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**Lichen family Graphidaceae: How much true biodiversity exists in Sri Lanka?**

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In the past two decades biological sciences have shifted significantly from organismic research towards molecular and applied approaches. Very limited research is carried out on the taxonomy of lower plant groups in Sri Lanka. Lichens are one of the groups where taxonomic research has immense importance. Though lichens have long been believed to be most abundant in cool-temperature areas, their species richness clearly increases towards tropics. Crustose epiphytic microlichens have their highest diversity in the tropics. Family Graphidaceae is a chiefly tropical group of crustose lichens comprising more than 1200 species. The present paper discusses the existing biodiversity of lichen family Graphidaceae in the Knuckles mountain range. The sampling sites represented five forest types and nine different disturbed vegetation types in six elevation classes. Lichen species, their frequency and cover values were recorded together with environmental parameters in 100 of 100 m<sup>2</sup> plots. Lichen species compositions of different elevations were compared with non-metric Multi-Response Permutation Procedure (MRPP). The beta diversity was very high (Whittaker's beta diversity= 48.1). The lichen composition of six elevation classes differed more than expected by chance except one pairwise contrast having  $p < 0.05$ . For all pairwise combinations, MRPP yielded A-statistics ranging 0.014 to 0.09. In the pairwise comparison, group 4 (altitude = 1300-1399 m) vs. 3 (altitude = 1200- 299 m) had  $P=0.10$  and  $A=0.007$ , indicating that lichen composition was more homogenous in different elevation classes. The sampling units in group 4 represent forest types such as disturbed montane and undisturbed montane. The forest type of group 3 was undisturbed sub-montane. Distribution of lichen species in study area indicated a considerable spatial variation among different elevations. MRPP revealed statistically significant difference in lichen communities among elevation classes, but with weak group separation. There were 360 different lichen species belonging to 86 genera among the 571 specimens identified. Of a total of 360 lichen species, 126 represented the lichen family Graphidaceae in 17 different genera. These included eight species new to science and 71 new records for Sri Lanka. This study highlights that previously unknown and unreported lichen taxa continue to be found in Sri Lanka at a remarkable rate although this study was confined only to Knuckles mountain range. This paper documents the extraordinary diversity of Sri Lankan lichens, especially of Graphidaceae, suggesting that many more species await discovery and could provide substantial additions to the Sri Lankan lichen checklist.