

DEPARTMENT OF ZOOLOGY –ANNUAL REPORT (2018-19)

Students:

Name of course:

F.Y.B.Sc

➤ **Dissertation / projects**

Study on binary fission in planaria was done by students of F.Y.B.Sc under the guidance of Dr. Janhavi Bhagwat. The pond water was collected from Veermata Jijabai Udyan and planaria were isolated and observed for a period of 15 days. The dimensions of the animal and the factors like temp. salinity and oxygen content were recorded.

Soil ecology-Study of abiotic and biotic components was done by students of F.Y.B.Sc under the guidance of Dr. Janhavi Bhagwat in the month of Feb 2019.

➤ **Visits to research institutes/industries**

Students of F.Y.B.Sc visited the Chhatrapati Shivaji Maharaj Vastu Sangralay in the month of Jan-Feb to study the exhibits of the fauna. Students also attended the session on taxidermy in the museum. A report submitted by the students based on the visit was evaluated.

➤ **Summer training**

A short term training of 5 days was organised for F.Y.B.Sc students for hands-on training to operate colorimeter and analytical balance during Diwali break. Students learnt the SOP of the instruments and also analysed various detergents to determine its effectiveness as stain removers.

S.Y.B.Sc

➤ **Dissertation / projects**

S.Y.B.Sc students worked on project to determine the pH and Pka of weak acids using H-H equation under the guidance of Prof. Sanika Gupte

S.Y.B.Sc Students worked on a project titled 'Bird Eggshells: A Scope For Heavy Metal Bioremediation'. This project was successfully completed and was presented in Aavishkar under the guidance of Dr. Bindu Achary.

Students carried out a project for detecting the Iodine content in table salts by titration method. Under the guidance of Dr. Bindu Achary they presented their work at Srujan- a poster competition held at Khalsa College, Matunga.

Analysis of mineral salts in soft drinks using flame photometry was done by S.Y.B.Sc students under the guidance of Dr. Geeta Joshi.

Study of nematode parasite from gut of cockroach was conducted by S.Y.B.Sc students under the guidance of Prof. Sushma Singh.

➤ **Visits to research institutes/industries**

S.Y.B.Sc students visited fish landing docks (Sasoon dock, Bhaucha Dhakka, Versova jetty) and local fish markets in Mumbai in the month of Aug-sept.to study the Piscean diversity.

One day study trip was organized for S.Y.B.Sc students to Saguna Baug, Neral an agro tourism farm on the 5th of Feb. 2019. Students learnt different aspects of fishing activities, apiary development, poultry breeding and other activities such as organic farming, etc.students submitted a report based on their visit to agro farm.

➤ **Summer training**

A summer training program in BASIC INSTRUMENTATION was organised from 22nd to 27th April 2019 to impart the knowledge of SOPs of the instruments available in the departmental laboratory. A hands-on training to operate some of these instruments that are used for various biological researches will be given to the beneficiary.

T.Y.B.Sc

➤ **Dissertation / projects**

The following projects were completed by the T.Y.B.Sc students under the guidance of Dr. Bindu Achary;

1. Commercial Hair Products And Effects On Keratin : A Comparative Study –T.Y.B.Sc- Rishabh Mishra, Ankit Nayak.
2. Physico-chemical characterization of sediments from sunderban forest was done by T.Y.B.Sc- Rishabh Mishra. This project was presented in Wetland conference, held at S.I.E.S College, Nerul on 2nd February 2019 and bagged the second prize in oral presentation.
3. Alcoholic Adulterants and Hooch Tragedy: A Study Prespective -T.Y.B.Sc- Gauri Nadkarni.
4. Characterization And Analysis Of Moulted Exoskeleton Of Snakes-T.Y.B.Sc-Prasanna vispute
5. Growth Characteristics Of Bacteria From Fish Eye And Its Correlation To Infections-T.Y.B.Sc- Shraddha Ghorpade
6. Analysis Of Growth Rate Of Bacteria In Few Fish Species-Rajkumar Yadav.
7. Studies Of Mucilage Contents Of Mudskipper- T.Y.B.Sc- Anand Pandey
8. Studies On LDH Isoenzyme from Few Vertebrates- T.Y.B.Sc -VandanaYadav

- ✓ T.Y.B.Sc students Ankit nayak and Rishab Mishra worked on project 'Effect of heavy metal toxicity on enzymes of *Tilapia mosambica* under the guidance of Dr. Janhavi Bhagwat.
- ✓ A review of research article on '*Avicennia marina*: An unexplored resource' was done by T.Y.B.Sc student- Ankit Nayak under the guidance of Dr. Janhavi Bhagwat. The oral presentation of this review article was done in Wetland conference, held at S.I.E.S College, Nerul.
- ✓ T.Y.B.Sc students Ankit nayak and Rishab Mishra worked on project 'Effect of heavy metal toxicity on enzymes of *Tilapia mosambica* under the guidance of Dr. Janhavi Bhagwat.

➤ **Visits to research institutes/industries**

T.Y.B.Sc. students participated in the excursion to west Bengal-Kolkata, Sunderbans from 4th to 10th January 2019. They visited victoria memorial and Dakshineswar temple at Kolkata. A visit to shantiniketan and sunderbans forest provided a great learning opportunity to the students. They also visited sunderbans national park and tiger reserve and the sajnakhali wildlife sanctuary. A field report was submitted by the students.

For those students who could not attend the long excursion to west Bengal due to financial constraints or otherwise, a one day study trip was organized by the dept. to SagunaBaug, Neral an agro tourism farm on the 5th of Feb. 2019. Students submitted a report based on their visit to agro farm.

➤ **Summer training**

T.Y.B.Sc student Ankit nayak completed a three day training course from Taraporewala marine biological research station on 'ornamental fish breeding and aquascaping'. He along with Rishabh Mishra and Anand Pandey of T.Y.B.Sc revived the departmental aquarium.

Faculty: (Tabulate for each participating department)

- **Name of Department**

Zoology

- **Name of faculty**

Science

- **List of internal faculty trained for skill improvement**

1. A two day training workshop on 'advanced shaikshanik video nirmiti karyashala' for teachers was attended by Dr. Bindu Achary, Dr. Janhavi Bhagwat, Prof. Deepak Poojary and Prof. Bhagirat Mishra on 18th and 19th May 2018.
2. Two day workshop on principle and practices of laboratory animal care organized by Haffkine institute, Mumbai was attended by Dr. Janhavi Bhagwat and Prof. Bhagirat Mishra on 29th and 30th May 2018.
3. Prof. Sanika Gupte, Dr. Bindu Achary and Prof. Deepak Poojary took training in e-content development by attending a workshop on 'e-content development using MOODLE for teachers' on 1st sept.2018.
4. Prof. Bhagirat Mishra attended a workshop titled India International science festival 2018 organised by DBT, Ministry of science and technology, Ministry of Earth sciences, Govt. of India from 5th-8th October 2018 at Lucknow.

- **Awareness generation programmes / exhibitions / seminars, training programmes etc. for teachers/students of other colleges / students.**

1. An intercollegiate poster competition was organized by the department of zoology on 11th dec. 2018. The topics for the competition were man and animal conflict, biodiversity and symbiosis a way of life. Students from different colleges participated in it and first and second prize was bagged by KC College while third prize was won by RJ College. Dr. Smruti Thombare and Mrs. Shubhangi Vedak were the judges for the event.
2. An interdepartmental review writing competition based on wildlife movie was organised for all students of S.Y.B.Sc. by Dr. Janhavi Bhagwat on 6th August 2018
3. An interdepartmental workshop on soft skill and entrepreneurship was organized by Prof. Deepak Poojary for the non-teaching and teaching staff on 30th August 2018 in the dept. of biological sciences to teach the participants to make ecofriendly ganpati idol using garden soil and clay. He also imparted the art of modak making and highlighted on its nutritive values.
4. An intercollegiate workshop on 'Flame Photometry' was organized by the department of Zoology on 29th January 2019 as a DBT star college activity for UG students. Dr. Sandesh Diwekar, Asst. Prof. Dept. of Chemistry was the resource person for the workshop. Students were given Hands on training to operate the flame photometer.
5. Department of Zoology organised an exhibition under the banner of 'Zoo-Fest' on the 13th of December 2018. Various exhibits such as Rain Water Harvesting, Fishery, Marine Topography, Drought to Prosperity, Biodiversity, Circulatory System of Frog, Ovarian Diseases: PCOD and Ectopic Pregnancy, Conservation Of Wildlife, Embryonic Development In Mammals, Apiculture, Inflammation, Sewage Water Treatment, Types Of Insect Houses, Capgras Delusion and Lassa Fever were displayed by S.Y.B.Sc Zoology students. School students as well as students from other faculties visited the exhibition.
6. Wildlife Photography exhibition of the photographs by Mr. Sagar Gavas, lecturer in Zoology and Siddesh Bhor (M. Sc. student) was organized as an Interdepartmental activity on 2nd march 2019 by the dept. of Zoology to create awareness about the wildlife fauna to signify the World Wildlife Day on 3rd March.

Guest Faculty Invited by Different Participating Departments (Tabulated manner):

- Name
- Designation
- Host Institute
- Duration of Visit
- Topic of lecture / discussion

Name	Designation	Host Institute	Duration of Visit	Topic of lecture / discussion
Dr. S.T. Ingale	Former vice principal & zoology professor	Retired	2 nd July 2018 3hrs	water conservation- need for today
Shri. Pradip Patade	Co- founder of marine life of Mumbai	Marine Life Of Mumbai	13 th December 2018 2hrs	Coastal diversity of Mumbai and threats to it.
Mr. Ninad Bhosale	wildlife conservationist	Free lancer	5 th nov.2018 2hrs	‘wild life with respect to camera trapping’
Dr.Lalitkumar Anande	Medical superintendent	G.T.B hospital	7 th August 2018 3hrs	Tuberculosis awareness
Mr. Amit Patil	Research scholar	Changan University, China	28 th January 2019 3hrs	“Career Opportunities in China”
Mr. Brijesh Verma	Head, Department of Biology	NPS international school, Singapore	4 rd February 2019 2hrs.	Career guidance

List of new:

- Techniques

Dr. Bindu Achary and Mr. Bhagirat Mishra Asst. Professors from dept. of Zoology prepared and launched the **QR coding system** for the study of zoological specimen and instruments. This project was inaugurated by Chief Guest Mr. Amit Patil a research scholar from Changan University, China on 28th January 2019.

- Practical's

Studies on the courtship behavior, nest building and parental care of Gourami fish was done in the aquarium by techniques of video recording in the biology lab. by T.Y.B.Sc. students.

- Demonstrations

The students of S.Y.B.Sc will be taught to construct phylogenetic tree for studies on evolution by Prof. Deepak Poojary

- Minor research projects

Dr. Geeta Joshi is working on project titled 'improving management and trade of ornamental fish keep by early diagnosis and treatment of diseases.'

photographs



Zoology excursion January



Zoology excursion January



F.Y.B.SC students visit to Chhatrapati Shivaji Maharaj Vastu Sanghralay and attending a session on taxidermy



S.Y.B.SC students visit to SagunaBaug, Neral



Talk by Pradip Patade on 13th December 2018 (Zoofest 2018)



Workshop on soft skill development and entrepreneurship.- by; Prof. Deepak Poojary



A talk by Dr. Lalit Anande on T.B. awareness on 7th August 2018



Intercollegiate poster competition on 11th December 2018



Guest lecture by Mr. Ninad Bhosale on 5th nov. 2018



DBT star college scheme organized India International science festival from 5th to 8th October 2018 attended by Prof. Bhagirat Mishra



A guest lecture by Dr.S.T.Ingale



Guest lecture by Mr. Amit Patil Research scholar, china



Launching of QR coding system by Mr. Amit patil, Research scholar, China



Guest lecture by Brijesh verma, faculty from Singapore



A two day training workshop on 'advanced shaikshanik video nimitikaryashala' for teachers was attended by Dr. Bindu Achary, Dr. Janhavi Bhagwat, Prof. Deepak Poojary and Prof. Bhagirat Mishra on 18th and 19th May 2018.



Photography exhibition on 2nd march 2019



T.Y.B.Sc Field trip to Maharashtra Nature Park, Mahim