

Conservation Importance of the Vegetation of Galamuduna Area in the Knuckles Region

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Conservation of natural forests is a national responsibility towards future generations. The habitat diversity in Galamuduna area was determined by the use of aerial photographs, a ground survey and sampling five 100 m² plots. Since semi evergreen forests are the natural vegetation type in the area, further sampling was done in this habitat, in order to study the structure, physiognomy and floristic composition using ten, 100 m² plots.

Eight types of habitats were identified at Galamuduna area. The highest percentage of endemic species was recorded in the riverine forest (20.6%) followed by semi-evergreen forest (16.7%), which also had the highest percentage of threatened species (9.5%). These include *Diospyros ebenoides* Kosterm, *D. ebenum* Koenig, *Syzygium makul* Gaerth and *Aidia gadneri* (Thw.) Tirv. The tree species dominated the semi-evergreen and the riverine forests in the area, whereas shrub, climber and herb species dominated the early to mid successional vegetation type. Fern species were found mainly in the riverine habitat.

The vertical distribution of the semi-evergreen forests at Galamuduna comprised a canopy layer (15-22 m), sub-canopy layer (5-12 m) and a shrub layer (1-3 m). Most stems belonged to diameter classes of 5-10, 11-15 and 16-20 cm. *Aglaia apiocarpa* (Thw.) Hiern had the highest mean dbh (45.8 cm). The canopy tree species had medium branching habit, tabular to spreading crowns and composed of dense leaf clumps distributed unevenly. The species with the highest frequency in the vegetation ≥ 5 cm dbh was *Ellipanthus unifolius* (Thw.) Thw. (90%) and that in the vegetation < 5 cm dbh was *D. ebenoides* (70%). The highest density was recorded for *Ellipanthus unifolius* Thw. (340 individuals ha⁻¹) and the highest family density was recorded by family Connaraceae (392 individuals ha⁻¹) for the vegetation with 5 cm \geq dbh. The highest density was recorded for *D. ebenoides* and *Streblus taxoides* (Heyne.) Kurz each with 4560 individuals ha⁻¹ and Moraceae (728 individuals ha⁻¹) recorded the highest family density for vegetation < 5 cm dbh. A total of 775 individuals belonging to 26 families, 51 genera and 55 species were enumerated. In Galamuduna forests 12.7% of plant species were endemic while 7% were threatened.

According to the results of this study, due to its high habitat diversity and presence of endemic and threatened species, Galamuduna (200-700 m) area should be conserved in a sustainable way for future generations by promoting ecotourism and education in the area.