November 2017 Featured Expert: *Geetha P.N.*

I'm happy to introduce Geetha P.N. who comes to us from India. For the past 7 years she has been a Senior Research Fellow and Scholar at Cochin University of Science and Technology and Mahatma Gandhi University. She frequently posts inspiring messages on LinkedIn, which is where we connected. Please help me welcome her. - Kirsten

TPNC: What does a typical work day look like for someone in your position?

Geetha: I live in Cochin, Kerala in India. Cochin is the land of lagoons, wetlands and estuary. My research interests focus on the ecosystem impact assessment of marine, estuarine and other water bodies based on the water and sediment quality and benthic fauna. My works varies each day based on the types of work schedules. Currently, the Cochin estuary is under threat due to looming industrialization. Some days in the morning we have field sampling for collection of benthic samples, water and sediment from different stations of Cochin estuary, a part of Vembanad Wetland (Ramsar site). Benthic samples are preserved for further taxonomical identification in the laboratory. Besides this, I observe the major avian fauna and macro vegetations in the water surface for our monthly sampling time. Someday, I go to visit other estuaries, mangroves and wetlands to collect the samples. I take photographs of the plants, organisms and different anthropogenic activities from stations. Besides, I go to some major fish markets and harbors in Cochin estuary and nearby areas in early morning to conduct surveys of fish catch for the assessment of fishery resources in the estuary during the sampling days. I attend conferences, seminars and workshops and interact with other participants and experts both within and outside our institution. I visit library and collect books and manuals for identification of benthos and check bulletins and

available journals of environment and aquatic biology in my free times. I am really interested in benthic ecology and taxonomy, especially on taxonomy of polychaetes. I read a lot of books, checking numerous websites for references for my works and use online identification sites for benthic taxonomy. I go to social sites to interact with other scientists and subject experts from other countries to discuss my works. I connect with people on social media to support environmental awareness. Some days, I assist the M.Sc. and M. Phil. students identify benthos species. I prepare project reports for funding authorities. Really, I am enjoying my work. In the evening, I spend a few hours with my family and go to outside or watch TV and enjoying music, read other books for relaxation.

TPNC: What do you like about your job?

Geetha: I'm very passionate about nature conservation activities and I'm happy to work for environmental protection and its wise use. In the context of climate change and pollution stress, nature conservation is important for the survival of life on earth. The taxonomy of organisms is important to identify the ecological indicators in ecosystem health assessment. I like the taxonomical study of benthos, soft coral and other invertebrates and fishes. I like field work, photography and travel. I would like to communicate and make the public aware of the environmental problems and its impacts on ecosystems through social media.

TPNC: What do you find challenging about your job?

Geetha: Lack of support for travel fund to attend trainings, conferences or seminars is a big challenge. I have experienced a lot of discrimination based on gender and money status in this field. The lack of facilities in our lab is sometime felt like a problem. I wish to have an advanced microscope with a camera for taxonomical study. It will helpful for

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fast and clear identification. I wish to join some courses of environmental problems and nature conservation offered by international institutions to improve my knowledge. I would like to visit other international institutions for improve my knowledge in benthic ecology and taxonomy. But, I did not attend any training in abroad yet due to the lack of funding and support.

TPNC: What types of classes did you have to take in college to get your position?

Geetha: I participated in nature camp in Silent Valley National Wildlife Sanctuary and participated in seminars conducted by the Zoological Society of Kerala. For my M.Sc. project, I completed a project on food and feeding habits of three species of fishes from Manimala River, Kerala, India. For M.Phil. course, I completed a project on taxonomy of soft corals collected from Kavaratti, Lakshadweep Islands. I worked as a zoology guest lecturer in a college for a year before my current position. I'm always interacting with students and try to coordinate debates and discussion about environmental problems and the importance of nature conservation. I take opportunities to learn more about current environmental problems and share my knowledge to my students for awareness in class. All these helped me to understand the importance of research.

Mainly, I read articles from Journal of Environmental Sciences (Elsevier), Environmental Health, Environmental Science and Pollution Research, Nature, Wetlands, Estuaries and Coasts, Marine Biology, Water, Air, & Soil Pollution (Springer) and Bulletin of Environmental Contamination and Toxicology from University library to learn more about the aquatic ecosystems, pollution and environmental problems. Besides this, I read lot of daily science news from different websites. For marine ecology studies, I read lot of books from the library and some important books such as Marine Ecology: Processes, Systems, and Impacts (Michel J Kaiser, 2005), and Marine biology: function, biodiversity, ecology (J. Levinton, 2009). For benthic taxonomy studies, the standard identification guides, websites, references of national and international scientists and experts are used.

In my research period, I had participated in lot of seminars and conference. I had attended the workshop on software PRIMER and SPSS (statistical analysis for ecological studies) and molecular analysis. It helped me to improve my skill in statistical

analysis. Besides these, I am always reading the science related news from related websites and signup in websites of lot of other journals for news and notifications. I had joined in several national and international associations related with environment and society such as Social Environmental and Biological Association (SEBA), India, INTECOL, ASLO, and SWS (USA) etc to improve my knowledge and activities. I am the Ambassador for India of Friend Sea World (An International group voice against plastic pollution).

I had worked as a research fellow in a project titled on ''Current status on the biotic potential in relation to environmental quality of Cochin estuary, India" under the Directorate of environment and climate change, Govt. of Kerala, India. Along with this, I was working on my Ph.D course and my topic titled on "Distribution and Community Structure of Benthic Fauna in Cochin Estuary, India".

Observation and identification of an environmental problem is important for working in an environmental impact assessment position. Such studies are used to create awareness in our community to reduce or remove such environmental problems. It need lot of references and reading of others works also. I collect references from everywhere to compare and analyze my works. Besides this, the interaction with other experts in the same field is also very helpful to our works. All of these resources from different books, courses, trainings and interactions helped me to reach in to the present position. I am always trying to learn more about such topics and share to people through social sites.

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TPNC: What is your favorite aspect of nature and why?

Geetha: I am very passionate in the nature resource conservation. The current problems remind us of the need of conservation and protection of nature for future generation. Loss of any species will affect the entire trophic level on earth. Increasing extinction may lead to trophic cascade in ecosystem. The plastic pollution is one of the most dangerous threats of all ecosystems. The aquatic ecosystems such as wetlands and estuaries are more vulnerable to anthropogenic impacts and climate change than other ecosystems. These ecosystems need a special attention because "water is life".

TPNC: What is the biggest misconception you would like the public to know about what you do?

Geetha: I am not a person against any development of human society, but I wish to all activities were conducted in a sustainable way. I am trying to find out the role and significance of benthos in relation with water and sediment quality and overall ecology of aquatic ecosystems. I am trying to share nature related news with the aim of reduction of pollution in nature to my colleagues and others through social sites. I have a big dream to do something good for nature and future generation on earth through my research.

Thanks to Geetha for sharing her interesting work!