

BSP459 AQUATIC BIOLOGY LAB

Course Outcomes:

After successful completion of the course, students will be able to :

- CO 1. Perform qualitative analyses of water samples for various parameters.
- CO 2. Identify freshwater, marine and benthic organisms
- CO 3. Estimate the productivity of aquatic ecosystems.
- CO 4. Understand the food and feeding habits in fish.

1. Water quality parameters

- 2. Freshwater, marine and benthic organisms.
- 3. Preparation of temporary and permanent slides of plankton.
- 4. Estimation of productivity.
- 5. Hydrophytes, halophytes and seaweeds.

6. Food and feeding habits in fish.

- 7. Sewage organisms.
- 8. Instrumentation in aquatic biology and field trips





MANGALORE UNIVERSITY
DEPARTMENT OF BIOSCIENCES

One day study field visit to Vamanjur aquaculture unit and Pilikula Biological Park, Mangalore

Date: 9th December, 2021

Time: 09:00 am to 5.00 pm

The Department of Biosciences, Mangalore University conducted one day educational field visit for 2nd M.Sc. (III Semester) students to “Aquatic Biosystems” – an aquaculture unit at Vamanjur of Mangalore and Pilikula Biological Park, Mudushedde, Mangalore on 9th December, 2021. The main objective of the field visit was to comprehend the knowledge on operation strategies involved in the running of an aquaculture farm and to observe living wildlife of flora/fauna at Pilikula Biological Park (*Nisargadhama*). The team consisting of 30 M.Sc. students accompanied by three teaching faculties Dr. Sharath Chandra K., Dr. Laveena K.B. and Dr. Sudarshan P. Bhat. The journey started at 9.30 am and arrived at the Aquatic Biosystems at 11.15am. The executive manager of the aquaculture farm Mr. Ronald D’souza briefed about freshwater fisheries particularly culturing, rearing and management of ornamental fishes. He took the students to whole operation site including fish hatcheries, nursery tanks, breeding units and explained about their feeding behaviour, breeding conditions, maintenance of water quality parameters for their sustainable management etc. He also motivated the students by mentioning his own start-ups so that how one can opt any of the aquaculture practice as self-entrepreneurship. It is the first and the largest ornamental fish breeding centre in Karnataka state which is owned by Mr. Ashwin Rai and Mr. Ronald D’souza. Students explored variety of fishes such as Angel fish, Gold fish, Tetras, Katla fish, Guppy fish etc. The students also gained knowledge about fish habitat specification, types of aquaculture feed, reproduction strategies, harvesting, packaging and transport measures. After spending an amazing time at Aquatic Biosystems, the team moved to the next destination i.e., Pilikula Biological Park by 2.0 pm. At Pilikula students first visited Swami Vivekananda 3D Planetarium and watched very informative

documentary movie. The show gave relevant information of the celestial bodies, astronomical objects and also provided the experience of space travel. Later students moved to Pilikula Regional Science Centre and explored various science related (Physics, chemistry and Biology) experimental models. Students also gone to Botany museum and got valuable information about preserved wood specimens pertaining to annual ring patterns, certain fruit samples of different endemic plant species of Western Ghats. They also visited Herbarium centre where scientific staff Mrs. Veena Kumari explained about preserved herbaria belonging to endemic plants of Western Ghats. She also taught the students about systematic nomenclature of the plant specimens, protocol followed in herbarium preparation and its preservation.

They also had been to Arboretum (botanical garden) and medicinal plant garden in which students made a survey on conserved different plant communities of Western Ghats. Scientific officer of Pilikula biological park Mr. Ramakrishna Marathi gave sufficient information about systematic nomenclature of several important plant species, their medicinal/therapeutic values, economic importance and IUCN status. He also showed some of the planted and conserved endemic, threatened and endangered plant species of Western Ghats. Students also observed the fern and orchid garden in the Pilikula premises and gained some knowledge on their primitive morphological features, adaptation behaviour etc. Finally the team visited lake garden and noticed few important ornamental plants and tree species.

During the field visit students were able to observe variety of plants belonging to different plant groups. The students were also motivated which developed an interest in them to learn through experience. The overall result of the field visit was development of a positive impact regarding vast diversified flora of Pilikula Botanical Park. After a day filled with learning, exploring and little enjoyment, the team returned by 6.0 pm to the Mangalore University campus.