



DEPARTMENT OF ZOOLOGY

NEWS LETTER

FROM THE PRINCIPAL'S DESK

I would like to applaud the H.O.D. and the faculty members of Department of Zoology for bringing out the Fifth Volume of "Zoo-hunt" which projects various facets of the animal world. The chosen theme of "Novel Zoology" will surely update us with the progress in the pertinent field of animal science. Hopefully the new issue of this newsletter will enrich the young minds with ideas for continuous growth and improvement. It will also help to develop creative thinking among the readers. My blessings and good wishes for this newsletter.

Dr.Fr. Vazhan Arasu, Principal

FROM H.O.D'S DESK

Dear readers, the enduring success of the annual in-house Newsletter "Zoo Hunt" from 2014 onwards gives me immense contentment. I earnestly request all the readers to give their valuable input regarding this journal to ensure that it becomes an imperative platform for swapping of ideas from the field of Zoology and allied subjects. I am pleased to introduce the Fifth Volume of "Zoo-hunt" highlighting the events, informations, thoughts, achievements and activities of the Department. I thank Dr Priyanka Sinha and students editors Ms Divya Yadav and Ms Anju Singh for their tireless contributions and efforts to make this edition a veracity. I also thank all the faculty members and student contributors for the successful publication of this newsletter. Best Regards

Dr. P. Mukherjee

ZOOHUNT-2018-19

Volume V

Issue I



St. Aloysius College (Autonomous)
Jabalpur
Reaccredited A⁺ by NAAC



Himalayan Forest Thrush, *Zoothera salimalii*

The Animal world

Zoology (also known as animal science) is the branch of biology devoted to the study of animal life. It covers areas ranging from the structure of organisms to the subcellular unit of life. Zoologists study the interactions of animals with one another and their environments, as well as the significance of the behaviour of animals. Zoology is both descriptive and analytical. Historically, the study of zoology can be viewed as a series of efforts to analyse and classify animals. The ancient Greek philosopher Aristotle is credited with devising the system of classifying animals that recognized similarities among diverse organisms in the fourth century B.C.E.; he arranged groups of animals according to mode of reproduction and habitat. Zoology today is as diverse as the animal kingdom it studies, broadening its range to include such fields as genetics and biochemistry. It now is considered an interdisciplinary field that applies a great variety of techniques to obtain knowledge of the animal kingdom.

Novel Zoology

Highlights

- ⇒ Newsflash
- ⇒ Research Viewpoints of faculty members
- ⇒ Students contributions
- ⇒ Departmental activities
- ⇒ Students achievements

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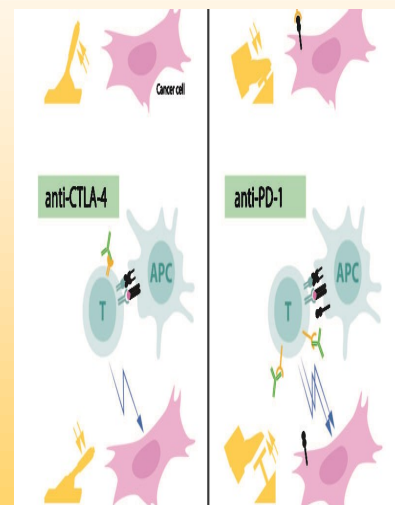
Nobel Prize in Physiology or Medicine 2018
Discovery of
"Cancer therapy by inhibition of negative immune regulation"



Tasuku Honjo



James Allison



YEAR OF
SOCIAL RESPONSIBILITY

zoo Triumph

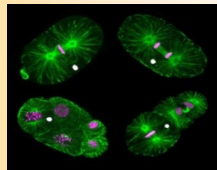
Gems of the Department



Ms Meghali Sinha—Gold Medalist MSc Zoology for the session 2017-18

In 1949, the young biologist Victor Nigon described the reproduction of various species of nematodes, small roundworms that live in the soil in its doctoral thesis. These include *Mesorhabditis belari*, whose rare male specimens are required for reproduction, even though the genetic material found in sperm is rarely used by eggs. The resulting embryo produces a female, who is a clone of its mother..

BY— Dr. Manju Dixit



Amazing facts: Snake

Snakes are carnivores (meat eaters).

Snakes don't have eyelids.

Snakes can't bite food so have to swallow it whole.

Snakes have flexible jaws which allow them to eat prey bigger than their head!

Snakes are found on every continent of the world except Antarctica.

Snakes have internal ears but not external ones.

Snakes used in snake charming performances respond to movement, not sound.

There are around 3000 different species of snake.

Snakes have a unique anatomy which allows them to swallow and digest large prey.

BY— Dr. Daya Shankar Gautam



National Seminar on "Envisioning a Healthy India: Health, Hygiene Mother and Child", 21st To 23rd February, 2019



India's first dinosaur fossil was found in Jabalpur - Dr. P. Mukherjee

Fossil of India's first recorded dinosaur **Titanosaurus Indicus**, or the **Indian Tital reptile** was originally discovered by WH Sleeman Major-General, of Bengal Army, in the **Jabalpur** area of Central India in 1828. The lineage of dinosaur **Titanosaurus** is found all over the world including Antarctica, North America, South America, Africa and Madagascar with the first one was found in Jabalpur, India. It was identified as a new genus and species of sauropod dinosaur and named as **Taitanosaurus Indicus**, by Richard Lydekker (1877). Later, in the early 1900s, many more discoveries of dinosaur fossils were made by scientists such as Charles Metley and Durgasankar Bhattacharji around the original site in Jabalpur excavated by Sleeman. More than a century after fossil of **Titanosaurus Indicus** went missing, its bones have been rediscovered in Kolkata due to a collaborative programme between the Geological Survey of India (GSI) and the University of Michigan, according to the latest issue of *Current Science* (Vol. 104, No. 1, Jan. 10, 2013, Pg. No. 34), *Journal of Indian Academy of Sciences*.



Faculty Corner

Mosquitoes "Fight The Bite"

Mosquitoes have huge impact upon our daily lives. They not only cause local skin irritation, but also transmit the diseases, since they act as a disease carrier and feed on an already infected person that may be passed on to the healthy one through mosquito bites. In India, some of these include malaria, dengue, Chikungunya and yellow fever and such types of diseases are known as "mosquito-borne diseases" that can make people ill, organ failure and even can cause death in severe cases.

By— Dr. Priyanka Sinha

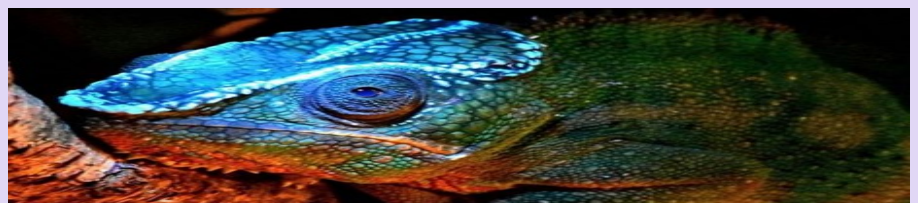


New discovery – Chameleons displays bioluminescence.

BY- Runa Paul

Chameleons are famous for their colour-changing abilities but it appears they also perform another function no-one knew about until now: bioluminescence. David Protzel, lead author of the study and PhD student at the Bavarian State Collection of Zoology (ZSM), said: "We could hardly believe our eyes when we illuminated the chameleons in our collection with a UV lamp, and almost all species showed blue, previously invisible patterns on the head, some even over the whole body."

While bioluminescence has been widely observed in creatures that live in water – from bacteria and algae to jellyfish and even sharks – it is rare among land animals. Using a UV lamp, the researchers in Germany found "previously invisible" patterns on the head to glow blue. Dr Frank Glaw, curator of herpetology at ZSM, said: "It has long been known that bones fluoresce under UV light, but that animals use this phenomenon to fluoresce themselves has surprised us and was previously unknown."



Students Corner

FASCINATING ANIMAL FACTS

Cyborg

In a bid to replicate photosynthesis, and as a such improve upon it, researchers have managed to create “cyborg” bacteria, covered in tiny semiconductor that take sunlight carbon dioxide and water and turns it into a potential fuel.

“Rather than rely on inefficient chlorophyll to harvest sunlight, I’ve taught bacteria how to grow and cover their bodies with tiny semiconductor Nano crystals” explained Kelsey k sakimoto who carried out the research.

Saraswati Mishra
Msc 4th semester



The Eyes of a Zoologist

Beside common people the eyesight of a Zoologist differs to a large extent. He/she can see “life” everywhere. When people see pigeons, for them it is just a common sight but for him it is a bliss. He can not only see pigeons picking grains, but he also recalls that both male and female pigeons can feed their young one’s with “crop milk”. When people see a hunting tiger he can see a whole food chain, food web, niche and ecological pyramids along with the beauty of wildlife. The hard times make people think they are useless but he will cheer up sooner than other because he knows that he owns a body that is amazing, that is carrying out various complex processes and millions of chemical reactions occur in his body. Thus the connection with nature brings one close to divinity. So, it is time to save nature and make life more beautiful and full of purpose.

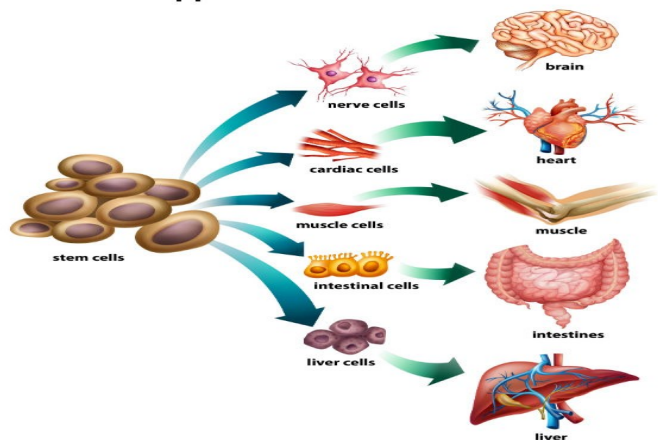
Apurva Xess
Msc IInd Semester

Creation of human organs

Scientists from Massachusetts general Hospital and Harvard Medical school have discovered how to regenerate the function of human heart through adult skin cells. Through stem cells humans can grow another organ. This is associated with the regenerative nature of living organisms. Recently various research all around the world enables growing fallopian tube, heart, brain, lung and kidney among others through stem cells.

Anju Singh & Divya Yadav
MSc IV Sem
Zoology

Potential Application of Human Stem Cells



Pandorum Technologies Pvt. Ltd, a biotechnology start-up focused on tissue engineering, has made India's first artificial human liver tissue with the help of 3D printing technology.

Artificial liver

Matsmura invents a potential life saver for patients with acute liver failure. However in 2001, Dr. Kenneth Marsumura and his team were among the first to produce functioning artificial livers. He took living liver cells and place them in sequence with series of charcoal filters. The resulting device preformed most of the activity that normal liver would carry out because it was partially made of normal liver cells. It is mostly used as a bridge until a new liver is available for transplant rather than as a full replacement. British scientist have created the first artificial liver tissue from stem cell. In time it's hoped that it will provide whole organs for transplant.

Shilpi Vishwakarma
Msc 4th semester
Zoology

Amazing zoo fact

How do baby birds get oxygen inside their eggs? Oxygen comes in through pores in the shell.

Direct under the shell, there is a small pocket of air. The microscopic pores on the egg surface allow the CO₂ to escape and fresh air to get in, so a developing bird can breathe.

Prahlad Maraskole
MSc IV Sem



Departmental Activities

Hands On Training On Microtomy
10th July to 11th august 2018



16/8/18
23.1538° N, 79.9528° E

Educational trip to Bargi reservoir



Vermicomposting
Internship programme 2019



Training workshop on –
AQUACULTURE on 8-9 Sept



Srijan 2019

Biodiversity awareness
programme at Dumna Nature Re-
serve on 05.09.2018



Health Camp on 'Malnutrition and
Haemoglobin status' on 18/8 2/018



Guest lecture on Ornamental Fish culture by Mrs Aradhana Rai and
Mr. Diljeet Singh under EAC on
17.01.2019

National Youth Day Celebration
in Khamariya village 12.01.2019
12212.01.2019

