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Comparison of the floral diversity at Beddagana and Diyasaru Urban Wetlands Parks, Colombo, Sri Lanka

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The district of Colombo is endowed with a variety of wetlands, mainly compromised of abandoned paddy fields, man-made lakes, and marshes. Since the 1980s, Colombo has lost almost 60% of its wetland area. Losing an average of 1.2% of its area per year, wetlands at present only make up 20 km² of Colombo. Some of the main threats to wetlands and its plant diversity include anthropogenic activities and the rapid spreading of alien invasive species. A research was conducted to measure the diversity of plants in Beddagana Wetland Park and Diyasaru Wetland Park, in the Colombo Metropolitan area. The main objective of this study was to compare the floral diversity between the two urban wetland parks. The quadrat method was used for sampling (trees: 25 m², saplings: 1 m²). Sampling was done at three habitats at each location; the first habitat being at the edge of the waterbody, the second being ten meters away from the waterbody and the third being twenty meters away from the waterbody. A single plot was placed in each habitat and three quadrats were placed in each plot. The 25 m² quadrat was used to count plants taller than 1 meter and the 1 m² quadrat was used to count plants shorter than 1 meter. The total number of individuals of each plant species inside each quadrat was recorded. A total of 13 species at Beddagana Wetland Park and 17 Species at Diyasaru Wetland Park were observed. The most common species observed at Beddagana Wetland Park was an alien invasive species; *Annona glabra*, with a relative abundance of 31.13%. The most common species observed at Diyasaru Wetland Park was *Commelina diffusa*, with a relative abundance of 29.77%. Simpson's index and Shannon Diversity Index values were 0.8176/1.9668 for Beddagana Wetland Park and 0.7999/1.9310 for Diyasaru Wetland Park. The Shannon diversity values depict low species richness and species evenness in the area, which is a result of the raid of invasive floral species. Similarly, there is no key variance in the floral diversity at both sites. However, further studies and monitoring are recommended to determine the floral diversity at the Colombo wetlands. Furthermore, prompt bearable measures are needed to control the rapid spreading of invasive flora in the wetlands.

Keywords: Floral diversity, Beddagana, Diyasaru, Invasive flora