A Faunal Inventory of the Malgasowitadeniya Riverine Mangrove Ecosystem, Sri Lanka

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Mangrove ecosystems function as ecotones that sustain diverse and specialized faunal communities, providing essential ecosystem services and vital habitats shaped by dynamic environmental gradients. The Malgasowitadeniya Riverine Mangrove Forest represents a critical but understudied riverine mangrove habitat requiring baseline documentation. An eight-month faunal survey was conducted from June 2025 to January 2026 using three 500m × 10m belt transects extending from the river edge to the landward zone. Visual encounter surveys were employed to document birds, mammals, reptiles, amphibians, and invertebrates, complemented by opportunistic observations and photographic records. Ichthyofauna were surveyed using drag net sampling in adjacent irrigation canals connected to the mangrove ecosystem. A total of 186 faunal species from nine taxonomic classes were documented, dominated by Insecta (59 species) and Aves (53 species). Aquatic and semi-aquatic taxa were also well represented, including Actinopterygii (29 species), Malacostraca (11 species), including 9 crab species, and Gastropoda (8 species), which serve as key ecological indicator groups. 11 endemic species were identified, and 15 nationally threatened taxa, comprising two critically endangered, seven endangered, and six vulnerable species. The presence of the endangered Fishing cat and vulnerable Eurasian otter further emphasized the high conservation value. Further classification highlighted avifauna and fish as the most diverse vertebrate groups, while vital ecological indicator groups such as butterflies (22 species) and odonates (18 species) formed a major component of the invertebrate diversity. These findings suggest that the Malgasowitadeniya riverine mangrove forest supports a rich and ecologically significant assemblage across multiple taxonomic groups. Its diverse aquatic-terrestrial interface underscores its importance as a conservation priority. The findings provide essential baseline data for future ecological monitoring, conservation planning, and habitat management initiatives.

Keywords: *Riverine mangroves, Faunal inventory, Ecological gradient, Endemic species, Conservation status*