BSP 557 PROJECT WORK

Course Outcomes:

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

CO 1. Carry out a research-based study - select a problem, frame the objectives, conduct literature review, tabulate, represent and interpret the results.

CO 2. Do field work for collection of samples, questionnaire-based surveys.

CO 3. Apply research methodologies, techniques and tools to conduct lab- / field-based research

CO 4. Understand different types of standard methods of citation and references.

CO 5. Write the dissertation, present and interpret the research data scientifically.

CO 6. Build up the capacity to carry out a research project independently.

CO 7. Get skilled to be appointed/absorbed based on the theme of the project work.

Studies on freshwater algae in and around Mangalore University campus

A total of 37 species of algae were recorded in eight different sampling sites, of which 13 species were cyanobacteria, 16 species were diatoms and 8 species were green algae. The study provided basic information on the distribution pattern and abundance of algal communities which would be a useful tool for further ecological assessment and monitoring of these freshwater bodies. The study revealed the presence of few indicator species of algae from this region. A poster of this work was presented in the UGC-sponsored National Seminar on "Pollution and Bioremediation: Current Scenario and Future Prospects", organized by Department of Biosciences, Mangalore University on 07.03.2020.

Poster – 14

DISTRIBUTION PATTERN OF FRESHWATER ALGAE IN AND AROUND AREAS OF MANGALORE UNIVERSITY CAMPUS, MANGALAGANGOTHRI, DAKSHINA KANNADA DISTRICT OF KARNATAKA

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In the present study, water samples from different sampling sites in an around areas of Mangalore University campus was collected on seasonal basis during the months from August, 2017 to March, 2018 and analyzed for physico-chemical characteristics. A detailed investigation on the species occurrence of algae, their distribution pattern in these different sampling stations was determined. A total of 60 species of algae were recorded in the eight sampling sites studied, among which 24 species of cyanobacteria, 28 species of diatoms and 8 species of green algae were found out. When the species occurrence of algae was studied, it was revealed that, species of cyanobacteria like, Merismopedia marssonii, Oscillatoria chlorina, Oscillatoria homogenea, Oscillatoria limnosa, Oscillatoria perornata and diatom species namely, Navicula clavata were found to be dominant (with 100% frequency of occurrence). These species were also showed abundance occurrence in most of the sampling sites besides showing 100% frequency. The maximum number of algal count with dominant algae was noticed in a sewage drain site close to boy's hostel with three marker species of cyanobactaria viz., Oscillatoria chlorina, Oscillatoria homogenea and Oscillatoria perornata. The marker species further subjected for FTIR analysis and it revealed the presence of various classes of functional groups such as, hydrocarbons, oxygen compounds, nitrous oxide, carboxylic acid etc. in them.

Keywords: Freshwater, Cyanobacteria, Diatoms, Green algae, Indicator species, FTIR

23

MANGALORE UNIVERSITY
DEPARTMENT OF BIOSCIENCES

Water quality assessment and documentation of phytoplanktons in the different freshwater bodies of Mangalore University campus.

I Semester MSc Biosciences students undertook a field visit on 16.07.2019 with the aim to create a baseline database on the occurrence and distribution pattern of freshwater phytoplanktons and macroalgae in different freshwater habitats of the University campus. Water was sampled from different locations, brought to the laboratory and physicochemical properties were evaluated. Water samples were also subjected for microscopic observation to determine the presence of phytoplanktons.

From this study, students successfully identified 14 species of cyanobacteria, 8 species of diatoms, 5 species of planktonic green algae and 3 species of macroalgae. The results were presented a poster in the UGC-sponsored National Seminar on "Pollution and Bioremediation – Current Scenario and Future Prospects", organized by Department of Biosciences, Mangalore University on 07.03.2020.