से
सना है,
माघ, शरद, कार्तिक, आषढ़, आदि आये और चले
गए,
बस न जाने क्यों पसंद ही मेरी गली न आये,
किसी की मुट्ठी वसंत है,
किसी की मुट्ठी में उम्मीद है,
काश आंगन मेरा भी महक उठता,
कोयल और भंवरे के गीतों पर मैं भी डफली की धुन दे
सकता,

लिखकर एक नज्म मैंने पन्नों को छुपा दिया,
अपनी कहानी को मैंने चुप्पी की ओढ़नी से ढक दिया,
थोड़ा झूमना ये मेरा दिल चाहता है,
ये व्याकुल मन इस बसंत को छूना चाहता है,
किसी अँधेरी रात की सुबह काश कुछ यूँ होता,
मेरे इन हाथों में थोड़ा सा बसंत होता //



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मन का दर्पण

By - आभिलाषा
Kalindi College
B.A. (H) History

शायद तुम फ़रिश्ता हो,
जो रोज सपने दिखाता है,
शायद तुम फ़रिश्ता हो,
जो रोज जीना सिखाता है,
पत्थर की मूरत सा जीवन था मेरा,
तुम वह हो जो पत्थर में जान फूँक जाता है,
कैसे बताऊँ तुम्हारी हंसी से,
मेरा पूरा दिन सुहाना हो जाता है,
वह तुम्हारा यह कहना मैं हूँ ना!
मेरे चेहरे पे खील खिलती हँसी ले आता है,
गुमनाम सा हो रहा था मैं
पक्का तुम हो जो नहीं पहचान दिला रहा
इस तरह ही देना साथ
शायद नहीं यकिन तुम फ़रिश्ता हो,
जो मुझे मुझसे ही मिलता रहा है

जिस तरह एक फूल की पंखुड़ी हवा के साथ
बह जाती है , बिना कुछ सोचे समझे , ठीक
उसी तरह इस कविता में फूल हमें एक सन्देश
दे रहा है , जीने की राह बता रहा है खुद से मिला
रहा है , खुश रहना सिखा रहा है!



बसंत जैसा जीवन

By - याशिका
Daulat Ram college
B.Sc. (H) Botany



चांद का ढलना जरूरी है , सुबह होने के लिए
राही का निकलना जरूरी है,
जैसे मंजिल पे रैन बसेरे के लिए।
ऋतु बसंत जैसे आती है
फूलों को खिलाने के लिए
अंधेरी रातें जीवन में आती हैं,
कुछ अच्छा सिखाने के लिए।
फूलों को खोना पड़ता है रस अपना,
परागण कराने के लिए.

बहुत कुछ खोना पड़ता है मनुष्य को,
खुद को बेहतर बनाने के लिए।
फूलों को रस नहीं मिलता
अपना परागनकारी जो ले जाते हैं,
पर फिर भी वो फूल महकते नज़र आते हैं

हम क्यों फिर थोड़ी सी परेशानियों से सेहम जाते हैं?
चलो हम भी उस फूल की तरह बन जाते हैं,
जीवन को ऋतु बसंत जैसी बनाते हैं,
अपने किसी खास रंग का खोना
परागन की तरह हमारे लिए आवश्यक बताते हैं।।



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Art Section



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Paintings



By- Vishakha Kaushik
B.Sc. (H) Botany
II Year



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Poster



By- Neha Kumari
B.Sc. (H) Botany
II Year



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Rangoli



*By- Sangeeta Gupta
B.Sc. (H) Botany
III Year*



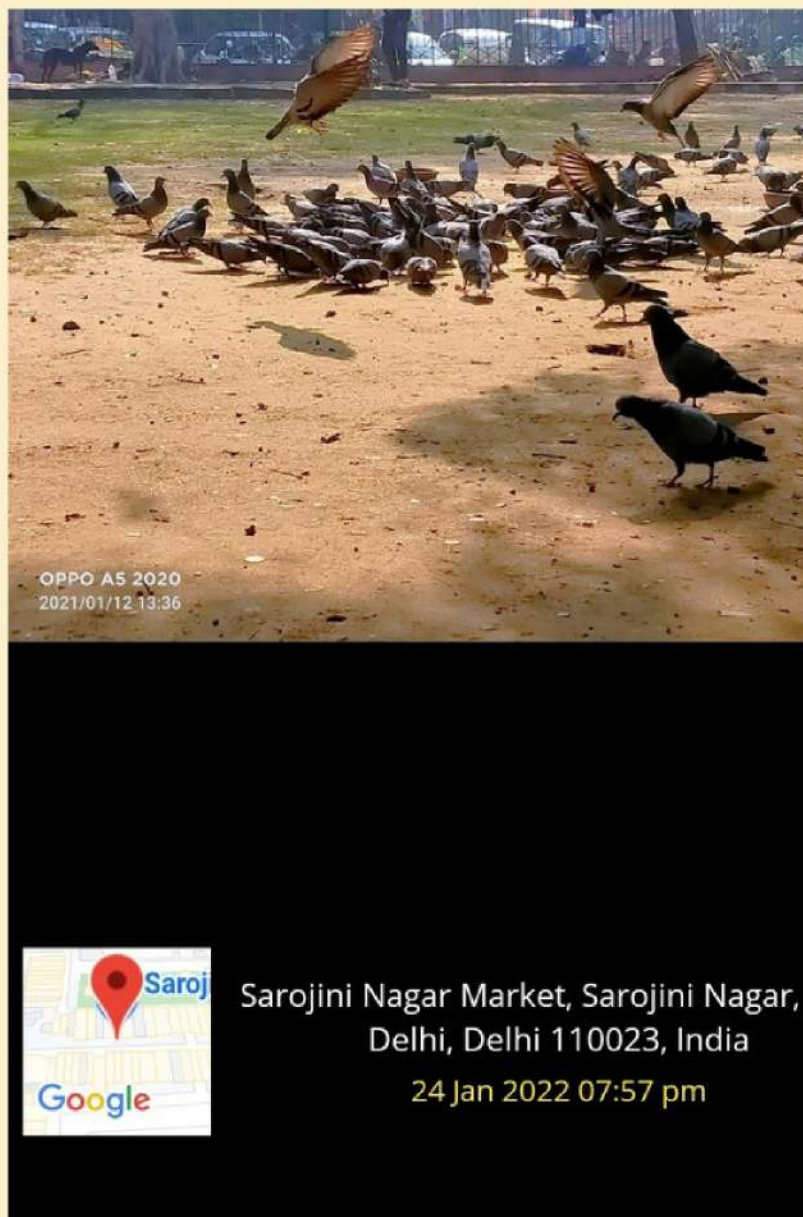
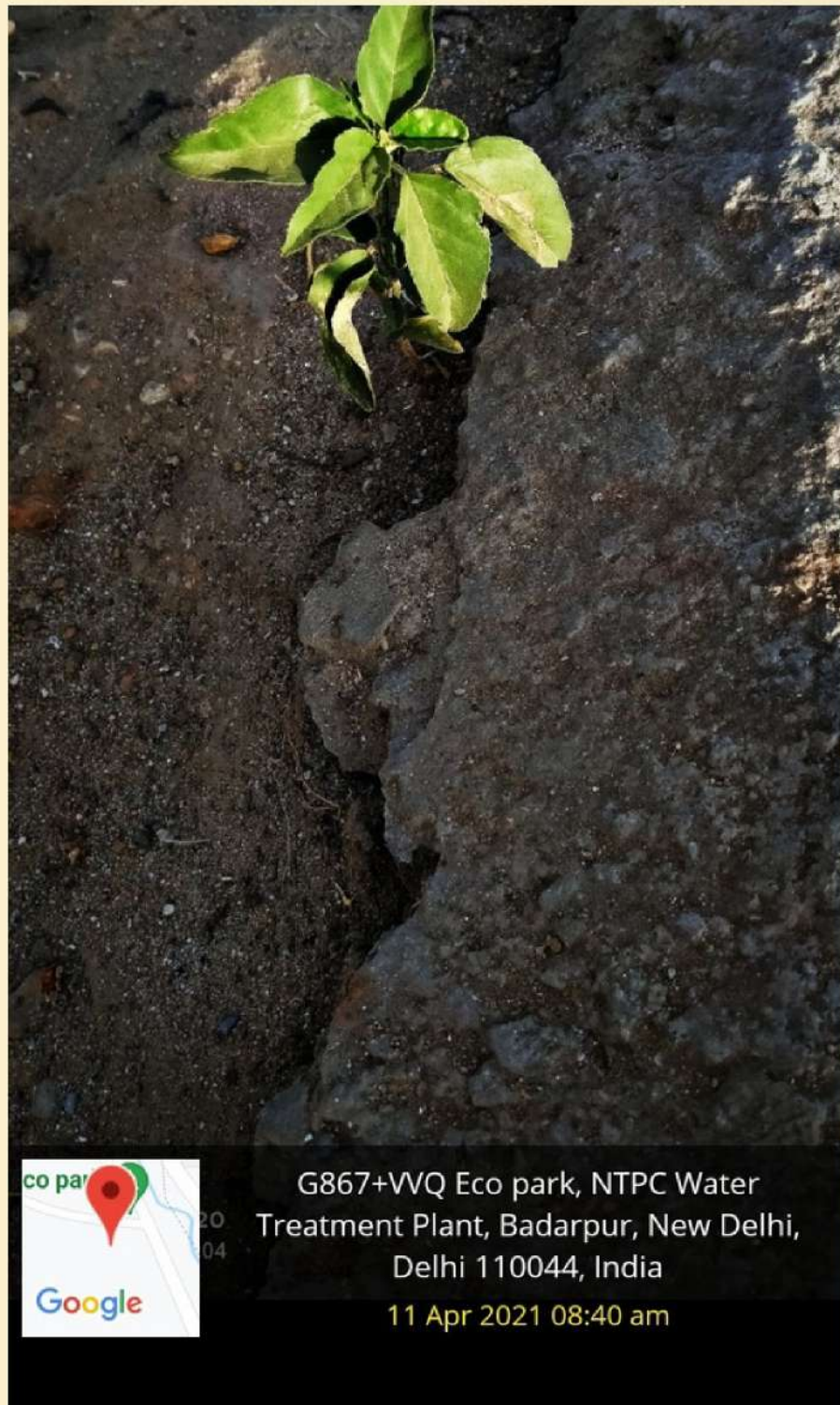
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Photography Section



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Plants



*By-Himadri Mandal
B.Sc. (H) Botany
III Year*



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Skies



*By- Sangeeta Gupta
B.Sc. (H) Botany
III Year*



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Flowers



By- Nancy
B.Sc. (H) Botany
II Year



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Nature

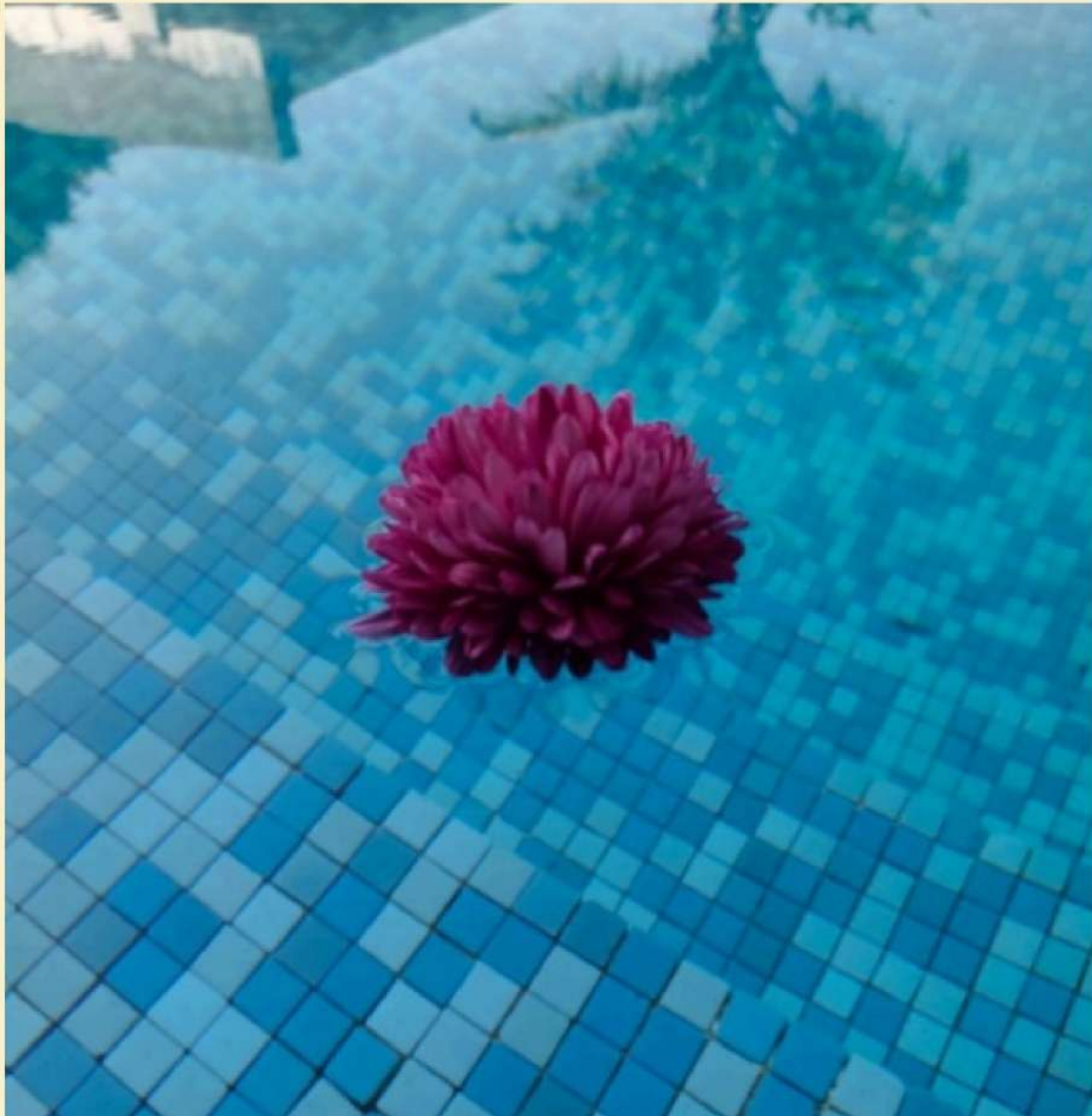


By- Arya Vatsala
B.Sc. (H) Botany
III Year



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Flowers

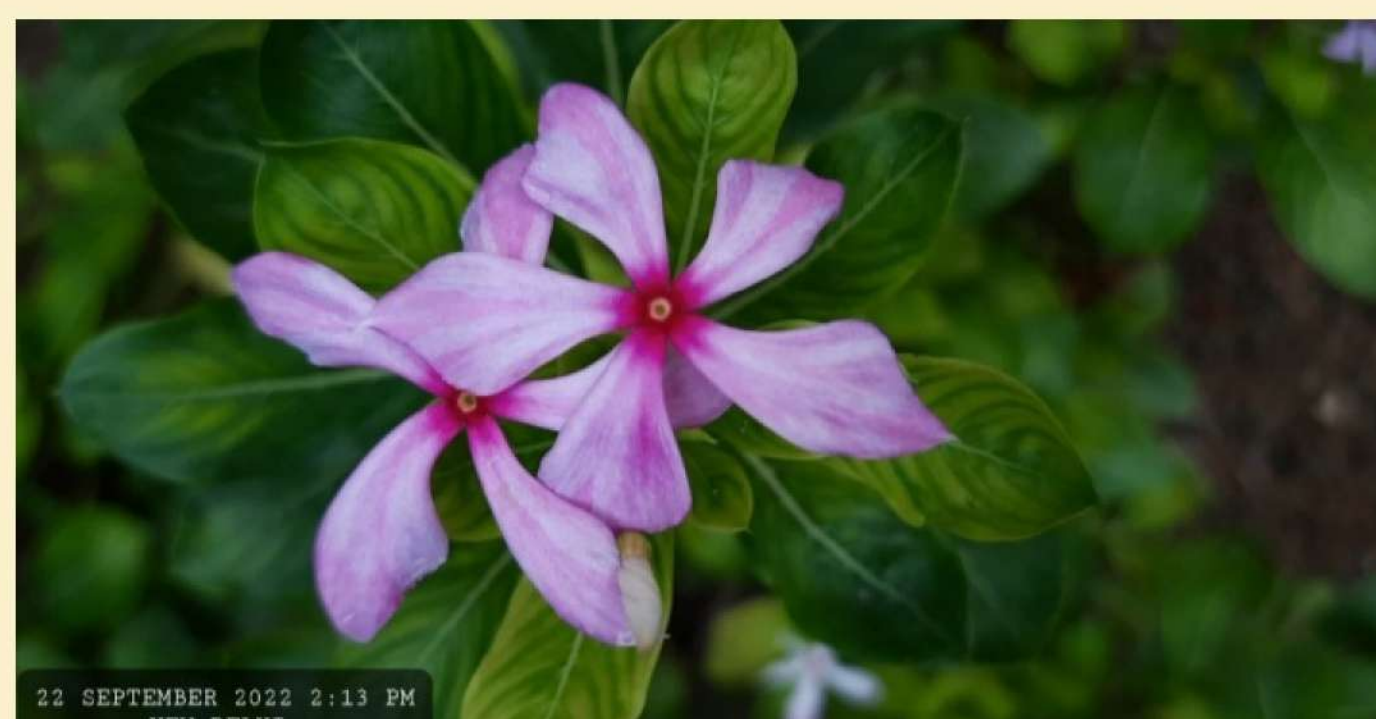
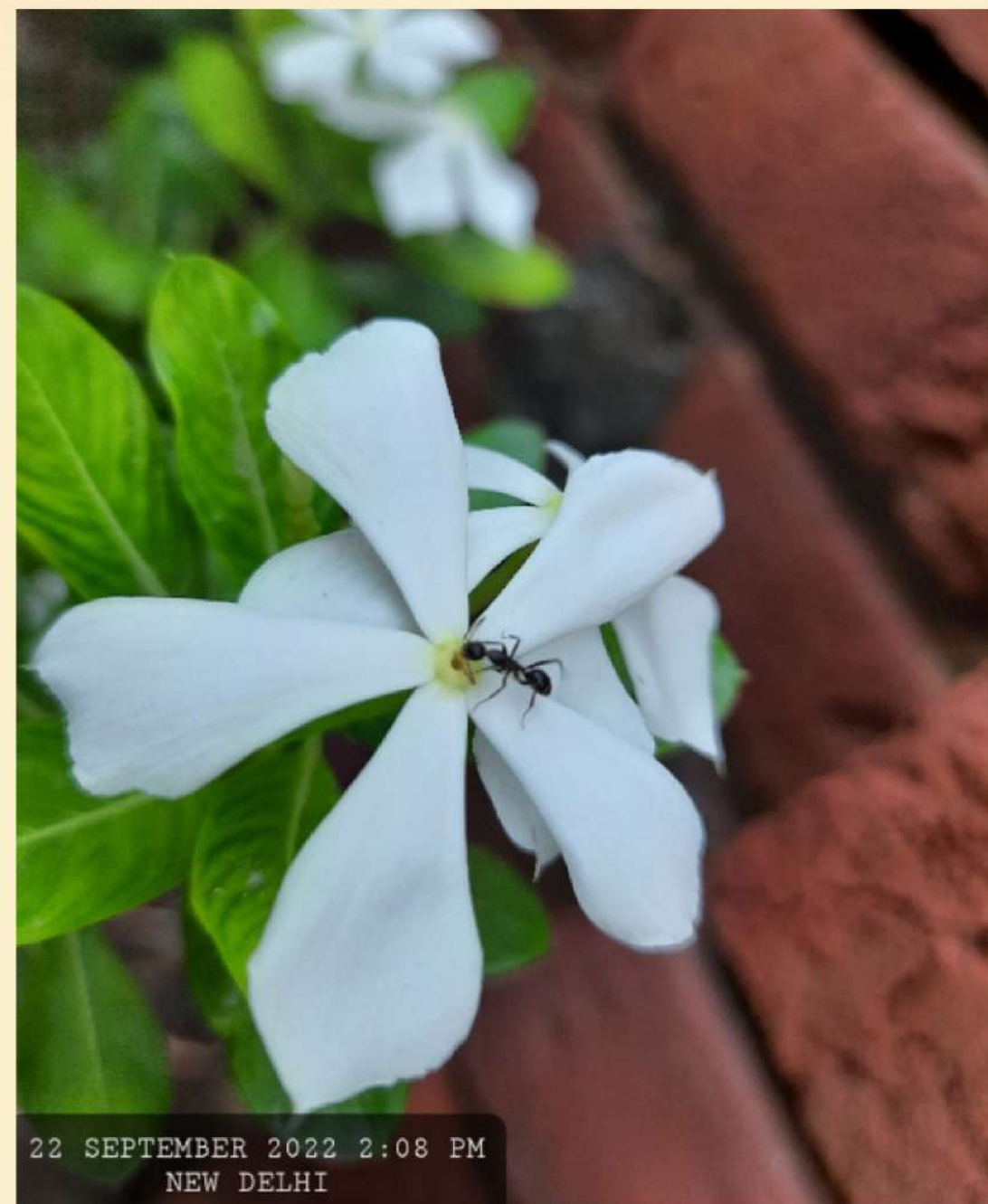


By-Ritika Dewra
B.Sc. (H) Zoology
I Year



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Flowers

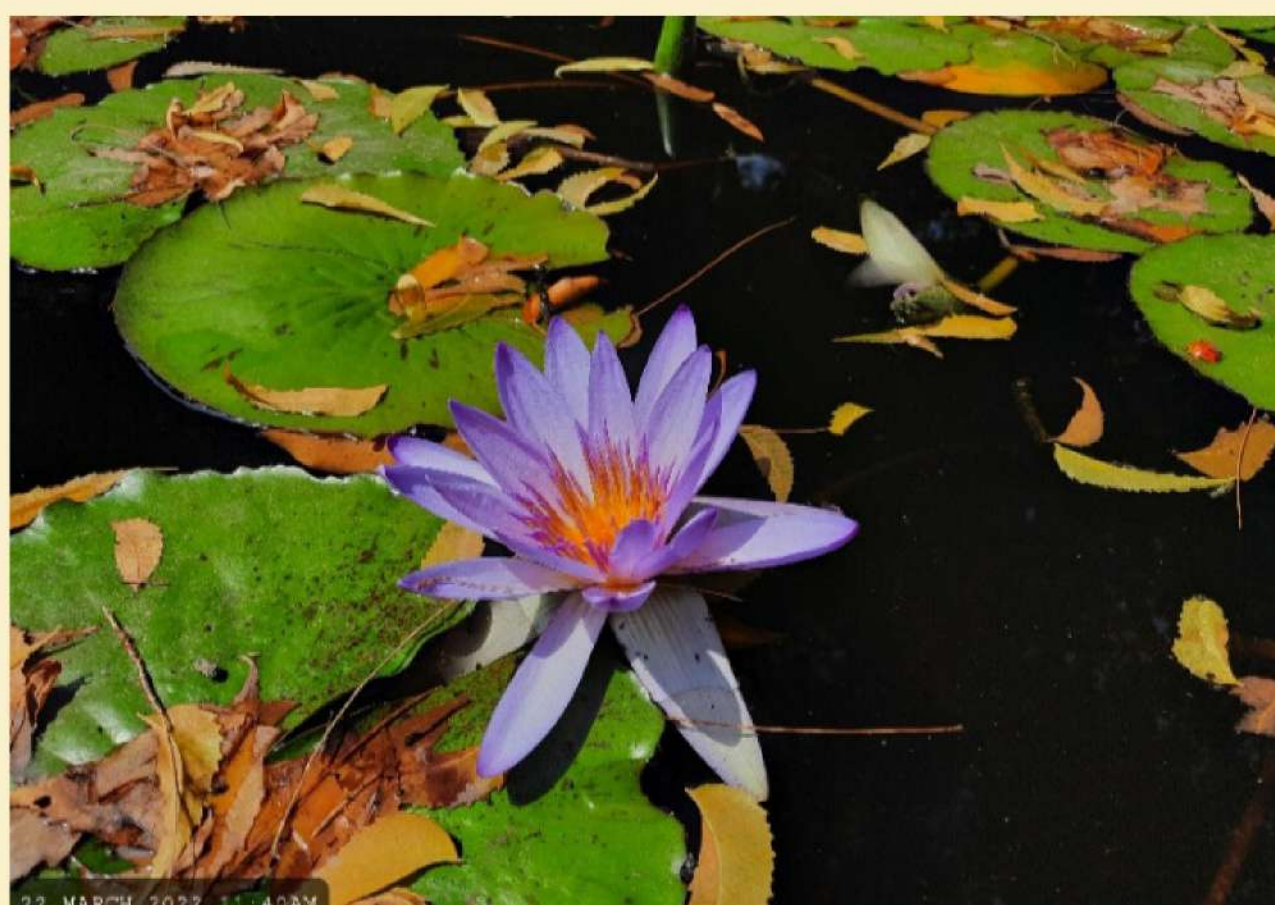
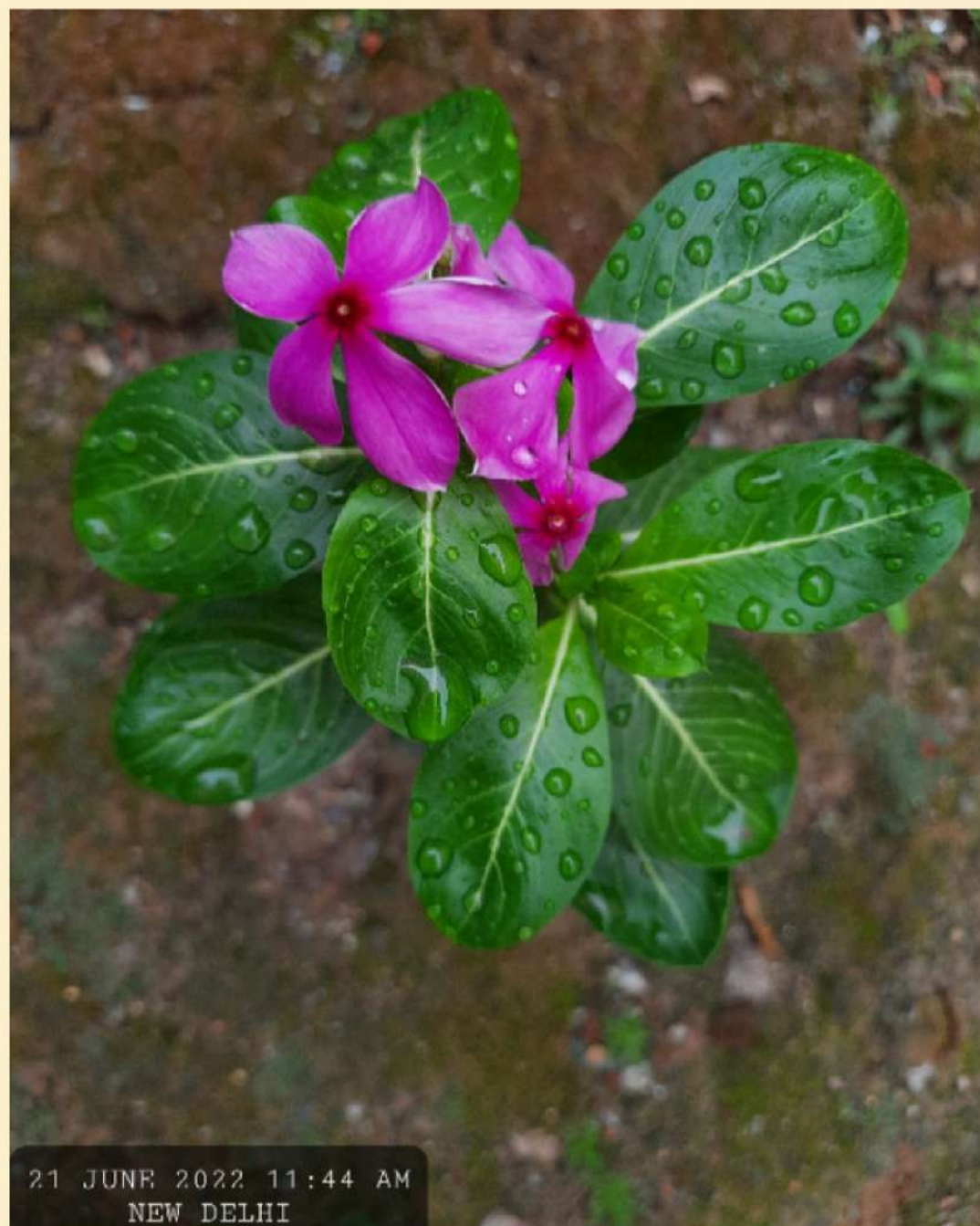


By- Monica Singh
B.Sc. (H) Botany
III Year



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Flowers



*By-Monica Singh
B.Sc. (H) Botany
III Year*

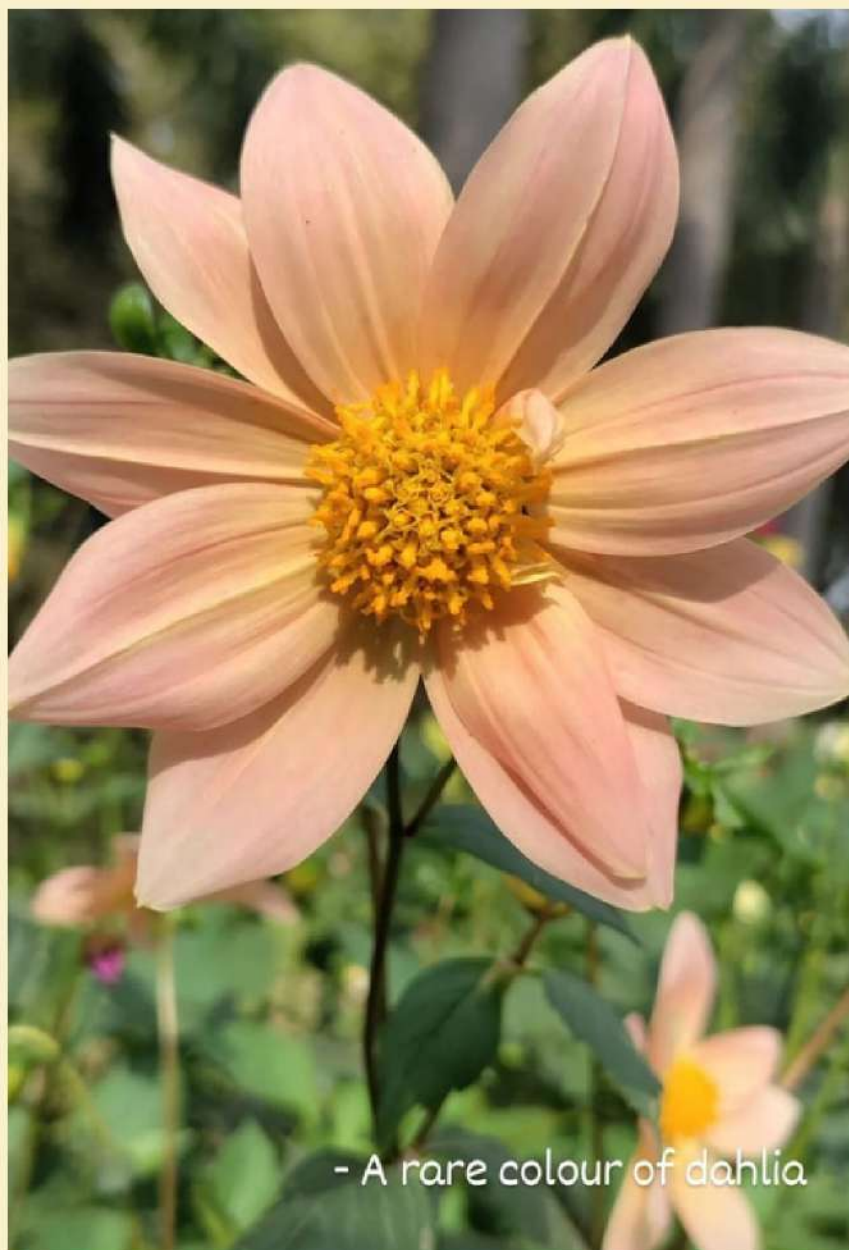


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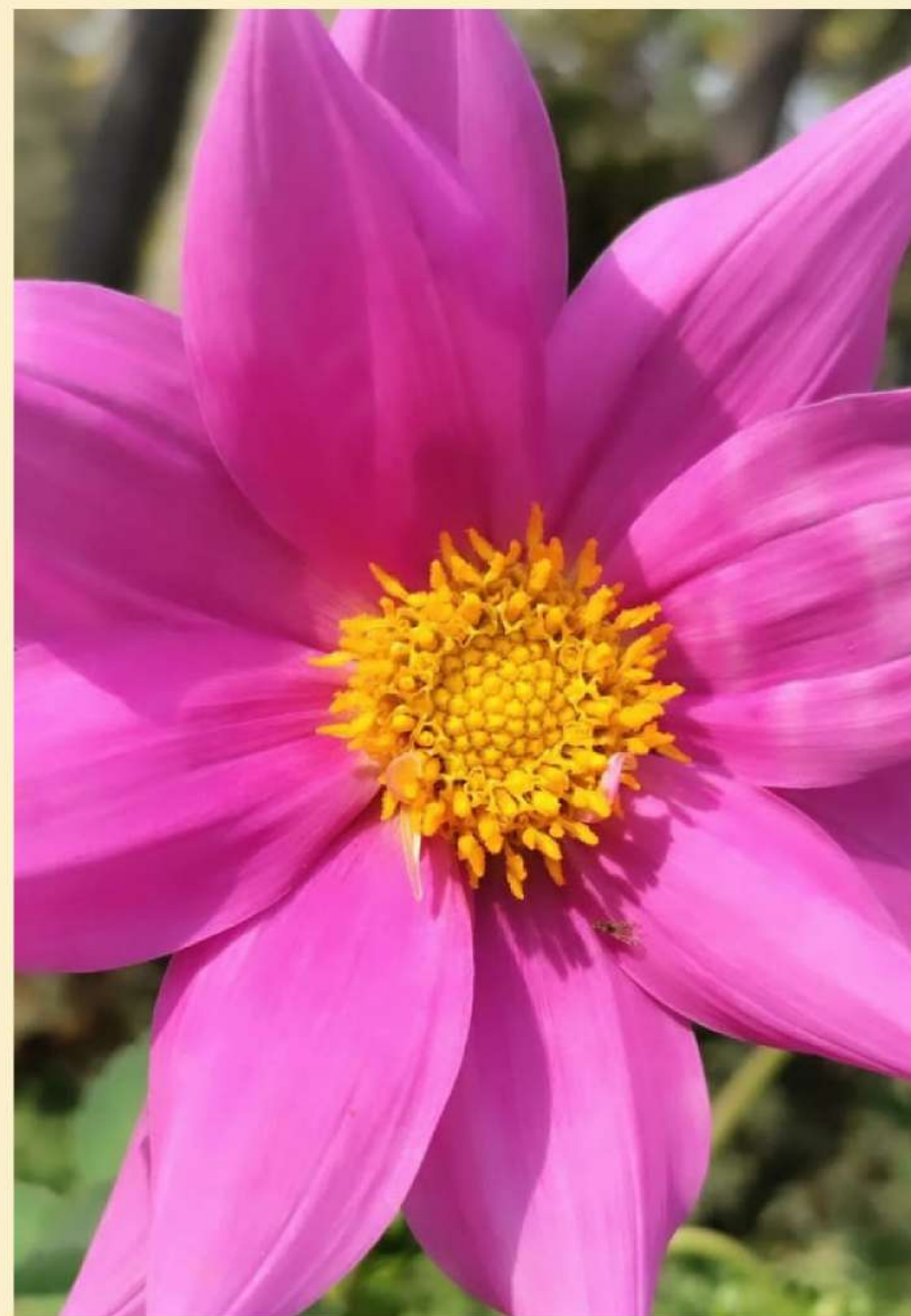
Flowers



-Osteospermum
African daisy



- A rare colour of dahlia



By-Somya Jain
B.Sc. (H) Botany
II Year



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Flowers

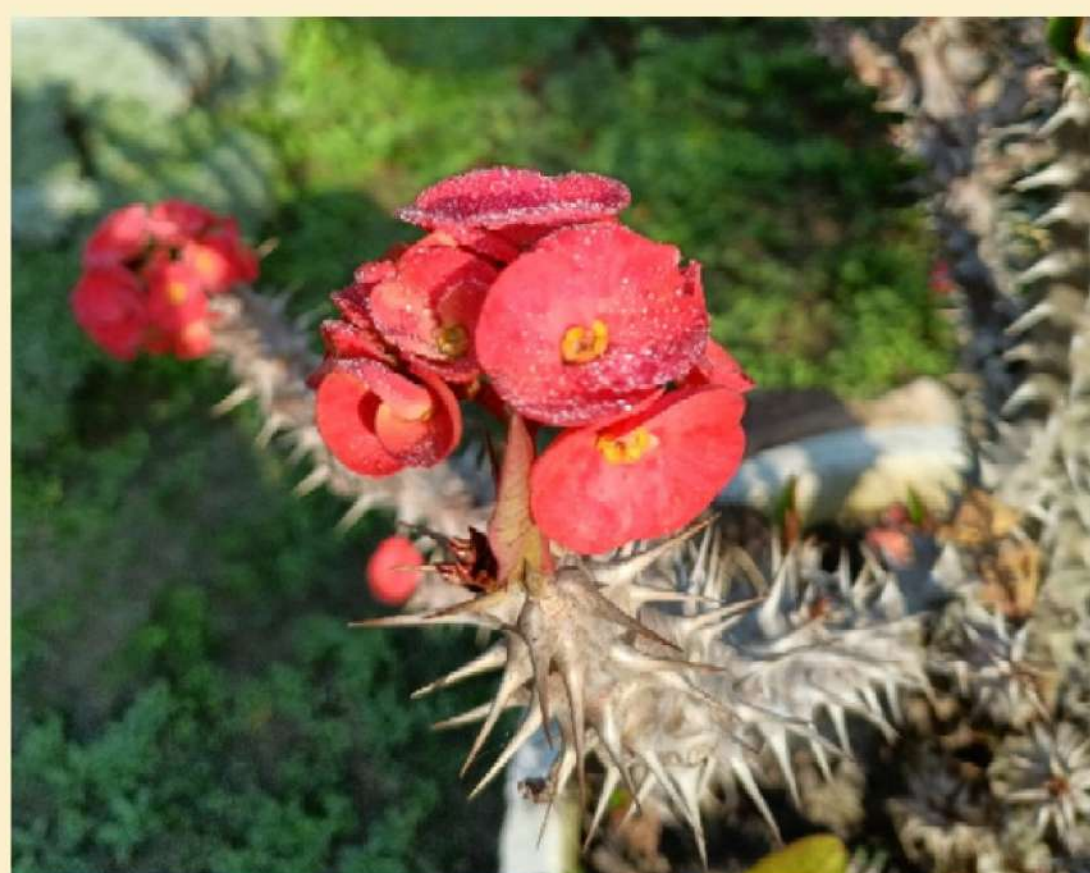
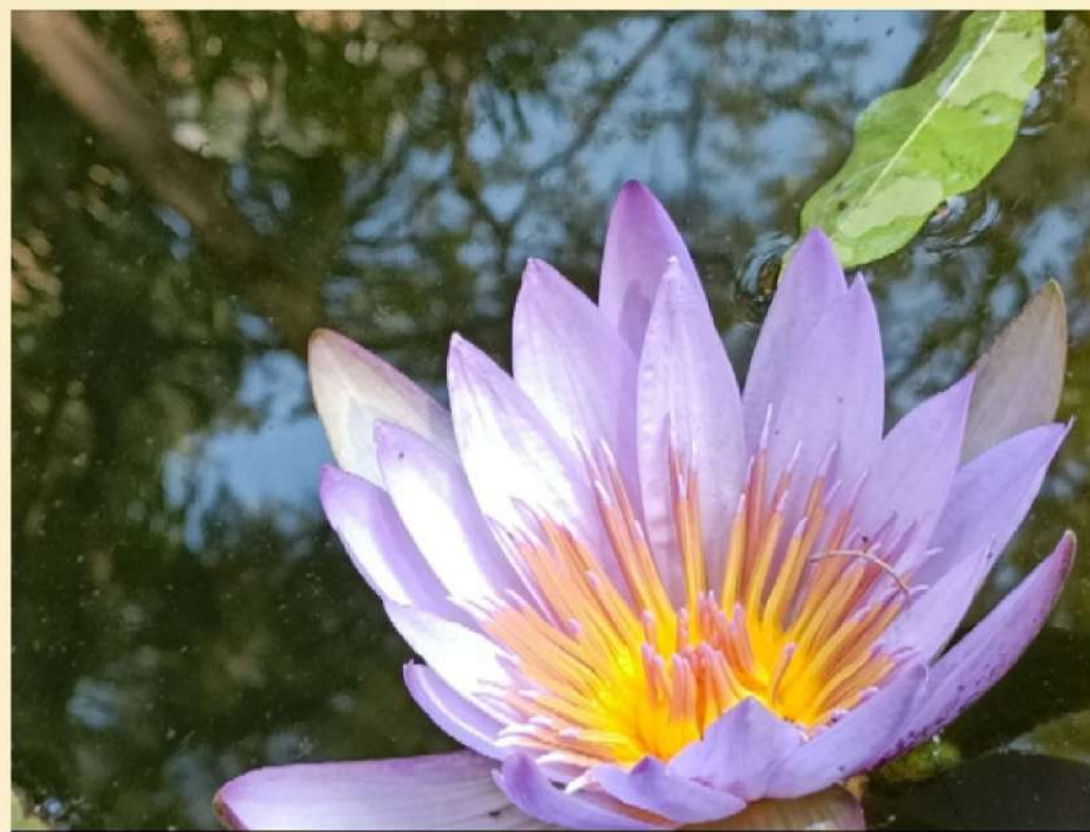
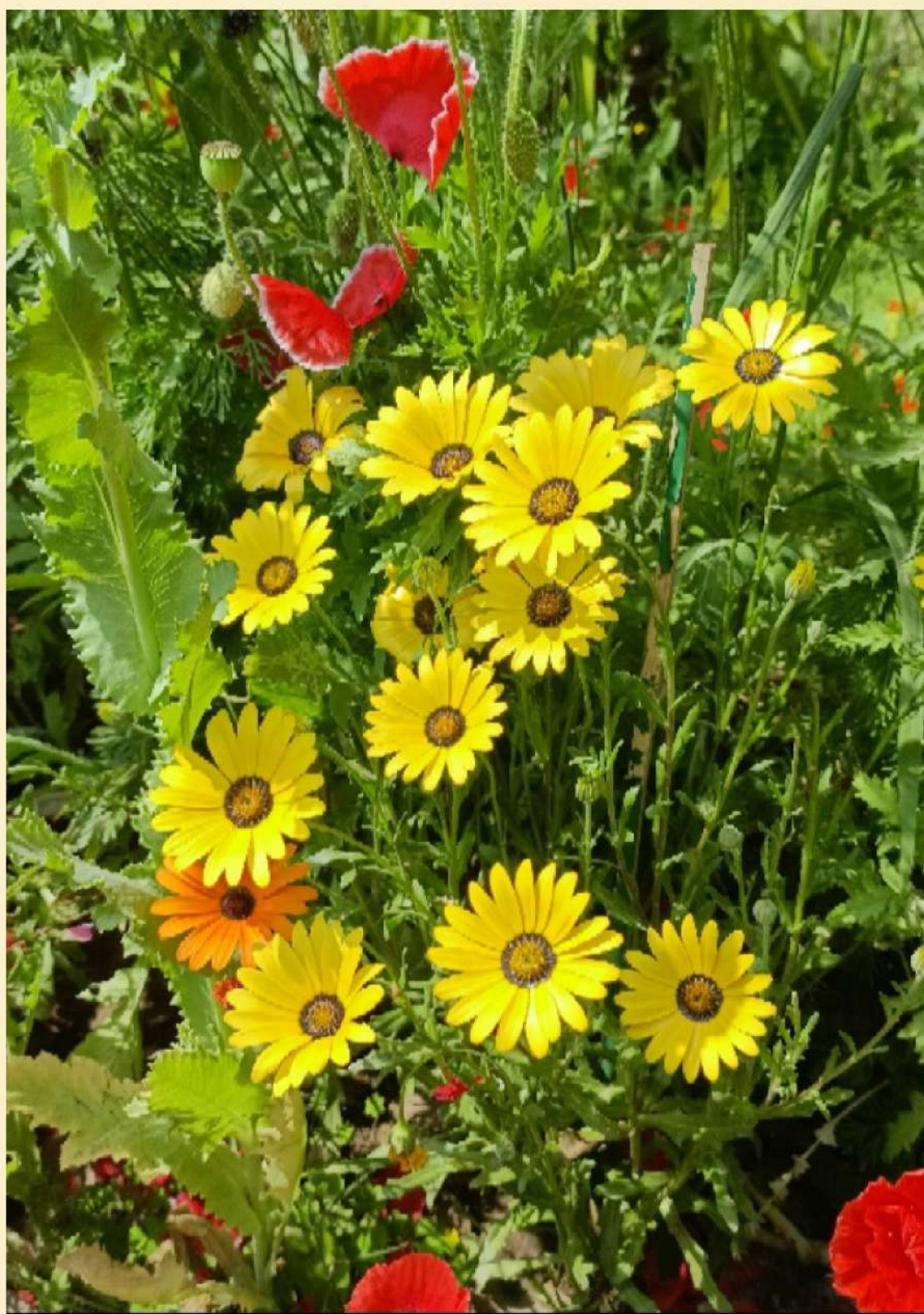


By- Himani
B.Sc. (Prog) Life science
III Year



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Flowers



By- Nancy
B.Sc. (H) Botany
II Year



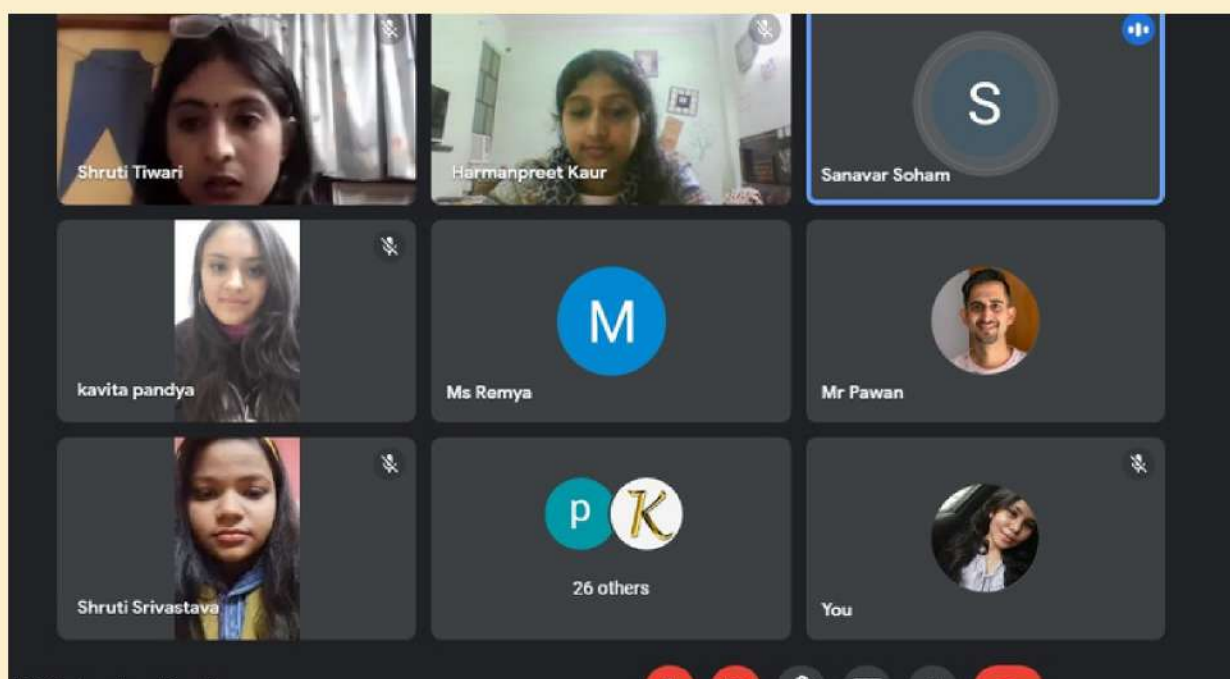
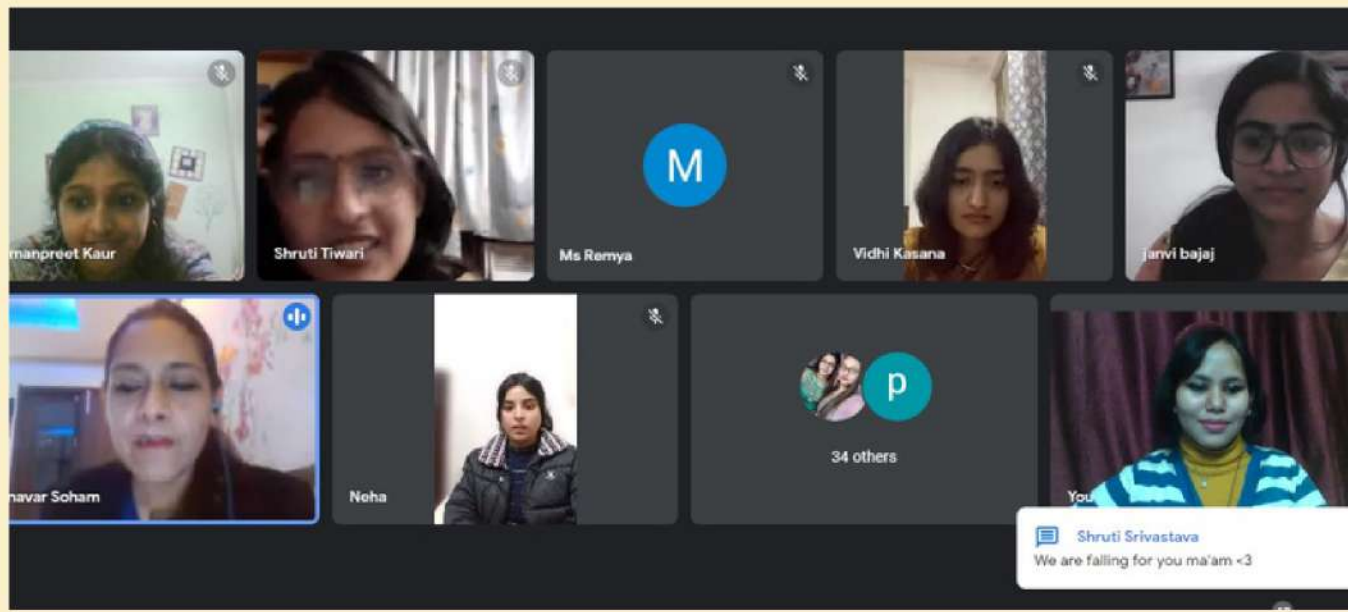
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Events of the Society



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Departmental freshers



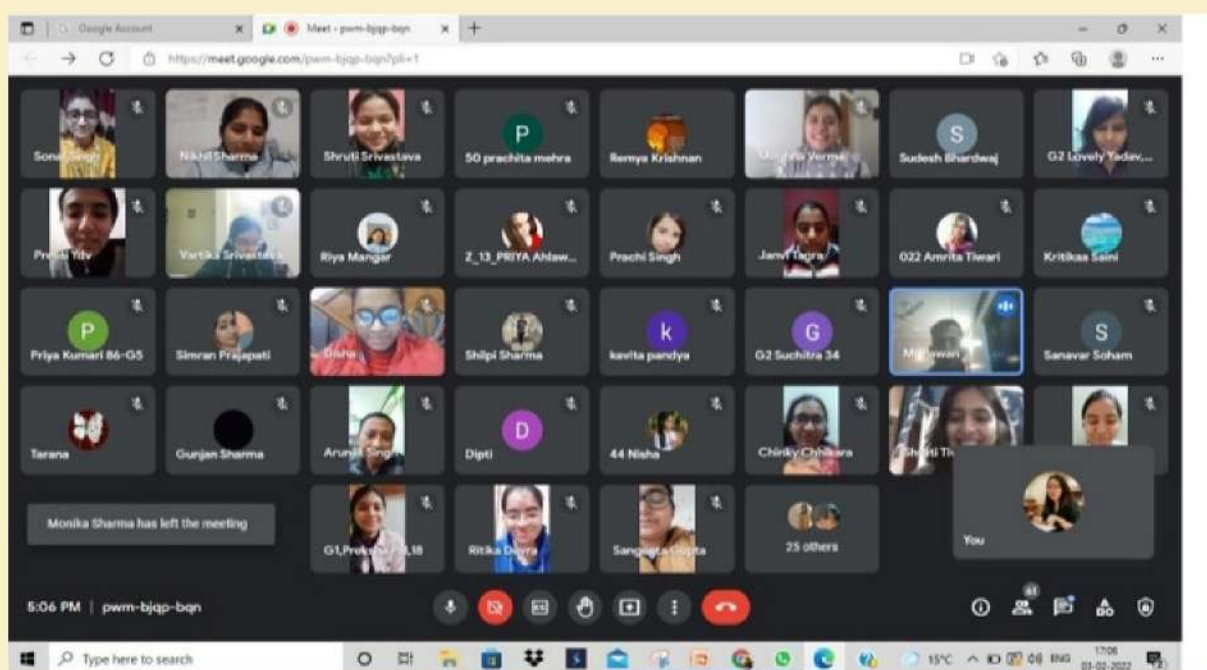
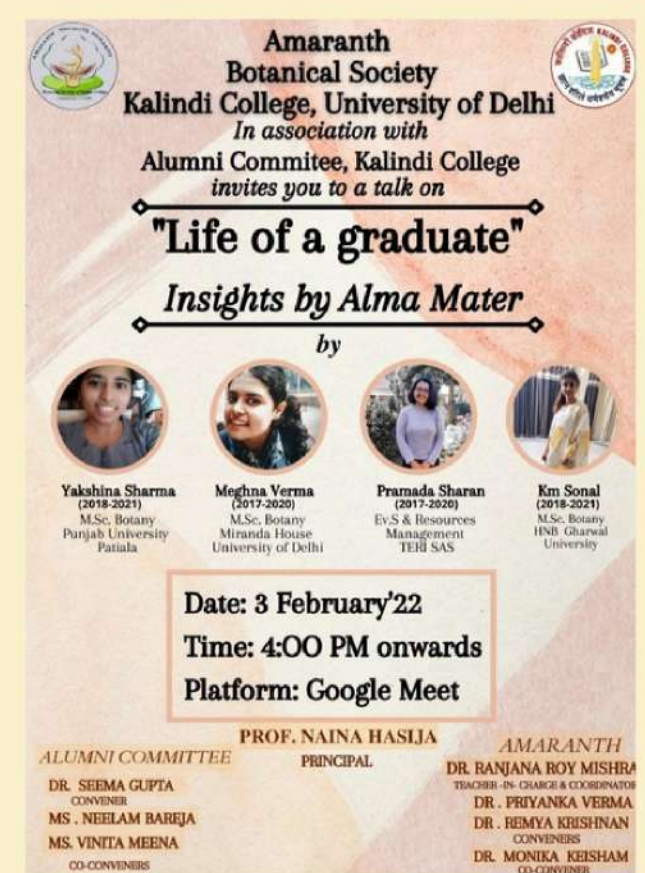
A new batch of freshers were cheered off with an online fun evening organized by the department of Botany on February 04, 2022. The freshers welcome was filled with pomp and show. Girls were beautifully dressed under the 'Vintage' theme. The department was surprised by the enthusiasm and participation of the new batch. A variety of games were organized to make the evening more festive and fun. Bollywood quizzes, treasure hunt, dare game were the highlight of the evening. Games scores and performances were used to judge all the lovely girls. Moreover, there was a questionnaire round followed by the talent round. Dr. Pawan, Dr. Pratibha and Dr. Sanawar constituted our esteemed panel of judges and made some of the most important decisions of our competition. As a result, Shruti Tiwari was crowned as the Miss Freshers. This event was a huge success, thanks to the participation of all teachers and students. The event ended with cheerful thankyou note from the Teacher-In-Charge, Ranjana Roy Mishra.



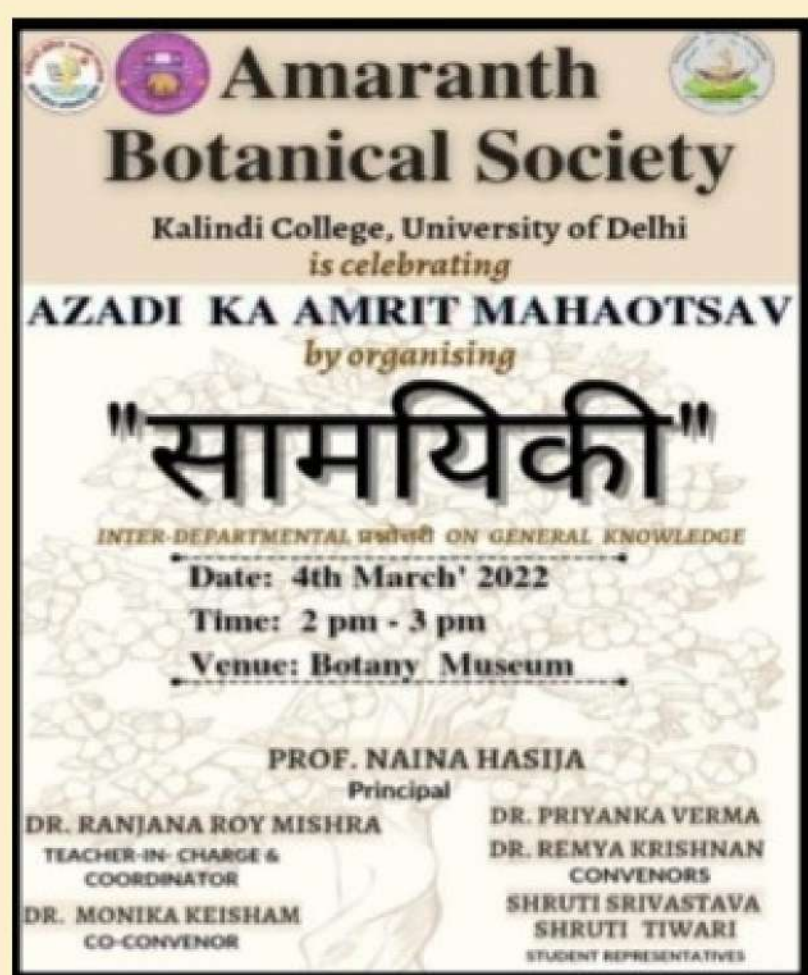
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Life of a graduate

In coordination with the Alumini committee, Amaranth, the Botanical Society of Kalindi College organized an information-packed event. In the afternoon of 3rd February, 2022, from 4 to 6 p.m., members of the botany department, college students, and convenors joined together for a fun and interactive session.



It was a joy to witness Yakshina Sharma, Meghna Verma, Pramada Sharan, and Km Sonal share their experiences with the juniors. It was a pleasure to have them as they shared useful tips on how to stay organized during your master's and coursework. It was a meticulous event with 65+ participants which ended with a positive note.



Samayaki Quiz competition

An inter-departmental quiz competition, Samayaki, was organized on 4th March 2022 by Amaranth, the Botanical Society of Kalindi college. This wholesome competition had some mind-boggling and awakening rounds. Dr. Naghma, our quiz master presented the questions and judged all the participating teams. Each team participated with zealousness and honesty to grab the maximum points on the points table.

Students and department heads made the first offline event after a long time a tremendous success. At the end of the competition, Team C from the zoology department was declared the winner. As a result of their victory, they received certificates. It was a refreshing experience for both the teachers and students after a long time.



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Peristeria- The Annual Fest



"Amaranth", the Botanical Society of Kalindi college organized an annual departmental festival called "Peristeria". The fest was organised in Science block of the college on 25th April 2022, 9:00 am onwards. "Peristeria" was the name given to the fest based on theme 'orchid flowers'.

The flowers symbolize thoughtfulness, refinement, fertility, beauty, charm, and love. A bunch of fun and exciting competitions took place during this zestful event. The online registration process allowed students from a variety of colleges to participate. Competitions included Quiz, extempore, an instant spotting competition, Best out of the waste contest, Rangoli making and a poster making competition. During the fest, the entire department was illuminated by the colorful decorations. The winners were given cash prizes and certificates.



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Fun filled competitions created fun atmosphere in whole department. The guests looked beautiful and enjoyed themselves to the fullest. As part of a celebration, the teachers and students planted a tree in the herbal garden. This event wouldn't have been successful without the hard work and determination of the convenors Dr. Priyanka Verma, Dr. Remya Krishnan and Dr. Monika and students in charges Kavita and Shruti Srivastava.

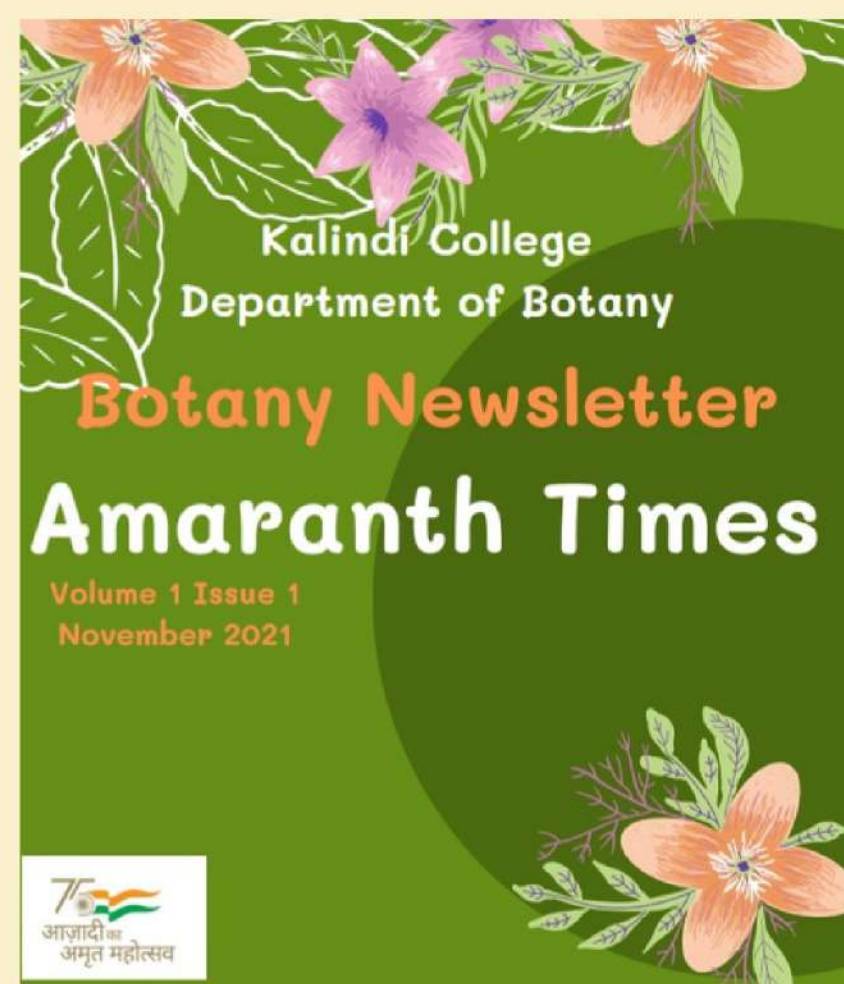


Newsletter '21-22 Release



The first volume and issue Botany Newsletter "Amaranth Times" of academic session 2021-22 was an amalgamation of creativity, art, reflections, powerful words, and stunning images. It was overwhelming to receive many wonderful and innovative pieces of articles from students as well as teachers. Students showed a great deal of interest in the submission.

The newsletter was released in an online newsletter release ceremony on November 29, 2021. Teachers and students joined in for a first look at the newsletter on Google Meet. Later It was uploaded on official website of Kalindi College.



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Webinar on Plant Physiology

A webinar on the topic 'Plant Physiology: Significance & Scope' was organized by Amaranth: The Botanical Society, It was highly informative and educational. 50+ participants gathered via googl emeet on March 5, 2022 to listen to our guest speaker, Dr. Aditi Tailor.

Being a renowned scientist at Arid forest Research institute, Jodhpur. She explained the various aspects of plant physiology in an elucidating manner. In addition, she talked about plant hormones and water transportation. This amazing session ended with an interesting questionnaire round.



Poetry Writing Competition



The Botany department of Kalindi College, Delhi University organized an intercollege poetry writing competition. Online entries were invited from students. Participants from different colleges wrote on the topic 'Spring Blossoms and Pollination.' The department was thrilled to receive such a mellifluous piece of writing.

Poems were checked for plagiarism and judged based on their originality, choice of words and adequacy of the topic. Winners were awarded cash prizes and certificates.



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Life in a Retro: - Farewell



Farewell-2022 was the time to bid goodbye to the graduating batch of 2022, which was cherished and loved by everyone in the department. This batch attended both online and offline classes. The whole department gathered and joined hands to give them a memorable goodbye and celebrate their new endeavors. On April 13, 2022, a Retro-themed farewell was organized for them. All participants dressed based on the theme, and the environment was so overwhelming. Seniors were cordially welcomed by their juniors. The event started with a short introductory session and was followed by presenting a video montage of the college campus. Several games were organised including the dumb charades and the dare games. It was the cake-cutting ceremony that brought all the students and teachers together. A highlight of the day was the Miss Farewell competition, which demonstrated the seniors' talents from dancing to soulful singing performances. The jury crowned the graceful, Kavya as Miss Farewell. Teachers ended this successful event by motivating students to achieve their dreams and never give up.



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Winners of the events

Freshers party (Botany Department)

- Miss Fresher - Shruti Tiwari, 1st Year (Kalindi College)
- 1st Runner up - Shruti Shrivastava, 1st Year (Kalindi College)
- 2nd Runner up - Kavita, 1st Year (Kalindi College)
- Miss Bollywood - Jyoti, 1st Year (Kalindi College)
- Miss Congeniality - Harmanpreet, 1st Year (Kalindi College)

Spring Blossom

- 1st prize - Ankita Sahoo, BSc.(H)Botany (Kalindi College)
- 2nd prize - Dakshita, BSc.(Prog.)L.Science (Maitreyi College)
- 3rd prize - Keerti, BSc.(H)Botany (Shivaji College)

Departmental Farewell (Botany Department)

- Miss Farewell - Kamya, 3rd Year (Kalindi College)
- 1st Runner up - Vartika, 3rd Year (Kalindi College)
- 2nd Runner up - Monica Singh, 3rd Year (Kalindi College)

Samyaki -Quiz

- Mansi, BSc.(H)Zoology, 2nd Year (Kalindi College)
- Prerna, BSc.(H)Zoology, 2nd year (Kalindi College)
- Khushi, BSc.(H)Zoology, 2nd Year (Kalindi College)

Best out of waste (fest)

- Anjali BSc.(H)Botany (Kalindi College)
- Disha BSc.(H)Botany (Kalindi College)



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Poster making (fest)

- Anshika, B.Sc(Prog.) Life Science(Kalindi College)
- Jyoti, BSc.(H)Botany (Kalindi College)
- Tanisha Tiwari, B.Sc(H)Botany (Kalindi College)

Rangoli(fest)

- Utkarsh Panday, B.Sc(Prog.) L Science(Swami Vivekananda College)
- Varsha Rai, B.Sc (H)Botany (Kalindi College)
- Kajal, B.Sc(Prog.) Life Science (Kalindi College)

Extempore (fest)

- Utkarsh, B.Sc(Prog.)L.Science(Swami Vivekananda College)
- Jyoti, B.Sc(H)Botany (Kalindi College)
- Vishal, BA(H)English (Rajdhani College)

Spotting (fest)

- Utkarsh, B.Sc(Prog.)L.Science (Swami Vivekananda College)
- Anshika, B.Sc(Prog.)L.Science (Kalindi College)

Quiz (fest)

- Anshika(Kalindi College)
- Sakshi(Kalindi College)
- Vanshika(Kalindi College)
- Varditya (Kalindi College)
- Aisha(Kalindi College)



Pillars of the Botany Department

Teaching Staff

Dr. Kalpana Kumari
Dr. Divya Verma
Dr. Sudesh Bhardwaj
Dr. Ranjana Roy Mishra
Dr. M.Arunjit Singh
Dr. Sanavar Soham
Dr. Naghma Praween
Dr. Pratibha Thakur
Dr. Pawan Kumar
Dr. Priyanka Verma
Dr. Remya Krishnan
Dr. Monika Keisham

Non-Teaching Staff

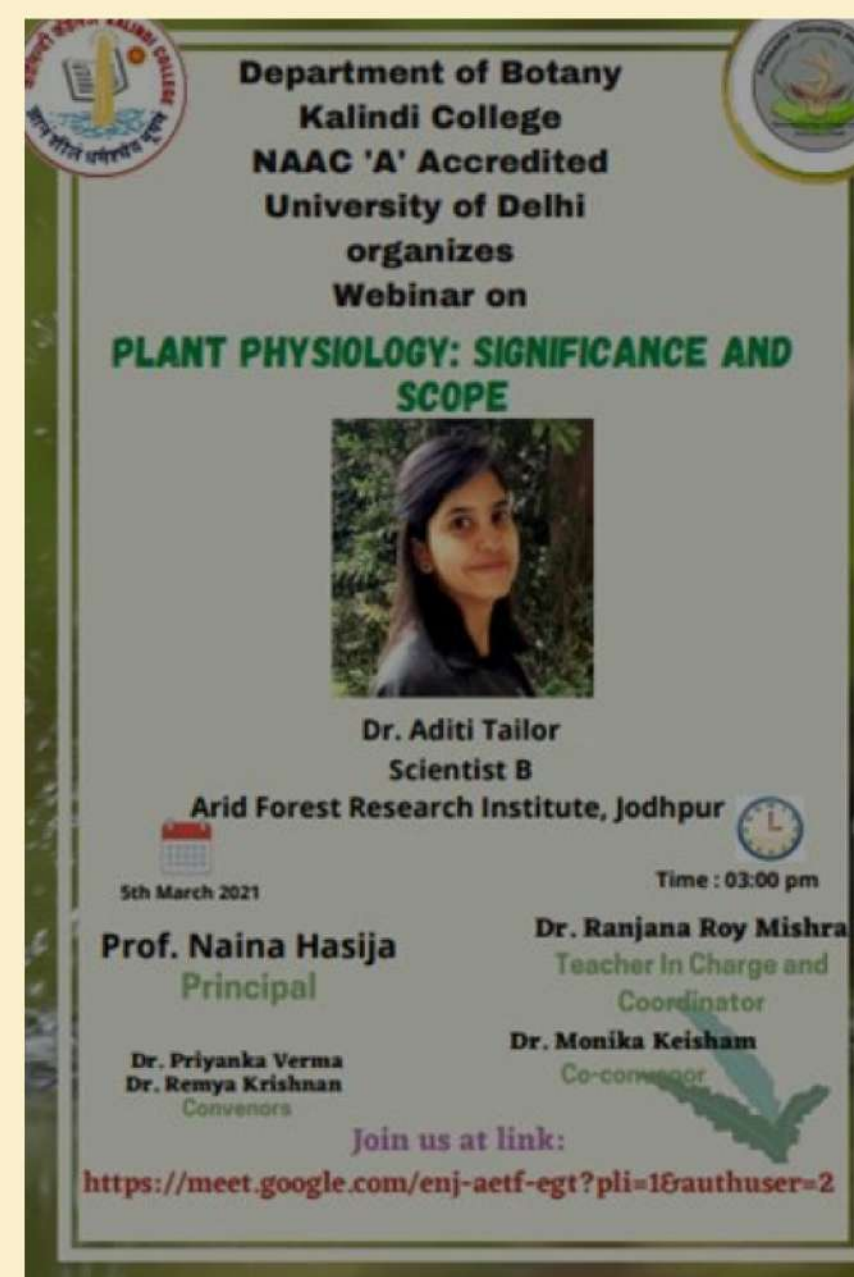
Gaurav Bharty
Yashpal Yadav
Pawan Kumar
Mohammad Bilal
Abhay Kumar



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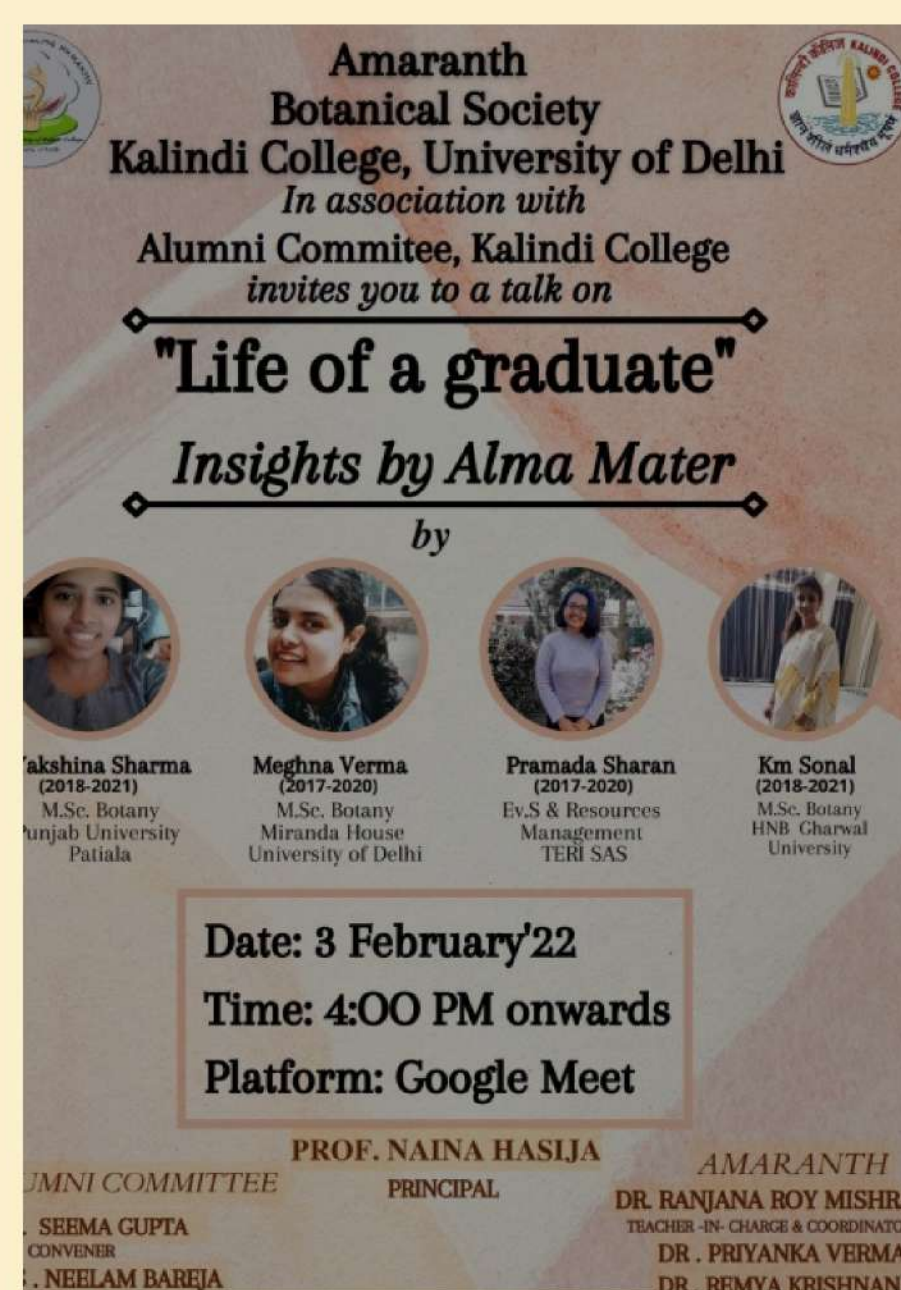
Plant Physiology (Speaker)

The speaker of the event was Dr. Aditi Tailor. She is an esteemed and laudable scientist at Arid forest research institute, Jodhpur. She is an eloquent speaker who explained scope and the significance of plant physiology to the students. She discussed topics like water transportation and plant hormones. She ended up this session with questionnaire round with audience



Life of graduate (Speakers)

The speakers of the event were Yakshina Sharma (2018-2021) she is currently persueing masters from Punjab University Patiala. The second speaker Meghna Verma (2017-2020) she is correctly tagging masters from Miranda House Delhi University, Pamada Sharan Ev.S & Resource management (2017-2020) TERI SAS, third speaker Km Sonal (2017-2020) she is currently persueing masters in Botany from HNB Garhwal University.





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