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President
Ch. Jitendra Nath Singh
Advocate

Date .....

MESSAGE

It gives me immense pleasure to know that the Department of Zoology, CMP P.G. College, Prayagraj is publishing the VII volume of Zoolife.

Zoolife has been providing a very good forum for the Graduate, Post Graduate students and Research Scholar's of the Zoology Department to enrich their studies and writing skills.

I appreciate the efforts of the Editorial Board, Faculty Members and Students for bringing out this volume.

Further, I extend my best wishes and blessings for the publication and the future endeavors.

(Ch. Jitendra Nath Singh)
Chairperson
Governing Body of CMP P.G. College,
Prayagraj

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MESSAGE

It is a matter of great happiness and satisfaction that Departmental of Zoology is publishing its VIIth Edition of magazine ZOOLIFE.

For giving shape and bringing out the magazine, I truly appreciate the unique teacher-student relationship. I congratulate to Cheif Editor and her team for their editorial capabilities for encouraging their students. I wish more and greater success to the department in its efforts towards such creative enterprise.

Brijesh Kumar
25/04/2022

(Dr. Brijesh Kumar)
Principal

Department of Zoology
C.M.P. Degree College,
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MESSAGE

ZOOLIFE came into existence in 2010. It is matter of great pride for me that under the excellent care of the committed Faculty the magazine is growing stronger. The idea and conceptualization of ZOOLIFE with wide range of information on local-regional-national and global findings in life sciences will go a long way in inculcating interest amongst students to see beyond their prescribed syllabus. Publishing this magazine is a small step taken by the department in igniting the light to read and learn more.

Dear students, even if we take pride in the fact that the human species is not dependent on anyone, but it is also true that there are many reasons for which we depend on biodiversity. From bacteria to giant fauna and flora, they are partners in development. Prosperity resides in rivers. We do not have an endless supply of fresh water and I would argue that it is perhaps our most precious resource. Less than one percent of water on Earth is fresh and accessible. Water is life for all living beings. We need it to survive and we also need it for every aspect of life – from food we eat to the cotton we wear to the energy we depend on. On top of that, about ten present of the world species live in lakes, rivers, wet lands and aquifers, and they are declining at a faster rate than terrestrial and ocean species. To help create a sustainable future for all, dear students my appeal to you is, do your bit in protecting fresh water ecosystem.

My message to you all is keep writing on issues, it helps develop power of expression and learning becomes enjoyable.

I thank all the students who have shown interest in giving shape to ZOOLIFE. And I wish to convey my special gratitude to the members of editorial board.

With best wishes

(Dr. Vandana Mathur)
Cheif Editor & Associate Professor

Dr. Hemlata Pant
Department of Zoology
CMP Degree College,
(Allahabad University)
Prayagraj - 211006

सन्देश

जंतु विज्ञान विभाग द्वारा प्रकाशित वर्ष - 2021 की ज़ूलाइफ पत्रिका के सातवें अंक को आप सभी के सम्मुख प्रस्तुत करते हुए अत्यंत हर्ष हो रहा है। इस पत्रिका के प्रकाशन का मुख्य उद्देश्य विद्यार्थियों के भीतर विद्यमान उनकी लेखककीय प्रतिभा को उजागर करना है। इस अंक में कुल **29** रचनाओं को समावेशित किया गया है। मैं ज़ूलाइफ की रचना हेतु सभी योगदानकर्ताओ एवं अपने सहयोगियों को हार्दिक साधुवाद देती हूं, जिन्होंने अपने सारगर्भित एवं ज्ञानवर्धक रचनाओं को इस पत्रिका में भेजने की रुचि दिखाई एवं सहयोग दिया।

आशा करती हूं इस पत्रिका का यह अंक आप सभी सुविज्ञ पाठकों को रुचिकर लगेगा। इस पत्रिका को और अधिक महत्वपूर्ण तथा उपयोगी बनाने हेतु आप सभी सुधि पाठकों के महत्वपूर्ण सुझावों की मुझे सतत आवश्यकता रहेगी।

शुभकामनाओं सहित!

डॉ. हेमलता पंत
संपादक

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Prashant Kumar Gautam, M.Sc 3rd semester

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Avian Influenza (Bird Flu)

Domesticated birds (chickens, turkeys, ducks, etc.) may become infected with avian influenza Aviruses through direct contact with infected waterfowl or other infected poultry, or through contact with surfaces that have been contaminated with the viruses. Bird flu viruses do not normally infect humans. However, sporadic human infections with bird flu viruses have occurred.

Avian influenza outbreaks in domesticated birds are of concern for several reasons:

- The potential for low pathogenic avian influenza A(H5) and A(H7) viruses to evolve into highly pathogenic avian influenza A(H5) and A(H7) viruses with major agricultural implications
- The potential for rapid spread and significant illness and death among poultry during outbreaks of highly pathogenic avian influenza
- The economic impact and trade restrictions from a highly pathogenic avian influenza outbreak
- The possibility that avian influenza A viruses could be transmitted to humans exposed to infected birds.

Highly Pathogenic and Low Pathogenic Avian Influenza A Viruses

- Low Pathogenic Avian Influenza (LPAI): Low pathogenic avian influenza viruses cause either no signs of disease or mild disease in chickens/poultry (such as ruffled feathers and a drop in egg production).Most avian influenza A viruses are low pathogenic and cause few signs of disease in infected wild birds.
- Highly Pathogenic Avian Influenza (HPAI): Highly pathogenic avian influenza viruses cause severe disease and high mortality in infected poultry. Only some avian influenza A(H5) and A(H7) viruses are classified as HPAI A viruses, while most A(H5) and A(H7) viruses circulating among birds are LPAI A viruses Several factors can contribute to the spread of AI viruses, such as:
- Globalization and international trade
- Farming and sale (live bird markets)
- Wild birds and migratory routes.

Signs and Symptoms

Bird flu may begin within two to seven days of infection, depending on the type. In most cases,

they resemble those of conventional influenza, including:

- Cough
- Fever
- Sore throat
- Muscle aches
- Headache
- Shortness of breath

Causes

- Bird flu occurs naturally in wild waterfowl and can spread into domestic poultry, such as chickens, turkeys, ducks and geese. The disease is transmitted via contact with an infected bird's feces, or secretions from its nose, mouth or eyes.
- Open-air markets, where eggs and birds are sold in crowded and unsanitary conditions, are hotbeds of infection and can spread the disease into the wider community.
- Undercooked poultry meat or eggs from infected birds can transmit bird flu. Poultry meat is safe to eat if it's been cooked to an internal temperature of 165 F (74 C). Eggs should be cooked until the yolks and whites are firm.

Diagnosis:

1) Pattern of heavy mortality and associated clinical signs.
2) Perfect diagnosis is possible only at OIE designated laboratory at ICAR-National Institute for high security Animal Disease, Bhopal, Madhya Pradesh.
3) Sample such as whole fresh carcass, cloaca and nasal swabs may be sent for laboratory diagnosis via real-time reverse Transcriptase PCR method.

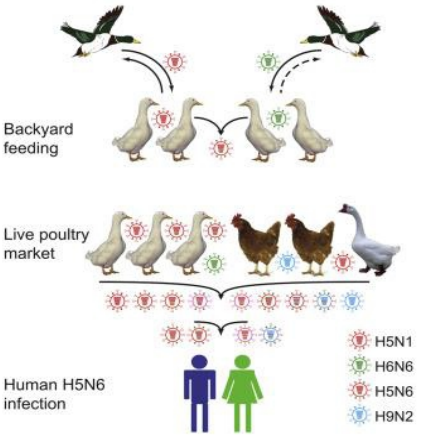
Prevention

- Apart from antiviral treatment, the public health management includes personal protective measures like:

- Regular hand washing with proper drying of the hands
- Good respiratory hygiene – covering mouth and nose when coughing or sneezing, using tissues and disposing of them correctly
- Early self-isolation of those feeling unwell, feverish and having other symptoms of influenza
- Avoiding close contact with sick people
- Avoiding touching one’s eyes, nose or mouth

Treatment:

1) No treatment and No Vaccination
2) Only stamping out and destroy of birds up to 1 km of affected area.



Dr. Hemlata Pant and Dr. Jyoti Verma
Asst. Prof., Department of Zoology
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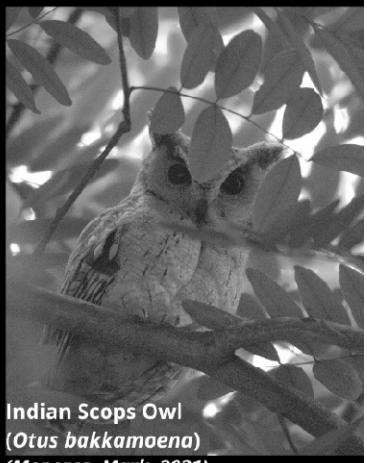
Owls of Prayagraj

Spotted Owlet (*Athene brama*)
(Menezes, Mark. 2021)

Jungle Owlet
(*Glaucidium radiatum*)
(Menezes, Mark. 2021)



Indian Scops Owl
(*Otus bakkamoena*)
(Menezes, Mark. 2021)

Urban Prayagraj is home to two small species of owlets, Spotted Owlet *(Athene brama)* & Jungle Owlet *(Glaucidium radiatum)* and one small species owl, the Indian Scops Owl *(Otus bakkamoena).* These three species are comparatively smaller with an average height of 21.5cm when compared to other owls found in the city such as the Barn Owl with a height of 36cm. They have been recorded in the New Cantonment area of the city which possesses many large deciduous trees with cavities. This provides ample breeding and roosting sites and helps in mitigating interspecies conflict as well. In addition to this the abundance of Asian House Shrew *(Suncus murinus),* Little Indian Field Mouse *(Mus booduga)* and numerous varieties of insects and birds provide a sustainable food source to support the population of owls in this region. They must be protected and their habitats conserved for further studies on the impact of owls on the avifaunal diversity and succession of species within the forested regions of the city.

~ Mark Menezes (M.Sc. Zoology 3rd Semester)

Mark Menzes
M.Sc. 3rd Semester

Embryonic Diapause : Development on hold

One of the most intriguing phenomena in reproductive biology is the reversible arrest of embryonic development known as delayed embryonic development or embryonic diapause. It is defined as the state of either ceased or very slow rate of cell division, occurs mostly at early stage of embryonic development particularly at the blastocyst stage. It is characterized by reversible arrest in embryonic development at the blastocyst stage and is reported in more than 100 mammalian species belong to 8 orders and 17 families. The evolutionary significance of embryonic diapause is to uncouple breeding and parturition, so that each occurs at the time of the year most favourable for reproductive success. In most of the mammals, development of the embryo depends on complex interaction with the uterus, but the signals passing between uterus and embryo in early pregnancy is not yet fully elucidated. During embryonic diapause, the uterus remains in a quiescent state and embryos at the blastocyst stage become dormant. The physiological or hormonal mechanisms responsible for embryonic diapause are very different between the various orders of mammals showing this reproductive trait.

Types of Delayed embryonic development in mammal

Embryonic diapause can be divided in two broad categories: a) Delayed implantation; b) Post-implantation delayed development.

Delayed Implantation

In delayed implantation, developmental arrest occurs prior to implantation and blastocyst remains unattached for prolonged period. This is the most common type of embryonic diapause and has been observed in: Marsupalia, Chiroptera, Rodentia, Carnivora, Insectivora. Two forms of delayed implantation have been documented:

(I) Facultative or lactational delay: Facultative embryonic diapause is conditional type of developmental arrest that occurs under specific environmental conditions like changes in photoperiod, scarcity of food and metabolic factors or lactation.

(II) Obligate delay: Obligate type of delayed embryonic development occurs during every gestation of a species, and is suggested to be a mechanism for synchrony of parturition with environmental conditions favorable to neonatal survival. It is regulated by various endogenous and exogenous factors.

***Post-implantation Delayed EmbryonicDevelopment*:**

Post-implantation delayed development is the state of suspended or slow rate of embryonic growth that occurs after implantation. It is the least common form of embryonic diapause found only in a few species of bats, and has not been described in other mammalian groups. This is of two types:

(I)Temperature dependent: In this type, reduced environmental temperature significantly prolongs gestation, by retarding embryonic development. The period of embryonic diapause coincides closely with the periods of hibernationdescribedin some species, such as *Pipistrellus pipistrellus, Myotis myotis.*

(II)Temperature independent: This type found in *Macrotuscalifornicus* in which autumn mating is followed by ovulation and fertilization. The blastocyst then implants superficially, grows only to the primitive streak stage, and enters a period of retarded growth.

There is a complex interplay of many stimuli which regulate the entrance and exit from delayed embryonic development. The physiological and evolutionary significance of embryonic diapauses provides a wonderful system to understandthe interplay between the different molecular/genetic components of both the embryo and endometrium at implantation/post-implantation period. Thus, it provides a powerful model to understand the uterine control of early embryonic development in mammals.

Dr. Anuradha
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Does Antipsychotic drugs are affecting mental health of next generation?

Antipsychotic drugs during pregnancy is a sensitive balance for pregnant patient and her developing child, as doctor prescribe antipsychotic drugs for the treatment of psychosis of the patient but these drugs easily cross the placental blood-barrier and reach the developing fetus. In developing fetus, excretory system and other organ system of the body are in developing stages so drug cannot be metabolized from the fetal body.

These antipsychotic drugs have direct effect on Central Nervous System of the developing fetus as these drugs are CNS acting drugs. Many clinical and preclinical trials has suggested that the offspring which were prenatally exposed with antipsychotic drugs were emotionally weak, less exploratory, as well as deficit in memory.

Is that mean we are producing more prone to psychosis offspring for our next generation?

Dr. Nidhi Tripathi
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Importance of Zooplantons in Aquatic ecosystem

Plankton is the productive base of both marine and freshwater ecosystems, providing food for larger animals and indirectly for humans, whose fisheries depend upon plankton. As a human resource, plankton has only begun to be developed and exploited, in view of its high biological productivity and wide extent. It has been demonstrated on several occasions that large-scale cultures of algae are technically feasible.

The plantlike community of plankton is called phytoplankton, and the animal-like community is known as zooplankton. This convenient division is not without fault, for, strictly speaking, many planktonic organisms are neither clearly plant nor animal but rather are better described as protists. When size is used as a criterion, plankton can be subdivided into macroplankton, microplankton, and nannoplankton, though no sharp lines can be drawn between these categories. Macroplankton can be collected with a coarse net, and morphological details of individual organisms are easily discernible. These forms, 1 mm (0.04 inch) or more in length, ordinarily do not include phytoplankton. Microplankton (also called net plankton) is composed of organisms between 0.05 and 1 mm (0.002 and 0.04 inch) in size and is a mixture of phytoplankton and zooplankton. The lower limit of its size range is fixed by the aperture of the finest cloth used for plankton nets. Nannoplankton (dwarf plankton) passes through all nets and consists of forms of a size less than 0.05 mm. Phytoplanktonic organisms dominate the nannoplankton.

The zooplankton is divided into two groups. Temporary plankton consists of planktonic eggs and larvae of members of the benthos and nekton; permanent plankton includes all animals that live their complete life cycles in a floating state. The temporary plankton, particularly abundant in coastal areas, is characteristically seasonal in occurrence, though variations in spawning time of different species ensure its presence in all seasons. Representatives from nearly every phylum of the animal kingdom are found in the permanent plankton. Among the protozoans, planktonic foraminiferans and radiolarians are so abundant and widespread that their skeletons constitute the bulk of bottom sediments over wide ocean areas. They are absent in fresh water. The ciliate protozoans are represented mainly by the tintinnids, which are between 20 and 640 microns (1 micron = 10−6 metre; 0.0008 and 0.025 inch) in size and sometimes occur in vast numbers. Among the planktonic coelenterates are the beautiful siphonophores (e.g., Physalia, the Portuguese man-of-war) and the jellyfishes. Planktonic ctenophores, called comb jellies, or sea walnuts, are also common. Freshwater rotifers may be present in plankton in vast numbers during the warmer seasons. A group of organisms that can be found at all latitudes, both in surface water and at

great depths, are the marine arrowworms (e.g., Sagitta), important planktonic predators. Oysters, mussels, other marine bivalves, and snails begin life as planktonic larvae. The wing snails (Pteropoda) spend their entire life cycles as plankton.

Crustaceans are the most important members of the zooplankton. They are the marine counterparts of insects on land; on land as in the sea, the arthropods are the most diverse and numerous of all animal phyla. The copepod Calanus finmarchicus is important as food for the herring, and the krill Euphausia superba, also known as a euphausiid, is the main food source for blue and fin whales in the Antarctic Ocean. These whales migrate to waters where the krill spawns, and the rapid growth of these large mammals, feeding entirely on plankton, is impressive.

There is a pronounced tendency for zooplankton to perform daily (or diurnal) vertical migrations in both lakes and the sea. This migratory behaviour varies with stages in the life cycle, seasons of the year, latitude, hydrographic structure, and meteorological conditions. Generally, the animals ascend toward the surface at sunset from daytime depths. At midnight, if there is no optical stimulus (e.g., the Moon or artificial light), some animals return to the daytime depths and then approach the surface once again just before dawn. As the sun rises, all descend to their daytime level.

They play an important role in the conservation of energy from primary producer (phytoplankton) to higher trophic levels. The zooplankton occurrence and distribution influence pelagic fishery potentials. Thus, they are the initial prey for most fish larvae as well as for many plankton-eating adult fishes. In aquaculture sector, zooplanktons are good food source for cultured fish especially fry, fingerlings and juveniles. Indeed, zooplanktons are used as one of the bioindicators for accessing aquatic ecosystem health. The zooplankton are more varied as compared to phytoplankton, their variability in any aquatic ecosystem is influenced mainly by patchiness, diurnal vertical migration and seasons.

Dr. Jyoti Verma and Dr. Hemlata Pant
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Microorganisms and Our Health

There is a might but invisible kingdom of microbes present within our body. The human microbiome is the aggregate of all microbiota reside on or within human tissues and bio- fluid along with the corresponding anatomical sites in which they reside including the skin, lung, saliva, oral mucosa, gastrointestinal tract and urinogenitaltract. Types of human microbiota include Bactria, archea, fungi, protists and viruses. Small yet incredibly powerful, these thousands of species and trillions of inhabitants live in all parts of our body make up the diverse human microbiome. This microbiome support and maintain our health but also, when the microbiome is disturbed or altered in some fashion have been linked to hundreds of ailments such as cancer and autoimmune and cardiovascular diseases.

There are some questions that motivate the study of microbiomes of the built environment include-

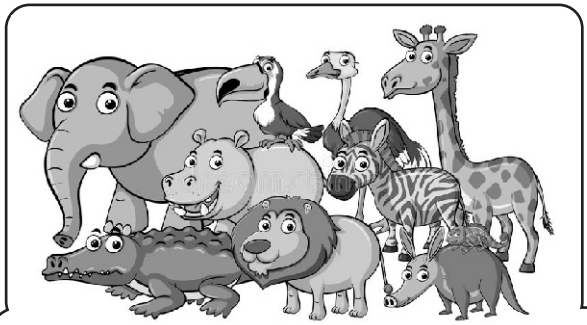
1. How do the microbiomes of the different indoor environments in which human spend time for working, living, learning and playing impact human health and well being?
2. What building conditions support microbial communities that benefit or harm human health and well being?

Composition of microorganism in each individual is different from others individual, our genetic factors are vital in maintaining microbiome interaction and composition of microbial community. apart from genetic factors, specific external factors, such as our diet, cultural practice, environmental exposure, age and sex is generating differences in our microbial composition. Our microbiome impacts on many aspects of our body that is nutrient uptake, drug metabolism, inflammation and even behaviour. for example, in our gut there is complex crosstalk occurs between microbiota and immune system that allow the tolerance of commensal bacteria. In addition, there is compelling evidences shown that microbiota help to shape the immune system. This complex interaction have persist between host and its microbiota include , host central nervous system (CNS), automatic nervous system (ANS), enteric nervous system(ENS), hypothalamic pituitary adrenal axis and entero-endocrine system are collectively known as Gut brain axis (GBA) . Through the gut brain axis gut is bidirectionally linked with the nervous system. There are several hormones and neurohormone secreted by gut brain axis which has potential to change the tone of digestive and metabolic activity conversely.

Therefore, due to complex interaction of microorganism and their host they affect each other to maintain their homeostasis. Since, if disturbance of delicate balance of Commensal of

ommensal bacteria is occur develop a dysbiosis condition, which is characterized by less stable microbiota, with potential enrichment of opportunistic pathogenic bacteria.

The human microbiota affects host physiology to a great extreme and plays a important role in the well being of human host and participates actively in the development of a wide variety of diseases. Therefore, research on host microbiome interaction should go beyond a characterization of community composition and an investigation of the community members associations. From the structure to the function of the microbiota, future research should move microbiome investigations towards providing explanations of causality. With new technique, for microbiota function prediction which is clarify the interaction between the microbiota and human development and the potential role of those microbiota involved in the mechanism of various diseases.



Twinkle Yadav
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सोचो अब ये जीव कहाँ मिलेंगे

जूलॉजी का मतलब है जानवरों की लाइफ की स्टडी करना। इसमें छोटे कीड़े-मकोड़ों से लेकर सभी जानवरों की स्टडी शामिल है। जैसे कि रेन फॉरेस्ट के विनाश की समस्या, जानवरों के रहने के लिए उपयुक्त प्राकृतिक जगहों का चयन और उसका उनके व्यवहार पर पड़ने वाला असर। इसके अलावा जानवरों का एक साथ रहना और उनके बीच होने वाली बातचीत और बर्ताव का अध्ययन भी शामिल है।जूलॉजी को बुनियादी और व्यवहारिक विज्ञान दोनों कहा जा सकता है। बेसिक जूलॉजी में देखा जाए तो व्यक्ति की खुद के इंट्रेस्ट की वजह से जानवरों के बारे में जानकारियां लेता है, जबकि व्यवहारिक तौर पर काम करने वाले जानवरों के बारे में ऐसे जानकारियां हासिल करने में लगे होते हैं, जिसका असर इनसानों पर होता है या उससे इनसानों को फायदा हो सकता है।जू कीपर/ जू क्यूरेटरजू कीपर या जू क्यूरेटर का काम जू और एक्वेरियम को मैनेज करने का होता है। इसमें जानवरों के लिए खाना बनाने से लेकर उनके बाड़ों की साफ-सफाई और उनके व्यवहारों की निगरानी रखना आदि शामिल है। जू में जानवरों के अधिग्रहण या उनके प्रजनन में भी मदद कर सकते हैं। साथ ही इससे जुड़े कानूनी पहलुओं पर भी काम कर सकते हैं।एनिमल एंड वाइल्डलाइफ एजुकेटरएनिमल एंड वाइल्डलाइफ एजुकेटर वन्यजीव उद्यानों, एक्वेरियम, यूजियम आदि में आने वालों को गाइड करने के लिए ब्रॉशर, विडियो, टूर गाइड बनाने में मदद करते हैं।वाइल्डलाइफ रीहेबीटेटर

Nandini Singh
M.Sc. 3rd Sem.

Phantoms in the Brain

How will you react if,

1. Someone you know tells you that their parents have being replaced by imposters and nobody else could notice it.
2. Every now & then someone's left hand flies up to strangle their throat and their right hand had to wrestle with their left hand to control the situation.

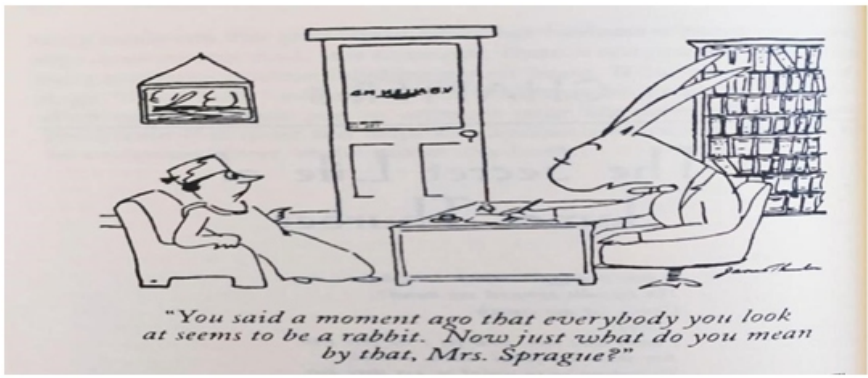
You will simply think they are crazy. Let me tell you they are not, sending them to psychiatrists would be a waste of time. Rather, each of them suffers from damage to a specific part of brain that leads to bizarre but highly characteristic changes in behaviour.

By moving these patients from clinic into laboratory, experiments could be conducted that help reveal the deep architecture of our brain. In this era of experimental epistemology and cognitive neuropsychiatry, scientists have started that already.

The person in 1st case is suffering fromCapgras' delusion. Over 1/3 documented case shows that it occurs in conjunction with traumatic brain lesions. Here, the connection between patient's face region and their amygdala has been selectively damaged. Where they could recognise their parents but would not experience any emotions looking at their parent's faces.

Similarly, in the 2nd case there is damage to the corpus callosum (as a result of stroke) breaking the connection of two cerebral hemisphere, each of which is specialised for different mental capacities & control movements. Here the right cerebral hemisphere of the patient (which controls left hand) has some suicidal tendencies, initially these were checked by joint functioning of the hemisphere but after damage to the connection between them, their actions are independent of each other.

There are many other cases like one where an imaginary limb with vivid sensation (Phantom limb)is present and the patient also feels the pain in it which



becomes impossible to treat.

During the last decades, neuroscientists throughout the world have probed the nervous system in fascinating details and learned a great deal about the laws of mental life and about how those laws emerge from the brain. One of such great neuroscientists of our time is Dr V.S. Ramachandran and his book "Phantoms in the Brain" deals with case studies of his patients and explanation for their conditions. It is one of the most accessible neurological books of our generation.

Akriti
M.Sc. 3rd Sem.

फ़फूँद

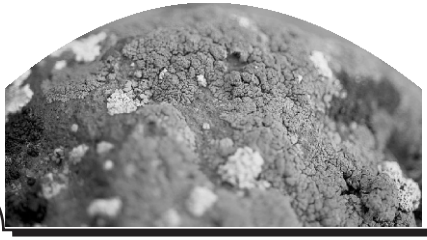
उगा हूँ किसी की मरी हुई ख्वाइसों पर फ़फूँद हुँ!
मुझ पर न मंडरा जिंदगी |

बिना जड़ तने के पाल रहा खुद को,
तेरा रंग भी मुझ पे ना चढ़ेगा ऐ जिंदगी ।

दिख रहा हूँ मैं आजकल हर ठेले पर,
वो गम हुँ जो खुशी से बिक रहा हुँ जिंदगी ।

उगा हुँ किसी की मरी हुई ख्वाइसो पर।

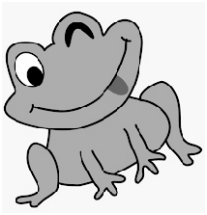
Abhishek Kumar
B.Sc. 2nd year



Zoology Joke

One frog asked astrologer:
please Tell my future
Astrologer :
A smart girl will touch u
Frog :
great.!but when & Where
Astrologer:
Next semester in zoology Lab.

Nandini Singh
M.Sc. 3rd Sem.



Synchroniety of Pandemics: Fact or Myth

Amidst the COVID-19 lockdown, we all would have seen a viral post claiming that every 100 years, a pandemic hits the Earth.

But doesn't this ring a bell? – Is it really true? Does COVID-19 too fit in the so-called pattern of pandemics for real?

Let us dig a little deeper into the history of pandemics and gauge if such synchroneity exists.

Mr. Frank Snowden, a professor at the Yale University and Author of "Epidemics and society", reacted to it as "I am suspicious of the idea that the pandemics operate to a railroad timetable."

A breakdown of the four outbreaks cited in the viral post is as follows:

1) Plague 1720-1722– An infectious fever caused by a bacterium, did cause one of the worst pandemics in the history. But when we dive deeper in the event mentioned; it is found that this particular episode of Plague was restricted mostly to France, and thus does not fit to the definition of pandemic, which as per WHO is "global outbreak or worldwide spread of a new disease."

2) Cholera 1817 – The 1st pandemic of cholera was reported back in the year 1817; 3 years prior to what the post claims. It began near the city of Calcutta and then spread to the other parts of the world. Thus, the pattern stands violated.

It was found that Cholera was transmitted by exposure to contaminated water with Vibrio cholera.

3) Spanish Flu 1918-1919 – The post claims the outbreak to have started in 1920, however the actual year was 1918. Spanish Flu is more accurately cited as "The Great Influenza", by the modern historians. It was caused by an H1N1 virus with genes of avian origin.

It got the name Spanish flu during the 2nd World War, not because it originated in Spain but because Spain was the only country being honest about the tolls the pandemic took on the country.

4) Coronavirus 2019-2020 – The viral post can be said to be more or less correct in saying this pandemic is from 2020; as the Covid-19 can be traced back at least to 31st December,2019, when the Government in Wuhan, China confirmed of dealing with cases due to unknown origin and later identified it as Novel Corona Virus.

The WHO declared Covid-19 as a pandemic on March 11th, 2020, stating it to be the 1st pandemic caused due to the Novel Corona Virus or what was termed as COVID-19.

Points to Ponder Upon –

1. The very 1st incident of Plague in the year 1720 is not counted as pandemic in reality.
2. The other two, Cholera in 1820 and Spanish Flu in 1920 didn't occur neatly in the years cited and actually happened in 1817 and 1918 respectively.
3. The post suggests that the Pandemics only occur every 100 years. However, it ignores the numerous pandemics occurred in the past without any such synchroneity which includes- The Great Plague of London in different years, yellow fever during late 1800s, Asian flu in 1957-58, H3N2 flu in 1968, Swine flu in 2009 and many more.

Conclusion –

On verifying the facts stated in the viral post and the chronology of pandemics occurred; it can be clearly stated that there is no synchroneity as the post claims to be; and there is no railroad timetable of pandemics to occur every 100 years.

As there are no scientific proof found in support of the claims made in post, thus the synchroneity of a pandemic every 100 is nothing but a myth.

Apoorva Shah
M.Sc. 3rd semester

डॉ. उमा रानी अग्रवाल सेवा निवृत्त

सी एमपी कॉलेज, प्रयागराज के जंतु विज्ञान विभाग की एसोसिएट प्रोफेसर डॉ उमा रानी अग्रवाल मैडम दिनांक 28 अगस्त 2021 को सेवानिवृत्त हो गई। सेवानिवृत्त होने के उपलक्ष में विभाग द्वारा मैडम का सम्मान समारोह किया गया। मैडम आपको और आपके किए गए उत्कृष्ट कार्यों को विभाग और कॉलेज हमेशा याद रखेगा। हम सब आपको कभी भूल नहीं पाएंगे। आपके जीवन की नई पारी सुखद रहे। आप दीर्घायु और सदा स्वस्थ रहें। जंतु विज्ञान विभाग और सीएमपी कॉलेज की यही शुभकामनाएं हैं।

क्या वास्तव में Depression (डिप्रेशन) होता है ?

तुम खुद को Depressed (दुखी, खिन्न, उदास) कहते हो पर क्यूँ ?.....

क्योंकि तुम कई औरों से बेहतर जीवन जी रहे हो, कई औरों से बेहतर खा रहे हो, मुलायम रोयेंदार बिस्तर पर सुकून से सुबह 10 बजे तक सो रहे हो, विदेशों से मंगाई महँगी जीन्स पहर रहे हो, मंहगी वातानुकूलित वाहनों में घूम रहे हो,

या फिर तुम्हें धोखा मिला है, उस गैर से जिसे तुमने अपना समझा, जिसे तुमने अपनी माँ से भी ज्यादा प्यार किया .....

या फिर वो लोग जिनकी तुम परवाह करते थे, आज वो तुम्हें जिन्दगी के इस लंबे रास्ते में अकेला छोड़ गये हैं.....

या फिर तुम्हें वो नहीं मिला जिसकी तुम कामना करते थे .....

और कई ढेर सारी वजहें हैं जिनके पीछे खड़े होकर तुम खुद को उदास (Depressed) बताते हो।

अगर तुम ऐसा कहते हो तो मित्र तुम गलत हो, क्योंकि इतने आरामदायक जीवन में जिसे रत्ती भर तकलीफ न हुई वो क्या जाने असल में ये Depressed दिखता कैसा है और यह होता क्या है ... ? तुम क्या जानों जिसने आँख खोलते ही सभी जरूरी चीजों को बिना मांगे ही पा लिया हो। जिसकी एक जिद से उसके मनपसंद खिलौनों की कमी पूरी हो गई हो, जिसके रूठने पर उसे मनाने के लिए पूरा परिवार इकट्ठा हो जाथ था, जिसके खुद के खर्च के लिए पॉकेट मनी के नाम पर अच्छे पैसे मिलते थे।

अगर ये सब Depression की वजहे हैं तो इस हिसाब से Depressed हर उस गरीब को ही जाना चाहिए जो सुबह की पहली किरण से जी अपने खून को पसीने में बदलने में लग जाते हैं तब तक, जब तक कि खुद सूरज उनके आगे हार मान की खुद को डुबो न ले, सिर्फ चंद पैसों के लिए जिसे आज तुम भीख में दि दिया करते हो या फिर जिसे तुम बचपन में Pocket Money के रूप में उड़ा दिया करते थे।

उस गरीब को इस Depression के लिए फुरसत की कहाँ जब उसके सिर पर हमेशा मौत की तलवार लटक रही हो,

उसे फुरसत कहाँ, कि वह बैठ कर शोक करे उन पैसों का जो ज्यादा मात्रा में होने की बावजूद भी कष्ट पैदा करते हैं, जो आप उसके पास नहीं है।

या फिर वो अपने बच्चों को ये बतायें कि तुम गरीब हो, तुम कभी सुख का भोग नहीं कर सकते,, इसलिस तुम सब अमीरों की बीमारी (Depression) को अपना लो, और उसके जाल में घिर जाओ.....

कैसा घोर कलयुग है ना, इंसानों ने उदासी को भी एक बीमारी का रूप दे दिया है और आये दिन इस बीमारी के चलते कई घर-बार तबाह हो जाते हैं और पीछे छूट जाती हैं कुछ अधूरी जिंदियाँ । वो माँ-बाप चाहे गरीब हों या अमीर, जिन्होंने अपने बच्चे को अपना पेट काटकर जिआया था, आज उनका बच्चा एक ऐसी बीमारी के कब्जे में आकर खुद को खत्म कर लिया जो कि कोई बीमारी नहीं है।

''हाँ'' .....

आपने सही सुना **Depression** कोई बीमाारी नहीं है यह सिर्फ मनुष्य की कमजोरी है । यह तुम्हारी कायरता को दर्शाता है । क्योंकि यह जीवन हार और जीत दोनों को मिला जुला रूप है। आज तुम जीते हो, शायद कल भी तुम जीतो, पर एक दिन तुम हारोगे, और उस दिन तुम्हें जीत से ज्यादा कार के लिए तैयार रहना होगा। क्योंकि एक हार तुम्हारा मनोबल तोड़ सकती है, और इसकी वजह से तुम कायरता को प्राप्त कर लो। लेकिन अगर हारने से **Depression** होता तो आज हम जिन वीरों की गाथाएं पढ़ते हैं, जिनके साहस की सराहना करते हैं, जिन्होंने कभी हार को स्वीकार नहीं किया तो आज वो इतिहास के पन्नों में अमर न होते ।

वो महाराणा प्रताप जो युद्ध में अपना सब कुछ हार गए, अपने सैनिक, अपनी रियासत, अपना महल और यहां तक कि महलों का सुख भी जिसके परिणाम स्वरूप जंगल में मारे-मारे फिरे, उनके सामने तो **Depression** को अपनाने के सबसे बड़ी वजह थी, क्योंकि अब वो कोई नहीं है । वो तो एक होर हुए व्यक्ति हैं और अब तो उन्हें **Depression** को स्वीकार कर लेना चाहिए, पर नहीं .... ।

Depression कायरों की निशानी है, यह वीरों पर शोभा नही देता, वो फिर खड़े हुए, युद्ध किया और इतिहा के सुनहरे पन्नों में अपना नाम अमर कर गये ।

अगर तुम्हें अब भी लगता है कि तुम्हारे दोनों हाँथ-पाँव सलामत होते हुए भी तुम **Depression** के शिकार हो तो पहले ये बात तुम उस इंसान को बताओ जो आये दिन तुम्हें किसी न किसी चौराहे पर या मंदिर-मस्जिद के बाहर दिखता है, जिसने अपने हाथ-पाँव खो दिए हैं, उससे ये मनवाओ कि मरे तो दोनों हाथ-पाँव सलामत हैं फिर भी मैं **Depression** का शिकार हूँ, इस हिसाब से तो तुम्हारा इस धरती पर वजूद ही नहीं होना चाहिए ।

''पर नहीं'' .....

वह जीवन को जीने का दम रखता है, वो मौत को चुनौती देता है कि तुमने मरे हाथ-पाँव ले लिए तो क्या हुआ, मैं फिर भी जी के दिखाऊँगा ।

हम मनुष्यों ने ईश्वर के आदर्शों को स्थापित करने के लिये जन्म लिया है ना कि कायरों की कायरों की भांति खुद को किसी तुच्छ सी बीमारी में फंसाने के लिए । तुम हार गए हो तो उठो दुगनी ताकत से, तुम किसी की वजह से कमजोर पड़ गए हो तो तुम खुद को मजबूत बनाओ लोहे की तरह जिसे कोई भेद ना सके, क्योंकि तुम ईश्वर की संतान हो और .....

कायरता के लिये पैदा नहीं हुए हो ।

Vivek Kumar Dwivedi
M.Sc. 3rd Semester

16 of the Weirdest and Wackiest Facts on Human Body

- Your eyes blink around 20 times in a minute
- Your ears never stop growing.
- Ear wax is actually a type of sweat.
- The tongue is covered in about 8,000 taste buds each containing upto 100 cells helping your food.
- You produces about 40,000 litres of spit in your life time.
- The average nose produces about a cupful of nasal mucus everyday.
- You are about 1cm taller in the morning when you first get up than when you to go to bed. This is because during the day the soft cartilage between your bones get squashed and compressed.
- The only muscles that never lies is the heart.
- The body has 25 million sweat pores.
- Your Finger nails grow four times as fast as your toe nails.
- Eyelashes last about 150 days.
- Your blood has the same amount of salt in it as the ocean does a sneeze blows air out of your nose at 100 miles per hour.
- Your sense of smell is around 10,000 times more sensitive than your sense of taste.
- When listening to music, your heartbeat will sync with the rhythm.
- Blushing is caused by a rush of adrenaline.
- Your sense of hearing is the last to go after you die.

Vanishree Vaish
M.Sc. 3rd Semester

Wildlife and Sustainable Development

Wild life :

Wildlife traditionally refers to undomesticated animal species, but has come to include all organisms that grow or live wild in an area without being introduced by humans.

Global wildlife populations have decreased by 68% since 1970 as a result of human activity, according to a 2020 World Wildlife Fund's Living Planet Report and the Zoological Society of London's Living Planet Index measure, humans have unleashed a sixth mass extinction event.

Sustainable Development :

Sustainable Development is an emphasis on the present generations' responsibility to regenerate, maintain and improve planetary resources for use by future generations.

Sustainable Development Goals (SDGs)

The SDGs were set up in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030 known as Agenda 2030.

The 17 SDGs are :

(1) No Poverty,
(2) Zero Hunger,
(3) Good Health and Well-being,
(4) Quality Education,
(5) Gender Equality,
(6) Clean Water and Sanitation,
(7) Affordable and Clean Energy,
(8) Decent Work and Economic Growth,
(9) Industry, Innovation and Infrastructure, (10) Reducing Inequality,
(11) Sustainable Cities and Communities, (12) Responsible Consumption and Production,
(13) Climate Action,
(14) Life Below Water,
(15) Life On Land,
(16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals.

Wildlife and Sustainable Development :

We reap multiple socio-economic benefits from wildlife in the form of food supply, pollinators, pest control, medicinal use and genetic resources, just to mention a few. Wildlife and natural landscapes are also the mainstays of tourism in many countries. In addition to this instrumental value, as humans, we must also respect the intrinsic value of other species and remember our responsibility to protect them.

In addition to protecting the habitats of wildlife, we need also to protect it against illegal hunting, poaching and trafficking.

Our efforts towards sustainable development cannot yield irreversible results without protection of biodiversity and wildlife.

Atul Kumar
B.Sc. 2nd year

Poem

अंकुर मिट्टी में सोया था सपने मै खोया था
नन्हा बीज हवा ने लाकर एक जगह बोया था।

तभी बीज ने ली अंगड़ाई देह जरा सी पाई
आंख खोलकर बाहर आया, दुनिया पड़ी दिखाई

खाद्य मिली पानी भी पाया ऐसे जीवन आया
ऊपर बड़ा इधर, धरती में नीचे उधर समाया।

तने डालिया पत्ते आए और फल मुस्कराए
नन्हा बीज वृक्ष बनकर धरती पर लहराए।

जीता मरता रोगी होता दुख आने पर सोता
वृक्ष सांस लेता बढ़ता है जगता है फिर सोता।
रोज शाम को चिड़िया आती सारी रात बिताती
बड़े सवेरे जाग वृक्ष, पर ची ची ची ची गाती।

छाया आती बड़ी सुआती सब टोली झूट जाती
तरह तरह के खेल वर्क्ष के नीचे बैठ रचती।

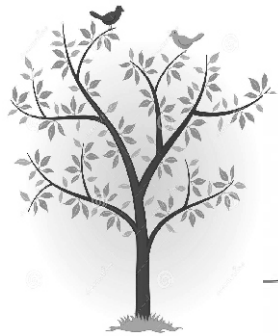
Amit Maurya
B.Sc. 2nd year

पर्यावरण से है, जीवन इसे अपना दोस्त बनाते हैं चलो मिलकर पेड़ लगाते हैं.....

देती है सांसे जीवन को, आओ जाने पेड़ की माया
करती है यह शुद्ध हवा को, देती हैं फल, फूल, और
छाया आओ अपने दिलों में हम प्रकृति प्रेम
जगाते हैं चलो मिलकर पेड़ लगाते हैं.....

सागर ,बादल, गगन प्रदूषित नदी धारा और
पवन प्रदूषित बढ़ गया प्रदूषण इतना सांस लेना
हुआ है मुश्किल

रूठ गए प्रकृति हमसे मिलकर चलो मनाते हैं
चलो मिलकर पेड़ लगाते हैं.....

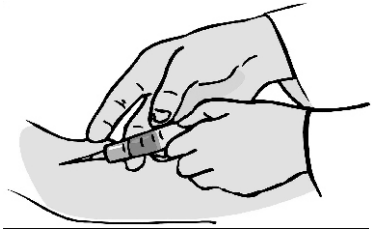


Abhishek Yadav
B.Sc. 2nd year

DNA (Poem)

We are like DNA
I don't exist without you
and so are you without me.
We are pair of molecules that are held tightly together,
that can't be knocked out by the weather.
There is a hydrogen bond between us,
a type of attractive interaction that connects us.
This made us twined together and I know with this bond
we will last forever~

Ambika Agrahari
B.Sc. (Bio) 2nd year



The Blood sample (Poem)

Someone's not well, they are feeling good
Their doctor has asked them to give them some blood.
"A sharp scratch"they say, "it wan't hurt at all"
Through the needle blood flows, into the tubes it falls.
Delivered to the lab, it's processed real quick
We're all aware that someone is sick.
We don't really mind, we're not here for the glory
We are just glad to help with the patients story.

Pushpendra Chauhan
B.Sc. 2nd year

मशरूम

छत्रक भोज्य पदार्थो में एक मुख्य भूमिका निभाती है।
प्रोटीन विटामिन जिंक इसमें भरपूर पाई जाती है।
खुद से सुंदरता भी इसमें खूब नजर आती है।
प्रदूषण कम करने में भी अपनी भूमिका निभाती है।
व्यर्थ चीजों को अपने उगने में प्रयोग लाती है।
मनुष्य की आय में भी भागीदारी निभाती है।
लोकप्रिय होने के चलते यह साल भर उगाई जाती है।
इसके लिए इनकी तीन किस्में जानी जाती है।
इनका सेवन न जाने कितनी बीमारियों से बचाती है।
स्वाद के लिए भी ये अपनी अलग पहचान बनाती है।
चिकित्सा के क्षेत्र में ये अपने गुणों से जानी जाती है।
भोजन का स्रोत होने से ये खुम्भी भी कहलाती है।

Amit Maurya
B.Sc. 2nd year

Zoology Poem

जूलॉजी के यह 2 साल आखरी वक्त रहा।
बेमिसाल दोस्तों के साथ दोस्ती की बात
Daily class प्रोफेसर के साथ
R. L Kotpal रहा हमेशा हाथ में
Dissection set भी रहा साथ में
लैब में गुजरा वक्त सब
जानवरों के साथ खेलना नहीं अब
कभी हाथ में prawn आया
कभी सामने cockroach फर फर आया
तोड़े हाथ पैर prawn के
कभी cockroach का पंख उड़ाया
Squirrel लैब में लैब फुदकती नजर आई
तो कभी frog के टर टर से सिर चकराया।
100% वेजिटेरियन थे हम
फिर भी मछली का पार्ट पुर्जा दिखाया।
Earthworm से लेकर चूहा आया
यह थी जूलॉजी की माया
प्रोफेसर की बात हमेशा याद आएगी
शायद यही मेहनत सबका भविष्य बनाएगी।
CMP शान CMP की जान
अपना Department of Zoology महान।

Nandini Singh
M.Sc. 3rd Sem.

New mammal species discovered in India, characterised by dense fur, thick darker tail

The researchers placed the newly discovered species within the Crocidura group.

Anew species of mammal has been discovered in the Andaman islands by scientists from the Zoological Survey of India. The latest discovery of shrew from the volcanic island increases the total number of catalogued Crocidura species in the Indian checklist of mammals to 12.

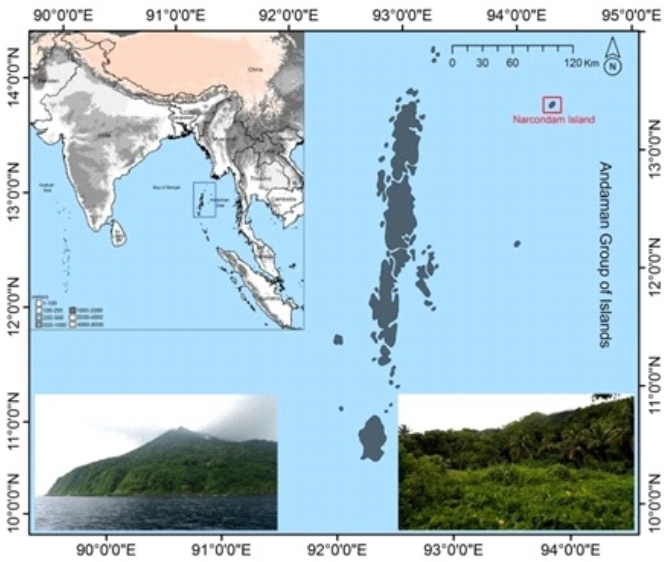
The discovery published in the journal Nature, stated that the analyses placed the newly discovered species within the Crocidura group.

"We performed both morphological and molecular assessments to confirm a new shrew species from the volcanic Narcondam Island in the Andaman and Nicobar archipelago, which is described as Crocidura narcondamica," the research paper added.

What is the Crocidura group of species?

Crocidura is a massive genetic group with 198 species found mostly in Africa, Europe, and Asia making it the most species-rich group of mammals. This species of animals have a small to medium-sized body with usually short dense grey fur, a first-unicuspid tooth (canines) which is large, that protrudes forward and is hooked with a small cusp present behind the main cusp and unpigmented.

"Due to their secretive behaviour and conservative external morphological characters, shrews are regarded as the least studied mammal group," the findings led by ManokaranKamalakannan, Mammal and Osteology researcher at Zoological Survey of India said. They added, "Molecular studies were used to discriminate shrew species, detect cryptic diversity, and study further characteristics.



"24 Crocidura species have been newly discovered throughout the world in the last two decades between 2000 and 2020, of which 15 species were discovered in the Indo-Malayan region and Sundaland.The latest addition

Researchers said that the new species, Crociduranarcondamica is of medium size and has a distinct external morphology with dark grey, dense fur, and a thick darker tail along with a rounded braincase, elevated with weak lambdoidal ridges in comparison to other close species. DNA analysis was also conducted to identify the exact species of the mammal, which was found to be a female.

"The new species is presently known only from its type locality, Narcondam Island in the Andaman and Nicobar Archipelago," the researchers said in the paper. However, the study is based on the assumption that a few unreported shrew species exist beyond the known biogeographic distribution of the group in the archipelago, and researchers called for further studies in the region.

The newly discovered species show substantial genetic distances to other Crocidura species found in the Indian mainland, the Andaman and Nicobar archipelago, Myanmar, and Sumatra.

Aditya Kumar
B.Sc. (Bio) 2nd Sem.

गाय – शांत स्वभाव से रहती हूं।। शाकाहारी में आती हुं। आक्सीजन ही लेती हूं आक्सीजन ही देती हूं। मेरे दूध में कैरोटीन पाया जाता है। इसीलिए तो मेरा दूध हल्का पीला होता है। इसीलिए वैज्ञानिकों ने मेरा नाम बास इंडिकस रखा।।

शेर – हम दूसरे जानवरों को मार मारकर खाते हैं। इसीलिए तो हम पृडीसन कहलाते हैं। हमारे अंदर बुराई है। हम जंगल के तानाशाही हैं।। हमारे अंदर अच्छाई है। दहाड़ लगाकर हमने सबको पहचान बताई है।। इसीलिए तो वैज्ञानिकों ने हमारा नाम पैंथरा लिओ रखा

कोयल - मेरा रंग है काला काला मेरी आवाज़ है मीठी मीठी। जहां भी बैठूं वहीं पर मैं बोलुंगी तो कूहूं कूहूं। जिसको मेरा रंग पसंद नहीं उसको मेरी आवाज़ पसंद है इसीलिए तो बोलती हूं कूहूं कूहूं कूहूं कूहूं।

Brijesh Yaday
B.Sc. 2nd year

Super Normal Stimulus

A stimulus is a detectable change in the physical or chemical structure of an organisms internal or external environments eg-sound, touch etc. Exaggerated form of stimulus which releases a particular behaviour pattern more effectively than the normal stimulus. This phenomenon was first discovered in laboratory conditions, eg-killdear, graylag geese etc. when presented with egg or egg models that are more larger than their own egg, take those larger forms, into the nest and incubate in preference to their own eggs.

Some super natural stimuli that occur in the natural situation eg-cuckoo lay their eggs in crow's nest. The young one of cukoo possess a gape marking in their mouth that is more prominently coloured than the gape marking of crows young. The stimulus of gape marking of cukoo is so effective that the response of crow is more toward them and hence they feed them more.

In our day to day life, the TV advertisements or other marketing strategies are taking advantage of many different kind of supernormalizing stimulus/device. For every Product a supernormal end product is predicted to entice the customer be it a toothpaste, soap, shampoo or cooking oil etc. They play with our mind by using specific sign stimuli for that product. Junk food is a super stimulus version of real food to human. When we order pizza from zomato the colourful boxes of pizza attract more, is a super normal stimulus.

Ankit Sharma
B.Sc. 3rd year

Amazing Fact about Zoology

1. The cornea is the only part of our body with no blood supply, it get's oxygen directly from the air.
2. The only mammals to undergo menopause are Elephant, Humb buck Whales and Human female.
3. Venom of deadly poisonous snake act as good digesting enzyme for itself.
4. Male Sea Horse give rise to birth of babies.
5. Sloth is a mammal but it unable to regulate it's body temperature as other homiotherms.
6. Slow Loris are only venomous primates.
7. A group of owl is called as Parliament.
8. Nearly 3% of the ice in Antarctic Glaciers contains Penguin Urine.
9. Kangaroo Rat excretes solid urine to avoid water loss.
10. Turritopsis Dohrinii - A jelly fish, it is immortal.

Krishna Pratap Yadav
B.Sc. 2nd year

Zoology

The world zoology has been derived from Greek words meaning 'animal and 'knowledge' This field is also known as the study of animal kingdom.

Quick facts about Zoology:

An octopus has three hearts.

Butterflies have taste receptors on their feet.

Squirrels are not capable of vomiting or burping.

A honeybee can flap its wings 200 times every second.

Jellyfish use the same hole for eating ad pooping but it really does not matter for them as they do not have brain.

Giant Squids have the largest eyes of all the living creatures.

Siberian husky is a species of dogs that is known to have blue eyes.

Elysia chlorotica is a sea slug. It is an animal but can also produce its own food by using sunlight in combination with chlorophyll.

Generally, Mules are known to have fertility problems but there are rare cases where they give birth to healthy foals.

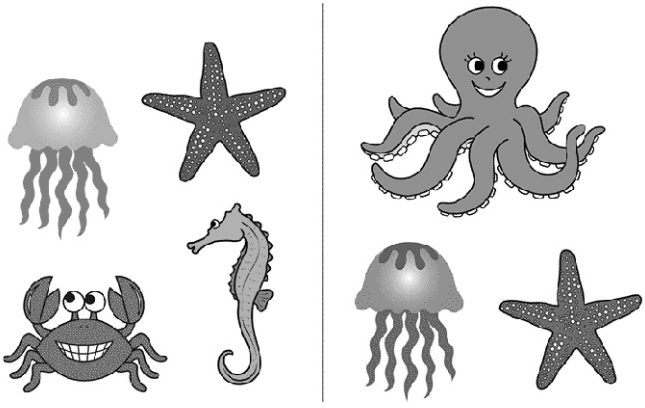
The blue whale makes the loudest sound of all the living animals.

There are more than 900 thousand different species of insects in the world.

Total 57 species of snakes exist in Oklahoma and only seven of them are venomous.

Polar bears have black skin.

Warmer weather can cause more turtles to be born female as compared to male.



Nitya Pandey

B.Sc. (Bio.) 2nd year

Historical mitochondrial genome introgression confounds species delimitation: Evidence from phylogenetic inference in the odorrana grahami species complex.

Species delimitation is essential to informing conservation policy and understanding ecological and evolutionary processes. Most of our recent gains in knowledge on animal diversity rely on morphological characteristics and mitochondrial (mt) DNA variation. Concordant results based on both have led to an unprecedented acceleration in the identification of new species and enriched the field of taxonomy. However, discordances are also found commonly between morphological and mtDNA evidence. This confounds species delimitation, especially when gene flow or mitochondrial genome introgression has occurred. Here we illustrate how mitochondrial genome introgression among species of the Odorrana grahami complex confounds species delimitation using the combined evidence of morphological characters, mitochondrial variation, and thousands of nuclear single nucleotide polymorphisms (SNPs) from genotyping-by-sequencing (GBS). Fifty-eight samples across the distribution of the O. grahami complex were included. The mtDNA matrilineal genealogy indicated two clades, with O. grahami and O. junlianensis clustered together. In contrast, all nuclear evidence including gene trees, species trees, and genetic structure analyses based on GBS data support three species with distinct genetic clusters. These three distinct genetic clusters also correspond to distinct morphological characters. They affirm the distinct taxonomic entities of both O. grahami and O. junlianensis, as well as a third clade distinct from either. Which species the third clade belongs to remains unclear and will require further testing. The nuclear genomic loci contradict the COI evidence, with indications of rampant historical mitochondrial genome introgression among the species of the O. grahami complex. These discordant signals previously confused species delimitation efforts in this group. Based on these findings, we recommend the integration of independent data, especially nuclear genomic evidence, in species delimitation so as to be robust against the pitfalls of mitochondrial introgression.

Bibha Vishwakrma
B.Sc. 2nd year

Student Achievements : (2021)

1. **Saumya Rai**, M.Sc. student of batch 2018-2020, qualified GATE 2021, DBT JRF 2021, ICMR JRF 2021, JGEEBILS 2021, qualified Ph.D. interviews of IIT Kharagpur, IIT Indore, IIT Dharwar, IISER Kolkata, NISER, CSIR- CDRI.
2. **Saumya Rai**, M.Sc. student of batch 2018-2020, admitted to Ph.D. at BSBE Department of IIT Kanpur.
3. **Twinkle Yadav,** Ph.D. student, qualified CSIR-NET 2021.
4. **Twinkle Yadav,** Ph.D. student, presented a poster on "Comparative phylogenetic assessment of *Campylobacter* spp. to elucidate relatedness to pathogenic member of the genus" in the 6th International INSCR e-conference held from 15th – 18th November 2021.
5. **Twinkle Yadav,** Ph.D. student, attended a workshop on "Hands on to computational biology to genomic and proteomics analysis for beginners" on 14th November 2021.
6. **Abhishek Kumar**, M.Sc. student of batch 2018-2020, qualified TGT (Biology) and posted at Shree Ram Pratap Inter College, Sirsa, Prayagraj in 2021.
7. **ShivanshuRathaur**, M.Sc. student of batch 2018-2020, admitted to Ph.D. at Lucknow University.
8. **Shantanu Singh,** M.Sc. student of batch 2017-2019, admitted to Ph.D. at Banaras Hindu University.
9. **Salil Dubey**, M.Sc. student of batch 2017-2019, qualified CSIR-NET in 2021, and admitted to Ph.D. at Banaras Hindu University.
10. Following Under Graduate students of Zoology Department, CMP Degree College, Prayagraj, participated in Manav Scientific Reading and Comprehension Self Assessment Module during Sept - Oct 2021 under mentorship of Dr Uma Rani Agarawal and received Certificate.

    I. Kalpana Singh
    ii. Prerna Tripathi
    iii. Saumya
    iv. Srishti Srivastava

v. Swati Payal

vi. Swati Rai

vii. Swati Singh

viii. Vidisha Mishra

ix. VijyashreyaChaubey

x. Yashi Saxena

डेंगू के रोकथाम हेतु विशेष व्याख्यान आयोजित

प्रयागराज। चौधरी महादेव प्रसाद महाविद्यालय के जन्तु विज्ञान विभाग ने डी बी टी स्टार कॉलेज स्कीम के अंतर्गत डेंगू बीमारी रोकथाम एवं उपचार विषय पर एक विशेष लेक्चर का आयोजन किया। इस वर्ष प्रयागराज में कोविड-19 के साथ साथ डेंगू का भी प्रकोप रहा। डेंगू एक वायरल बीमारी है जो कि एडीज़ मच्छर के काटने से फैलती है। इस विषय पर छात्र, छात्राओं एवं अध्यापकों को जागरूक करने के उद्देश्य से इस विशेष पर व्याख्यान का आयोजन किया गया। डॉ राम मनोहर लोहिया अस्पताल दिल्ली में कार्यरत डॉ निकिता श्रीवास्तव, एम. डी. ने इस विषय पर विस्तार से बताया। डेंगू मच्छर की पहचान एवं इनके वृद्धि को रोकने के उपाय, डेंगू के लक्षण, टेस्ट कराने, प्लेटलेट्स घटने पर बचाव के उपाय आदि बिंदुओं पर विस्तार से चर्चा की।कार्यक्रम कि संयोजक एवं संचालक डॉ चारु त्रिपाठी रहीं। डॉ उमा रानी अग्रवाल कार्यक्रम की चेयर पर्सन रहीं।

व्याख्यान में विभाग एवं महाविद्यालय के सभी शिक्षक तथा लगभग 200 छात्र छात्राओं ने प्रतिभाग किया। कार्यक्रम के अंत में धन्यवाद ज्ञापन डॉ अनुराधा ने किया।

Teaching Staff of Department of Zoology

Standing Position
(Left to Right)

Dr. Jyoti Verma, Dr. Hemlata Pant, Dr. Manoj Jaiswal, Dr. Sudhi Srivastava, Dr. Ashish Kumar Mishra, Dr. Nidhi Tripathi, Dr. Vinay Kumar Singh, Dr. Anuradha, Dr. Ajeet Kumar Singh, Dr. Charu Tripthi

Sitting Position

Dr. Uma Rani Agrawal, Dr. Vinita Jaiswal, Dr. Vandana Mathur , Dr. Neerja Kapoor

Non - Teaching Staff of Department of Zoology

(Left to Right)

Mr. Dinesh Pratap Srivastava, Mr. Vikram Singh, Mr. Jitendra Kumar Yadav, Mr. Sushil Srivastava