

PLANT SPECIES DIVERSITY AT GRIZZLED GIANT SQUIRREL WILD LIFE SANCTUARY IN THE WESTERN GHATS OF TAMIL NADU, INDIA

S . SURESH ¹, N. SIVA ² AND K. MUTHUCHELIAN ³

¹Department of Plant Sciences, Center for Excellence in Genomic Sciences, School of Biological Sciences, Madurai Kamaraj University, Madurai, Tamil Nadu, India. 625-021. (e-mail: sureshmphil@gmail.com)

²Center for Biodiversity and Forest Studies, School of Energy Environment and Natural Resources, Madurai Kamaraj University, Madurai, Tamil Nadu, India. 625 021.

³Author for correspondence (e-mail: drcheliam1960@yahoo.co.in Fax:(0452)- 2459139)

ABSTRACT: Vegetation structure and species composition of dry-deciduous ecosystems were studied through twenty quadrats in grizzled giant squirrel wildlife sanctuary of Western Ghats, Tamil Nadu, India. Species diversity, dominance, species richness and evenness indices of plant communities and also population structure of woody plants were enumerated. In the present study, 67 species from disturbed area and 72 species from undisturbed area were recorded. Species diversity, dominance and evenness indices were greater in undisturbed area than the disturbed area. The stem density and species richness (number of species) decreased with increased size classes of trees, which indicated good regeneration status. *Acacia sundra* (IVI 31.8) and *Acacia leucophloea* (IVI 30.5) were dominant and co-dominant tree species in disturbed area whereas in undisturbed area *Adansonia digitata* (IVI 10.01) and *Hardwickia binnata* (IVI 8.09) shared the dominance. Past damage (Anthropogenic perturbation) may be one of the reasons for single species dominance in disturbed area. The variations in plant diversity and population structure were largely due to perturbation and other abiotic factors.

Key words: Conservation, Dry-deciduous forest, Giant squirrel, Plant diversity, Population structure, Species composition, Western ghats.