IPRC/24/138 Science, Technology, Mathematics & Medicine

A preliminary study on avifaunal diversity of Manalkaadu sand dunes Jaffna, Sri Lanka

E.A.K.K. Amarasekara[1,2*], H.A.C.C. Perera[1], M.D.M.D.W.M.M.K. Yatawara[1], and H.B. Jayasiri [2]

[1]Department of Zoology and Environmental Management, Faculty of Science, University of Kelaniya, Kelaniya, GQ 11600, Sri Lanka
[2]Department of Coastal and Marine Resources Management, Faculty of Engineering and Management, Ocean University of Sri Lanka, Colombo 15, Sri Lanka

Coastal sand dunes are generally formed near the beaches. Dune habitats serve as an ecological niche between terrestrial and marine lands and form important nature conservation sites. The Jaffna Peninsula is a key entry and exit point for avian species in Sri Lanka, with a considerable number of research documenting its bird diversity in the lagoon areas. While the coastal lagoons of Jaffna are well-studied, the avifauna inhabiting the coastal sand dunes still need to be explored. This study aims to determine the diversity of dune-dwelling and associated avifauna in the Manalkaadu sand dune area, located within the Maruthankerny Divisional Secretariat division, spreading approximately 46 km from Katkovalam to Aliyawalai within the Palk Bay coastal avifaunal zone of Sri Lanka. Data were collected from August 2022 to May 2024 across nine permanent sampling stations within the dune area and along existing roads using the point count method. Each station was visited four days per month for data collection, and bird status was evaluated according to the National Red List of Sri Lanka. Diurnal and nocturnal observations were conducted using the unaided eye and binoculars. A total of 81 bird species, representing 36 families and 14 orders, were recorded. This constitutes 15.5% of the bird species documented in Sri Lanka (522 species). The order Charadriiformes was represented by seven families and 22 species, while the order Passeriformes included 13 families and 19 species. Notably, the family *Scolopacidae* was represented by eight species, and the family Ardeidae by seven species. Additionally, 18 families were each represented by a single species. Zone restricted species of *Francolinus pondicerianus* and *Dicrurus macrocercus* were also recorded from the sand dunes. These findings highlight the significance of sand dunes in supporting bird diversity. Understanding the avian diversity within sand dune systems is essential for biodiversity conservation, habitat management, and mitigating the impacts of environmental threats.

Keywords: Coastal avifauna, Jaffna, Palk Bay Coastal avifaunal zone, Sand dunes

*Corresponding author: kasunthia@ocu.ac.lk
ORCiD ID: https://orcid.org/0009-0008-9165-358X