PROCEEDINGS

13th RUHUNA INTERNATIONAL SCIENCE & TECHNOLOGY CONFERENCE

January 21, 2026

Bridging Frontiers in Science and Innovation
Towards Sustainable Solutions!

Abstracts and Plenary Lectures

Faculty of Science
University of Ruhuna

RISTCON 2026

RISTCON 2026

Proceedings of
13th Ruhuna International Science and Technology Conference

January 21, 2026

ISSN: 1391-8796

Faculty of Science
University of Ruhuna
Matara 81000, Sri Lanka

ISSN: 1391-8796
Proceedings of 13th Ruhuna International Science & Technology Conference
University of Ruhuna, Matara, Sri Lanka
January 21, 2026

Assessment of Tetrapod Diversity in Kowtharimunai Mangrove System, Northern Sri Lanka

K. Arjunan*, T. Keerthanaram

Department of Bio-science, Faculty of Applied Science, University of Vavuniya, Sri Lanka

Mangrove ecosystems are of greater ecological significance as they provide essential ecological services, including shoreline stabilization, carbon sequestration, nutrient cycling, habitat for diverse aquatic and terrestrial species, and socio-economic benefits. Sri Lanka has an extensive mangrove cover of approximately *15,670* hectares. In recent times, various anthropogenic stresses, including the expansion of aquaculture and urban agriculture, habitat fragmentation, and degradation, have posed significant challenges to the sustainability and dynamic balance of mangrove systems. Mangrove systems in Northern Sri Lanka are not comprehensively studied. This study aims to assess the faunal diversity of the Kowtharimunai Mangrove System during the dry period of the year (May-September). Avian species diversity and abundance were quantified using the variable-radius point count method, and rapid assessment survey methods were deployed for other fauna. Under results, systematic survey recorded a total of 24 avifaunal species encompassing 21 families, alongside 3 mammalian and 6 reptilian species. Beyond avifauna, the rapid assessment survey recorded a suite of mammals and reptiles characteristic of Sri Lankan dry zone coastal forests, including the Indian Grey Mongoose *(Urva edwardsii)*, Asian Palm Civet *(Paradoxurus hermaphroditus)*, and several reptiles including Oriental Rat snake *(Ptyas mucosa)*, Indian Cobra *(Naja naja)*, and Bengal Monitor Lizard *(Varanus bengalensis)*. This study highlights the ecological significance of the Kowtharimunai mangrove system and emphasizes the need for focused management and conservation to maintain its environmental, socio-economic and functional integrity. Moreover, this study revealed the possibilities of establishing the ecotourism ventures in the Kowtharimunai area as a measure for ensuring conservation and uplifting the socio-economic status of nearby communities.

Keywords: *conservation; ecological and economical; mangroves; tetrapod diversity*

Acknowledgement: This Research work is funded by the University of Vavuniya - University Research Committee Research Grant - UOV/2024/UREC/RG/02

**Corresponding author*: ksarjunan@vau.ac.lk