

Utkarsh, G., Joshi, N. V. & Gadgil, M. (1998): On the patterns of tree diversity in the Western Ghats of India. Current Science 75 (6): 594-603.

Reference: Utkarsh, G., Joshi, N. V. & Gadgil, M. (1998): On the patterns of tree diversity in the Western Ghats of India. Current Science 75 (6): 594-603.

Short reference: Utkarsh et al. (1998)

First author: Utkarsh, Ghatge

Year: 1998

Abstract

On the patterns of tree diversity in the Western Ghats of India

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We have explored in the Western Ghats the patterns of tree diversity in relation to vegetation types which have been primarily defined on the basis of structure and phenology. A total of 20,785 individuals, belonging to 398 species, were enumerated along 108 belt transects covering a total area of 75 ha, from localities that spanned the entire length of the hill chain of the Western Ghats (8°N to 21°N latitude and 73°E to 75°E longitude) in peninsular India. These transects were assigned to 7 vegetation types and were shown to be distinctive in species composition. These types include closed canopy evergreen, semi-closed canopy evergreen, stunted evergreen, semievergreen, moist deciduous, dry deciduous forests, and scrub/savanna vegetation. Dry deciduous forests with low levels of density and diversity harbour a rather exclusive set of species. The most diverse tree assemblages belong to the semievergreen forest type, which harbours widespread species extensively shared with other vegetation types. The semiclosed evergreen forests resemble semievergreen forests in many ways. In contrast, the stunted evergreen forests and scrub/savanna exhibit low values of tree density and diversity; their component species have very weak tendencies to co-occur with each other. The evergreen and moist deciduous forests exhibit moderate levels of distinctiveness of species composition. The evergreen forests however resemble dry deciduous forests in harbouring species with a strong tendency to co-occur and many species with restricted distributions. More moist vegetation types shelter a higher proportion of evergreen and endemic trees and a lower proportion of medicinally-useful species. These results have significant implications for devising a sampling strategy.

biodiversity: higher plants
forest structure: stand
forest structure: herb layer
phytosociology

Notes

Címszavazva - VA

Journal: Current Science

Location: ER Archívum (1998/P-001)

Type: scientific paper

Katalógusba vette: Gulyás Györgyi

Katalógusbavétel időpontja: Wed, 09/30/2009 - 12:00