

ECOLOGY AND DYNAMICS OF NATURAL GRASSLAND VEGETATION AT PITAWALA PATANA OF THE KNUCKLES REGION

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This study examines the ecology and dynamics of the grassland vegetation at Pitawala patana of the Knuckles region. In the dry season (May-August), thirty 1 m×2 m quadrates were laid down at randomly selected locations and monocot and dicot plant species which are shorter than 1m were recorded. Woody species were enumerated using the plotless sampling method. Sampling of monocot and dicot plant species was repeated during the wet season (September – January).

Detrended Correspondence Analysis (DCA) was used to examine the seasonal variation of the grassland vegetation. In the DCA ordination scattergram, almost all samples collected during the dry season were grouped together while those collected in the wet season formed a separate group. This reflects a seasonal variation of species abundance of the vegetation. Results of the Two Way Indicator Species Analysis (TWINSPAN) reveals that the species grow in the area can be of three types: species prefer the wet season, species prefer the dry season and species grow more or less equally in both wet and dry seasons. Abundance of species may change according to the prevailing climatic condition. Plant responses to this changing climate reflect as a fluctuation of populations.

The area contains many herbaceous endemic plants such as *Brachystelma lankana* (Asclepiadaceae), *Justicia royeniana* (Acanthaceae) and *Zornia walkeri* (Fabaceae). *Carissa carandus* (Apocynaceae), *Careya arborea* (Lecythidaceae), *Canthium dicoccum* (Rubiaceae) and *Scolopia pusilla* (Flacourtiaceae) were among the common shrub species scattered at Pitawala patana while *Eugenia rotundata* (Myrtaceae) is an endemic and threatened shrub species that grows in the area. These highlight that the conservation of Pitawala patana should be of prime importance.

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