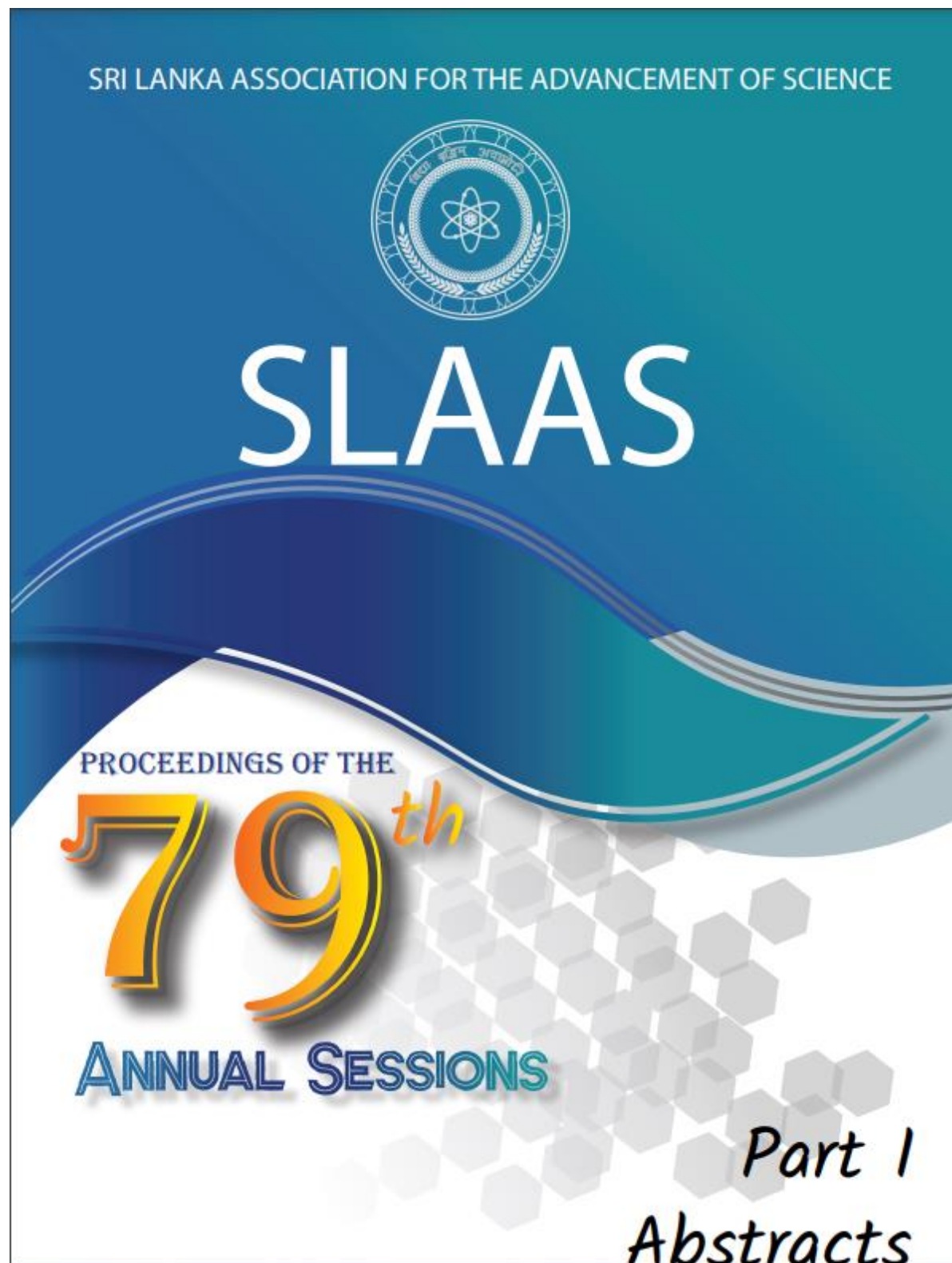


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Part I: Abstracts



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**Herpetofaunal diversity and endemism in a fragmented forest patch:
A study in the Dombagaskanda Forest Reserve**

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Fragmented forest patches provide refuge for distressed animal forms including amphibians and reptiles (herpetofauna) but an array of adverse anthropogenic impacts often threatens them. Surrounded by human settlements, the Dombagaskanda Forest Reserve (DFR) is one such small, threatened, fragmented forest patch (area 192 ha) in the wet zone of the country. In this research, we studied the variation of the herpetofaunal diversity along a seasonal and spatial scale in the DFR and evaluated their endemism and conservation status against the National Red List 2012 of Sri Lanka. The research design included surveying herpetofauna within (*viz.* forest zone and monastery zone) and around the DFR (*viz.* outer buffer zone) during the wet season (November to December 2022) and dry season (January to March 2023) using a quadrat sampling strategy. The herpetofauna diversity in these three zones was calculated using the species richness (SR), Shannon-Weaver index (H'), and Pielou's evenness index (J'). The canopy cover, air and soil temperature, humidity, and tree diameter in the quadrat sampling areas were also measured. A total of 125 individuals belonging to 14 reptilian and 11 amphibian species were identified. They showed a distinct spatial variation where their total abundance and diversity within the monastery zone were greater ($N=40$, $SR=14$, $H'=2.507$, $J'=0.9501$) than in the forest zone ($N=26$, $SR=13$, $H'=2.418$, $J'=0.9427$) and the peripheral buffer zone ($N=21$, $SR=9$, $H'=1.934$, $J'=0.8801$). They also showed a seasonal variation where their total abundance and diversity were higher during the dry season than in the wet season. Five (05) reptile and 08 amphibian species were endemic to Sri Lanka, representing 42% reptilian and 73% amphibian endemism. The endemism percentage (%) of herpetofauna within the DFR is 56.5%, which is 13 times higher than that in the outer buffer zone (4.6%). Of the 05 endemic reptile species, 02 are endangered, whereas of the 08 endemic amphibian species, 04 are endangered. Despite its small size, results suggest that the DFR is a rich biodiversity repository with a high herpetofaunal endemism, of which most are endangered. Results also insist on the grave need to protect and conserve small, fragmented forest patches, similar to DFR, from further human threats.

Keywords: Conservation, Dombagaskanda, endemism, fragmented forest, herpetofauna

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