# Diversity, Abundance and Distribution Patterns of Odonata in Royal Botanical Gardens, Peradeniya

A.M.P.E.K. Atapattu[1]* and S.K. Yatigammana[2]

*[1]Postgraduate Institute of Science*
*[2]Department of Zoology, Faculty of Science*
*University of Peradeniya, Peradeniya 20400, Sri Lanka*
*prabashia@yahoo.com*

Dragonflies and damselflies are odonate insects (Order: Odonata) associated with water bodies. They are considered as indicator organisms of water quality in aquatic ecosystems. The objective of this study was to identify the Odonata species present in the Royal Botanical Gardens (RBG), Peradeniya to understand the distribution patterns of dominant species and hence to provide guidance for educational activities. Sampling was carried out daily, from December, 2015 to January, 2016 from 0900 - 1600 hours, to record their diversity and abundance in each study site separately. Observations were taken at some selected man-made water bodies, open areas and in the marginal vegetation of River Mahaweli nearby the River Drive. Standard field guides were used for the species identification. A total of 17 Odonata species were recorded including ten damselfly species and seven dragonfly species. Out of the 56 endemic Odonata species in Sri Lanka, only four endemic damselfly species were recorded in RBG, while no endemic dragonfly species were recorded. Therefore, the percentage endemism of recorded damselfly species was 40%. The most abundant damselfly species recorded throughout the study was *Ceriagrion coromandelianum* (51.89%), while *Pantala flavescens* (45.64%) was the most abundant dragonfly species. The highest diversity of both damselflies and dragonflies was recorded at Lanka Pond bearing a Shannon Diversity Index value of 1.57 and 1.34, respectively. Shannon evenness values of damselflies and dragonflies at Lanka Pond were 0.682 and 0.688, respectively. Species richness and evenness at Lanka pond was higher than other sites. Most of the sites are dominated by one or two species, reducing species richness and evenness. Though a high diversity of Odonata are recorded from mid elevations to the highlands of Sri Lanka, low diversity was recorded in RBG during this study.

**Keywords:** Evenness, Odonata, Species richness