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Abstract

Spatial Pattern Analysis in Plant Ecology

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The predictability of the physical arrangement of plants, at whatever scale it is viewed, is referred to as their spatial pattern. Spatial pattern is a crucial aspect of vegetation which has important implications not only for the plants themselves, but also for other organisms which interact with plants, such as herbivores and pollinators, or those animals for which plants provide a habitat. This book describes and evaluates methods for detecting and quantifying a variety of characteristics of spatial pattern. As well as discussing the concepts on which these techniques are based, examples from real field studies and worked examples are included, which, together with numerous line figures, help guide the reader through the text. The result is a book that will be of value to graduate students and research workers in the fields of vegetation science, conservation biology and applied ecology.

[methodology: analysis, statistics](#)

[phytosociology](#)

Notes

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Tartalom:

Preface

## 1. Concepts of spatial pattern

Introduction

Pattern and process

Causes of spatial pattern and its development

Concepts of spatial pattern

Concluding remarks

## 2. Sampling

Introduction

Sampling for pattern in a fixed frame of reference

Sampling for pattern relative to other plants

Location of sampling

Concluding remarks

## 3. Basic methods for one dimension and one species

Introduction

Data

Blocked quadrat variance

Local quadrat variances

Paired quadrat variances

New local variance

Combined analysis

Semivariogram and fractal dimension

Spectral analysis

Other methods

Concluding remarks

## 4. Spatial pattern of two species

Introduction

At most one species per point

Several species per point

Blocked quadrat covariance (BQC)

Paired quadrat covariance (PQC) and conditional probability

Two- and three-term local quadrat covariance (TTLQC and 3TLQC)

Comparison of methods

Extensions of covariance analysis

Other approaches

Relative pattern: species association

Concluding remarks

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