D-15 Performance of five endemic Euphorbiaceae species across a micro-elevational gradient in the long term Forest Dynamics Plot at Sinharaja

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This paper presents preliminary results of the diameter and spatial distribution of 2 firewood species (*Chaetocarpus castanocarpus* and *C. coriaceus),* a species used for thatching (*Agrostistachys intramarginalis)* and 2 other species *(A. hookeri & C. ferrugineus),* in 15 ha of the long-term Forest Dynamics Monitoring Plot in Sinharaja MAB reserve. All but one of these endemic species are threatened.

16% of the 118,306 individuals recorded were members of Euphorbiaceae which was the density dominant family. Highest density was recorded for *A. intramarginalis* (697), followed in decreasing order by *A. hookeri* (283) and the 2 *Chaetocarpus* species (27 and 1). The understorey treelet species of *Agrostistachys* were predominantly distributed between 1 - 9 cm dbh showing a negative exponential pattern. In contrast, the sub canopy *Chaetocarpus* species were well represented in all size classes. *A. hookeri, C. castanocarpus* and *C. coriaceus* were better represented at lower elevations while that of *A. intramarginalis* had higher densities at the upper elevations. Somewhat mutually exclusive patterns of distribution were observed between the 2 *Agrostistachys* species and also between *A. hookeri* and the 2 *Chaetocarpus* species. Both *Agrostistachys* species showed a tightly clumped distribution while the 2 *Chaetocarpus* species showed more widespread and overlapping distribution.

Some of the causal factors for these distributional patterns within and between genera may *inter alia* be due to their method of seed dispersal, propagation and niche partitioning.

These results provide some preliminary information on demography of these economically and ecologically important species useful for their sustainable management.