A two-day seminar was conducted by the department of Zoology, Sree Narayana College, Thiruvananthapuram on 11 & 12 August 2015 in collaboration with the Kerala State Biodiversity Board, sponsored by The University Grants Commission. It was attended by researchers, teaching community and eminent scientists from different regions of Kerala and other states as well. Smt. Mini Suresh, Head of the Department of Zoology welcomed the gathering. Dr. L. Thulaseedharan, Principal of the college presided over the function. Dr. Oommen V. Ooman, Chairman, Kerala State Biodiversity Board, in his keynote address briefed the history of conservation initiatives around the world and at national level and the need for individual level contribution to achieve international goals like Aichi targets. During the two day programme invited talks along with paper and poster presentations were organized.

Invited talks and paper presentations were delivered in three major areas such as species conservation, impact of climate change and marine biodiversity conservation. Dr. Abraham Samuel, Associate Professor of Zoology, CMS College, Kottayam gave a talk on the diversity and conservation of Odonates. The order Odonata (“toothed ones”) includes some of the most ancient and beautiful insects that ever roamed on Earth, as well as some of the largest flying invertebrates ever to have lived. They are predaceous, hemimetabolous and amphibiotic insects, which inhabits all kinds of freshwater habitats either permanent or temporary. They evolved about 250 million years ago during Devonian period and largely remained unchanged morphologically. Globally about 6,000 extant species of odonates are reported, of this more than 500 species exists in India, under 140 genera and 17 families. Among them 154 species spread over 82 genera and 14 families are met within Kerala. Fraser (1933-36) has dealt in detail with the odonate fauna of India, including the species of Kerala.

Odonata consists of three groups: Anisoptera (which includes dragonflies), Zygoptera (which includes damselflies), and Anisozygoptera (a relict group) represented by only two living species. Odonates breed in water, larvae are aquatic and most of the species are highly habitat specific, both in larval and adult stages. Thus, many ecological factors such as water pollution, flow, the amount and type of aquatic vegetation present, and the presence of fish and other aquatic predators affect their abundance and distribution. Because of their sensitivity to environmental change, dragonflies and damselflies often serve as one of the most visible indicators of the health of the ecosystems they inhabit and the water quality in the wetland areas in which they breed. This makes them an important group of organisms in environmental monitoring.

Apart from that, dragonflies and damselflies play important ecological roles as both predators and prey. Adult odonates are aerial predators and catch insects like mosquitoes, midges, and other small insects on flight, which make them valuable in controlling populations of harmful insects. Dragonfly larvae, which live in water, are carnivorous too and play crucial roles as highly effective predators in aquatic ecosystems.

Dragonflies also form prey to many other animals. Birds take a heavy toll of these insects during their emergence, when their weak flight makes them fall an easy prey to swallows, martins, minas, and king-crows. Fishes and frogs feed on them both during

Recent trends in Biodiversity and Conservation Biology: National seminar report
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the larval and early imaginal stages. Wetland spiders commonly capture odonates during maiden flight even when post-teneral. Thus, loss of dragonflies and damselflies could have a ripple effect on food webs. A recent species assessment studies conducted in the Western Ghats considering select group of freshwater biodiversity including odonates revealed that 16% of the freshwater biodiversity of the region are threatened with extinction and hence appropriate effort should be taken to identify and eliminate the threats affecting species survival.

Dr. S. Ajmal Khan, Emeritus Professor, CAS in Marine Biology, Parangipettai spoke about the importance of marine biodiversity. The uniqueness of Indian marine biodiversity through way of the presence of very minute microorganisms to the largest organisms on this earth (blue whale); in having the largest single block of mangroves (Sunderbans) in the whole world (4260 sq. km) along with Bangladesh; in having the only mangrove (Sunderbans) to be colonized by the endangered tiger; in having one among the 2 global genetic paradises of mangroves (Bhitarkanika mangrove in Odisha); in having the World’s largest mass nesting site for Olive Ridley (Gahirmatha Beach along Odisha coast) where 6 Lakhs turtles disperse to or colonize a new or more suitable range. Some of the predicted aspects of climate change are phenology, temperature, rainfall, extreme events and increased CO₂. These changes will have effect on species such as desynchronization of migration or dispersal events, uncoupling of mutualisms (incl. pollinator loss), uncoupling of predator-prey relationships, uncoupling of parasite-host relationships, interactions with new pathogens and invasive species, changes in species distribution ranges, loss of habitat, increased physiological stress causing direct mortality and increased disease susceptibility, changes in fecundity leading to changing population structures, changes in sex ratios, changes in competitive ability etc. Five groups of traits that make species susceptible: 1 specialized habitat and/or microhabitat requirements, 2. narrow environmental tolerances or thresholds that are likely to be exceeded due to climate change at any stage in the life cycle 3. Dependence on specific environmental triggers or cues that are likely to be disrupted by climate change 4. Dependence on interspecific interactions that are likely to be disrupted by climate change and 5. Poor ability to disperse to or colonize a new or more suitable range. He also gave examples of some species that are susceptible to climate change and how their life cycle is affected.

Towards the end of the seminar poster presentations were organized. During the valedictory function Dr. Ajmal Khan gave a brief report about the event. He mentioned that to mitigate the impact of species contribution by the individuals is an absolute need of the hour. Smt. Vidia Panicker, Organizing Secretary welcomed the gathering and Dr. S Geetha, Organizing Committee gave vote of thanks.