A classification of a tropical Shorea robusta forest stand in southern Nepal

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with 4 photos, 4 figures and 3 tables

Abstract. Sixty relevé samples were taken in order to classify a tropical Sal-forest in southern Nepal (Chitwan District). Four unranked abstract communities could be distinguished by continental table work supported by TWINSpan analysis. Richness of communities varied between 38 and 120 vascular plant species per 2000 m² plot. Evenness characterised the different communities well and reached mean values of 0.39–0.51 (Brillouin Index). Phytogeographical analysis revealed the strong Indo-Malayan element in the Indian flora. Life form spectra showed a strong dominance of deciduous phanerophytes.

Keywords: Shorea robusta forest, classification, phytogeography, diversity.

Introduction

A major part of the northern Indian subcontinent is covered by seasonal broad-leaved forests as they are typical for the prevailing monsoon climate. The single most important species is the Dipterocarpaceae Shorea robusta, which forms extended stands with few associates. Although S. robusta ("Sal") is of high economic value, floristic composition and ecology of this forest type has not received too much scientific attention. This statement particularly refers to Sal-forests of tropical Nepal, from where very few data about tropical vegetation have been published so far (Dobremez 1972, Rajbahandari 1994). Recent surveys of Sal-forest types had been published by Stainton (1972) and Dobremez (1976); the older literature of British India was compiled by Schweinfurth (1957). Almost no floristically complete inventories exist. Notable exceptions are vegetation surveys of some national parks in the area (Dinerstein 1979, Lehmkühl 1994).

The apparent lack of knowledge is contradicted by the high importance of Sal-forests for both agriculture and forestry in Nepal. The rural population depends on fuel wood and leaf fodder for subsistence; timber is a major export item. The present study was conducted in 1994/1995 in order to give a data base for proper management of these forests. Data on floristic composition, population structure of Shorea robusta and the forest's environment were collected. This paper offers basic data on vegetation, whereas an analysis of man's influence on forest degradation and management recommendations were published elsewhere (Wesche 1995).

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