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**Odonata Diversity in a Rapidly Changing Landscape: A Case Study in a Land Near Hambantota Port Construction Site****Thathsarani, W.A.P., Dayawansa, P.N.\***

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**Abstract**

Human-driven alterations of natural landscapes, particularly through infrastructure development, can exert significant ecological impacts on its ecosystem. Odonata, commonly known as dragonflies and damselflies, play an important role as biological indicators reflecting the health of the ecosystems they inhabit. The Hambantota port project, in Sri Lanka, offered a unique opportunity to examine the early ecological responses to land-use changes. Therefore, this preliminary study aimed to assess the diversity and evenness of Odonata species in a transitional habitat created by the clearing of previously inhabited land for the port construction site in Hambantota, covering an area of 0.02 km<sup>2</sup>. Block count method was used as the sampling method and sweep nets were utilized to collect species for a sampling period of four weeks from November to December 2020. Species identity, abundance, and habitat characteristics were recorded. The collected data were subjected to the calculation of Shannon-Wiener Diversity Index (H') and Pielou's Evenness Index (J). A total of 69 Odonates, representing 12 different species belonging to two families, family Coenagrionidae (68%) and family Libellulidae (32%) were recorded. Notably majority of recorded species belong to the family Coenagrionidae with *Pseudagrion microcephalum* being the highest occurrence species (33%) while *Pseudagrion rubriceps ceylonicum* (1.4%) exhibited the lowest occurrence. This study unveiled a rich diversity of the Odonata community, indicating a high species diversity with a Shannon-Wiener Diversity Index (H') of 2.105. Moreover, the calculation of Pielou's Evenness Index (J) of 0.402, suggests moderate evenness in species distribution. Despite the prior human occupation of the area and ongoing construction activities in proximity, the Odonata community manifested a robust species diversity within the area. This balance in species distribution during the early stages of habitat transition can likely be attributed to the presence of newly formed water bodies resulting from land changes, serving as suitable habitats for Odonata. These results underscore the adaptability and resilience of Odonata species in the face of transitional and disturbed environments.

**Keywords:** Odonata, Dragonflies, Damselflies, Diversity, Species richness