

**Dale, M. R. T. (1999): Spatial Pattern Analysis in Plant Ecology. In: Birks, H. J. B. & Wiens, J. A. (eds.): Cambridge Studies in Ecology, Cambridge University Press, Cambridge**

Teljes hivatkozás: Dale, M. R. T. (1999): Spatial Pattern Analysis in Plant Ecology.  
In: Birks, H. J. B. & Wiens, J. A. (eds.): Cambridge Studies in Ecology, Cambridge University Press, Cambridge

Rövid hivatkozás: Dale (1999)

Első szerző: Dale, Mark R. T.

Év: 1999

Összefoglalás

Spatial Pattern Analysis in Plant Ecology

Mark R. T. Dale Professor of Biological Sciences at the University of Alberta,  
Edmonton Canada

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.

[módszertan: elemzés, statisztika](#)

[társulástan, cönológia](#)

Megjegyzések

Spatial Pattern Analysis in Plant Ecology

Mark R. T. Dale Professor of Biological Sciences at the University of Alberta,  
Edmonton Canada

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

## 5. Multispecies pattern

Introduction  
Multiscale ordination  
Semivariogram and fractal dimension  
Methods based on correspondence analysis  
Euclidean distance  
Comments  
Spectral analysis  
Other field results  
Species associations  
Concluding remarks  
6. Two-dimensional analysis of spatial pattern

Introduction  
Blocked quadrat variance  
Spatial autocorrelation and paired quadrat variance  
Two-dimensional spectral analysis  
Two-dimensional local quadrat variances  
Four-term local quadrat variance  
Random paired quadrat frequency  
Variogram  
Covariation  
Paired quadrat covariance (PQC)  
Four-term local quadrat covariance  
Plant environment correlation  
Cross-variogram  
Landscape metrics  
Other methods  
Concluding remarks  
7. Point patterns

Introduction  
Univariate point patterns  
Anisotropy  
Bivariate point patterns  
Multispecies point pattern and quantitative attributes  
Concluding remarks

8. Pattern on an environmental gradient  
Introduction  
Continuous presence/absence data  
Quadrats: presence/absence data  
Density data

Concluding remarks  
9. Conclusions and future directions  
Summary of recommendations  
What next?  
Three dimensions  
Relation to spatial structure of physical factors  
Obvious extensions  
Temporal aspects of spatial pattern analysis  
Wavelets  
Questions and hypotheses  
Concluding remarks  
Bibliography  
Glossary of abbreviations  
List of plant species  
Index

Címszavazva - GE

Kiadó: Cambridge University Press, Cambridge

Folyóirat: Cambridge Studies in Ecology (sorozat)

Lelőhely: ER Archívum (1999/P-003)

Típus: oktatási mű, tankönyv, fejezet

Katalógusba vette: Gulyás Györgyi

Katalógusbavétel időpontja: h, 11/10/2008 - 12:00