Morphometric Analysis of Genus *Elaeocarpus* L. (Elaeocarpaceae) in Sri Lanka

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The family Elaeocarpaceae consists of about 12 genera where Sri Lankan flora is represented by only one genus, *Elaeocarpus*. The island harbors nine species, *E. amoenus, E. coriaceus, E. glandulifer, E. hedyosmus, E. montanus, E. serratus, E. subvillosus, E. taprobanicus,* and *E. zeylanicus*, of which except *E. serratus* all are endemic to the country. Recent studies based on herbarium data suggest taxonomic ambiguities and the possibility of the occurrence of new *Elaeocarpus* species in Sri Lanka. The present study evaluates the morphological diversity of field collected *Elaeocarpus* spp. using morphometric analysis. Specimens of *Elaeocarpus* species were collected from the field based on the previous locality details included in Revised Flora of Ceylon and herbaria deposited at the National Herbarium, Sri Lanka. Morphological characters were studied in detail in the laboratory and coded into a data matrix. A Hierarchical Cluster Analysis (CA) and a Principal Coordinate Analysis (PCoA) was carried out using the statistical software PAST (Version 3.2). Hundred and ten morphological characters were coded which included 36 vegetative characters (27 qualitative and 9 quantitative) and 74 reproductive characters (44 qualitative and 30 quantitative). Both CA and PCoA resolved 11 major discrete phenetic groups within the Sri Lankan members of the genus *Elaeocarpus*. Nine of these clusters corresponded well with the previously reported species while two remaining clusters indicate the possibility of new species. Further, the main clusters corresponding to *E. hedyosmus* and *E. subvillosus* showed divisions indicating intra-species diversity.

Keywords: *Elaeocarpus*, Endemic plants, Cluster analysis, Morphology, Phenetics

Financial assistance from National Science Foundation, Sri Lanka (RG/2018/EB/01) is gratefully acknowledged.