

PHYTOSOCIOLOGICAL STRUCTURE OF SOME FOREST COMMUNITIES IN CENTRAL INDIA : TWO LEVEL ORDINATION

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ABSTRACT : Six selected stands from tropical dry mixed deciduous forest communities were ordinated according to Bray and Curtis (1957) on two ordination axes. Ordination of six most common forest tree species has also been done.

Results reveal differences in spatial distribution of stands. These differences have been attributed to the underlying rock formations and soil. Further, biotic factors have been observed to play an important role in the species composition. Species ordination indicated the dominance of more than one species.

Key words : Tropical dry deciduous forest, ordination.

INTRODUCTION

Tropical climate supports high species diversity in forests which makes their structure more complex than the other forest communities. Forests in the Central Indian region are mostly of tropical deciduous type and are subjected to alternating moist and dry periods. Earlier, attempts have been made to classify these communities (Champion and Seth, 1968) but it appears that the discontinuity and commonness of the species do not allow the classification of vegetation as discrete units. Therefore, an attempt has been made to ordinate these forest communities at two levels of ordination.

Present paper deals with the ordination of six selected forest stands and six most common species distributed on two different types of soil formations viz., basalt and vindhyani sandstone. Spatial distribution of stands and species have been evaluated.

STUDY AREA

The study was carried out in forests around Sagar which lies a few kilometers north of the tropic of cancer at 23° 50' N latitude and 78° 40' E longitude on an average elevation of 517 m above mean sea level. Six forest stands were selected within a radius of 60 km. Since two geological formations i. e. basalt and vindhyani sandstone, are conspicuous in this area, the sites were selected in such a way so that the two formations could be represented.

On the basis of rainfall and temperature, the climate of the study area can be classified as monsoonic. Three well marked seasons viz., rainy, winter and summer, can be recognized. The average rainfall is 1234 mm. Mean monthly maximum temperature is 39.4°C during May and mean monthly minimum temperature is 12.6°C in December.