POPULATION DISTRIBUTION OF FAUNAL SPECIES IN NATURALIZED ECOSYSTEMS OF KALA OYA TANK CASCADE SYSTEM

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Abstract: This investigation, spanning from November 2019 to March 2020, explored the faunal biodiversity within the naturalized ecosystems of the Kala Oya Tank Cascade System. Utilizing Variable Circular Plots (VCPs) and opportunistic surveys, 55 bird species from 18 families were identified, including several wetland-associated families such as Ardeidae, Ciconiidae, and Phalacrocoracidae. Notably, 14 nationally threatened species were recorded, including Ruddy-breasted Crake (*Porzana fusca*), Little Tern (*Sternula albifrons*), White-throated Munia (*Lonchura malabarica*), and Kentish Plover (*Charadrius alexandrines*). The globally vulnerable Woolly-necked stork (*Ciconia episcopus*) and critically endangered Salty-Legged Crake (*Rallina eurizonoides*) and Blue-Tailed Bee-Eater (*Merops philippinus*) were also observed. *Rallina eurizonoides* was found in only two tanks, indicating its fragile ecological status. The study documented 31 fish species across the sampling sites, featuring endemics such as *Mystus zeylanicus*, *Clarias brachysoma*, *Dawkinsia singhala*, *Pethiya melanomaculata*, and *Esomus thermoicos*, along with exotic varieties. Among these, Cyprinidae was the most prominent family, consisting of 12 species. Furthermore, the investigation unveiled the rich diversity of butterflies, with 25 identified species. Key findings included the presence of the Tiny Grass Blue (*Zizula hylax*), Peacock Pansy (*Junonia almata*), Lemon Pansy (*Junonia lemonias*), and Leopard (*Phalauta phalauta*) in various tank ecosystems. Meanwhile, 136 dragonfly individuals were observed, with the Asian Pintail emerging as the most abundant species. Notable rare species included the Elusive Adjutant (*Aethriamanta brevipennis*), Blue Sprite (*Pseudagrion microcephalum*), Blue Percher (*Diplacodes triviallis*), and Green Skimmer (*Orthetrum Sabina*), each recorded in different tank ecosystems. The study further highlighted existing threats, including overgrazing by cattle and the clearance of catchment areas, emphasizing the urgency of implementing sustainable conservation measures to protect these delicate ecosystems and maintain their ecological balance. Understanding the distribution and significance of species within these ecosystems will support ecological restoration and maintenance of the tank cascade ecosystems.

Keywords: Endemic; Faunal species; Population; Tank cascade systems