

PSF.SCI.1

CHANGES IN PLANT DIVERSITY AND COMPOSITION ACROSS FOREST EDGES BORDERED BY GRASSLANDS INVADDED BY *Austroeupeatorium inulifolium* IN THE KNUCKLES CONSERVATION AREA, SRI LANKA

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The Knuckles Conservation Area (KCA) is invaded by *Austroeupeatorium inulifolium* in recent years. Grasslands and forest edges are the most susceptible to its invasion. Studies elsewhere report both detrimental impacts as well as positive feedback on the composition and diversity of the invaded vegetation. This study was aimed at investigating the effect of *A. inulifolium* invasion on the structure and diversity of the forest edge plant communities of highly degraded grasslands bordering montane forest remnants.

The abundance and species richness of the vegetation in two forest-grassland edge (FGE) communities were sampled using transects. Of the two selected sites, one grassland was less invaded (FGE-LIG) while the other was highly invaded (FGE-HIG), by *A. inulifolium*.

In the FGE-HIG, the abundance of *A. inulifolium* increased towards the open grassland from the forest interior. This trend was not evident in the FGE-LIG community. The total density of individuals of all life forms enumerated in 540 m² in the FGE-HIG was 45% more (6,361) compared to the FGE-LIG community (3,479). From the total individuals, 6.7% and 5.2% of tree saplings, 12.3% and 27.7% of shrub, 57.3% and 48.2% of herbaceous and 23.8% and 18.8% of graminoids were observed in FGE-HIG and FGE-LIG, respectively. Of the 430 and 182 individuals of tree saplings encountered at FGE-HIG and FGE-LIG respectively, the majority were found on transects laid in the forest interior (88 and 76% respectively), while edge transects had 9 and 20% and grassland transects had 3 and 4%, respectively. Interestingly, the abundance and diversity of the tree saplings were significantly higher in the forest interior bordered by HIG compared to that of LIG. This increase was also evident towards the open grassland. Shrubs showed a significantly higher richness at 5 m distance towards the forest interior demarcated by HIG than that of LIG. Forest remnants surrounded by HIG had higher abundance and richness of all life forms at the FGE and towards the forest interior than that of forests adjoining less-invaded grasslands.

The results suggest that *A. inulifolium* invasion has increased the establishment of forest tree saplings in these invasive grasslands. The observations reflect a positive impact of *A. inulifolium* in the forest regeneration process. This is probably due to the favoured micro-climatic parameters created by the shielding effect of *A. inulifolium* invasion. Long-term studies are needed to explore this interesting development and its underlying mechanisms.