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Floristic Survey of Meethirigala Forest Reserve in Gampaha District**Kalubowila J.D.^{1*}, Singhakumara B.M.P.¹, Rajathewa R.A.M.P.M.²**

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Abstract

Meethirigala Forest Reserve is situated in Dompe DS division. This forest reserve consists of approximately 384 ha. It is the largest forest reserve in Gampaha District managed by the Forest Department. It has different topographic positions such as ridges, midslopes and valley areas close to the Kelani River. Within this reserve there is a Buddhist monastery that has been there since 1968. The present study was conducted to enumerate the plant species found in all topographic positions of the reserve. Field investigations carried out during the period of June to December, 2017. Plants equal or greater than 5 cm dbh (diameter at breast height) were sampled in 18 plots (5×100 m). Seedlings greater than 1 m tall were sampled in 18 plots (5×5 m). Diversity indices and important value index were calculated to compare the dominance of particular species in different topographic positions. A total of 360 individuals of woody perennials belonging to 73 species were also recorded in the ridge. 368 individuals of woody perennials belonging to 100 species were recorded in them midslope. In the valley 272 individuals of woody perennials belonging to 69 species were recorded. 132, 123 and 100 individuals of seedlings were enumerated in ridge, midslope and valley respectively. In the ridge 58 generas, 28 families and, in the midslope 83 generas, 35 families and, in the valley 68 generas, 29 families were observed. 28 species were found in all three different altitudes of the reserve. Forest species in study sites gave a total of 138 plant species belonging to 113 tree species, 11 climber species, 14 shrub species, 109 generas and 46 families. Of this total 138 species, 34 (25%) species are endemic to Sri Lanka. The highest endemism was recorded in the ridge (41.6%). Stratification of the ridge showed a very similar pattern to a Dipterocarp forest type. Highest diversity was recorded in midslope (1.7290) and lowest recorded in ridge (1.5626) of the forest. From identified species 18 threatened species were observed (3 Endangered and 15 vulnerable species). According to the IVI values most dominant family in the ridge was Dipterocarpaceae and species was *Dipterocarpus zeylanicus*. Most dominant family in midslope was Apocynaceae and species was *Alstonia scolaris*. The dominant family in valley was Euphorbiaceae and species was *Adenanthera pavonina*. This study found that natural population of *Zeuxine regia* which is an endemic, endangered species belongs to family Orchidaceae first time in Gampaha district. *Alstonia macrophylla* shows invasive characteristics inside the forest.

Keywords: Forest reserve, Ridge, Midslope, Valley