IMPACT OF SAMBAR DEER (*Cervus unicolor unicolor*) ON THE VEGETATION AT THE HORTON PLAINS NATIONAL PARK

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A survey was carried out at the Horton Plains National Park to investigate the influence of sambar deer on grassland and forest vegetation. The method adopted was, comparison of the dominant grassland communities and seedlings in the forested areas with and without the effect of deer. Three enclosures (20 m x 5 m) were erected in the grassland and four enclosures (20 m x 15 m) were erected in the forest to serve as controls (no grazing). Similar areas adjoining the plots were marked with pegs as test areas (with grazing). Field surveys were carried out during the years 1997 and 1998. Incidence and extent of bark damage by sambar deer was also examined using a scoring method on six transects each measuring 250 m. GSN (Grazing Susceptibility Number) was used as an indicator of the the phytosociological behaviour of sambar in the grassland . Summed Dominance Ratio (SDR)) was used to calculate the GSN. During the months of January, March, July and October 1997, GSN values for dominant species in the grassland viz Pennicetum and Chrysopogon were 18.4, 20, 23.75, -3.06 and 18.6, 8.1, 17.23, 19.0 respectively. The minus GSN value of 3.06 indicates that during October Pennicetum grass was not damaged by deer which coincided with the flowering period of that species. Grazing presusure values obtained during the periods July-Sep 97, Sep-Nov 97 , Nov-Jan 98, Jan-Mar 98 for Pennicetum and Chrysopogon were 1.7, 5.6, -17.6, 5.8 and 1, 1.1, -0.5, 0.9 respectively. Here the minus values indicates heavy grazing. During the periods of less rain and also during peak lactation periods of sambar, the grazing pressure is high (July-September and November-January) compared to positive values of grazing pressure which coincides well with the comparatively high rainfall periods.Studies of the forest vegetation revealed that after a period of two years (1997-1999) 88% of seedlings survived (N=1499) in the enclosure but only 73% of the seedlings survived (N=1488) in the open area. Bark damage is distinct on plants *like Cinnamomum ovalifolium, Neolitsea fucata, Calophyllum walkeri, Eurya japonica, Eleocarpus subvillosus, Syzigium revolutum* and *Hedyotis lawsoniae* all of which have high IVI (Importance Value Indices). Trees with average gbh 28 cm and average height 7 m were more prone to damage by deer. Only 5% of a total of 921 trees were dead due to bark damage.