

BOOK REVIEWS

SPATIAL DATA ANALYSIS BY EXAMPLE

VOL. 1: POINT PATTERN AND QUANTITATIVE DATA

by Graham Upton and Bernard Fingleton

John Wiley & Sons Ltd, England. 1985

410 pages. ISBN 0-471-90542-9. £32.95

Spatial data analysis has been used in forestry traditionally to estimate tree stocking and animal density, as well as for ecological surveys. More recently, individual-tree modellers and physiological modellers have had a need to investigate spatial pattern.

In the past this has involved a wander through a variety of sources from a variety of disciplines. No more. Upton and Fingleton have combined a considerable amount of material into a well-balanced text which should provide answers to most questions. If the answer is not in Volume 1, or in the 21 pages of references, then it can be anticipated in the forthcoming Volume 2.

The book begins with an analysis of the identifications of pattern, which utilises examples from many disciplines. Chapter 2 considers the estimation of spatial intensity, and contains a brief mention of the angle-count method. Chapter 3 examines spatial auto-correlation, with Chapter 4 concentrating on inter-type relations. Chapter 5 is on regression and auto-regression, and contains standard statistical material, as well as examples of special cases applicable to spatial data analysis.

After nearly 20 years of reading forestry text books I was pleased to find a book which contained a mixture of familiar and new material, illustrated with a very wide range of examples. There are examples of the distribution of Romano-British walled towns, the positions of sea anemones on rocks, junior schools in Southampton, and even one on spatial gradations in drongo characteristics. There are also plenty of plant examples for the foresters.

I enjoyed the book, and I will be interested to see Volume 2.

R. B. Tennent

THE RELASCOPE IDEA. RELATIVE MEASUREMENTS IN FORESTRY

by Walter Bitterlich

Commonwealth Agricultural Bureaux, Farnham Royal, United Kingdom. 1984.

256 pages. ISBN 0-85198-539-4. £27.50

This book is intended as a text for forestry students and as a standard reference book for mensuration foresters. The first three chapters are introductory, covering the development of angle-count sampling in 8 pages. The book then becomes specific,

with coverage of basic applications, explanations, refinements, instrumentation, continuous forest inventory, applications in other countries, and finally applications to computers.

The book is an ideal text book, as the coverage of how to carry out the various procedures is extremely detailed. As a reference book for the sometime user it would be as valuable. It is a little too detailed for the forester who would be constantly using it, as the detail then becomes somewhat tedious and makes it harder to find the material of interest. However, the 125 Figures help to hold attention, and some detail has been banished to the 14 Appendices, one of which is a thumb calibration chart, which also works for Imperial thumbs.

Bitterlich has covered the field, and presents information from the work of Grosenbaugh, Kitamura, Minowa, and a host of others. The use of the Spiegelrelaskop is explained in fine detail, and examples are given of the wide range of measurements which can be taken.

The text contains a bibliography with over 250 references, including 63 to Bitterlich's papers. There is a comprehensive glossary and index. The book would be a worthwhile addition to any mensuration library.

R. B. Tennent

FRANKIA SYMBIOSES

Edited by A. D. L. Akkermans, D. Baker, K. Huss-Danell, and J. D. Tjepkema

Developments in Plant and Soil Sciences No. 12

Martinus Nijhoff/Dr W. Junk, The Netherlands. 1984.

258 pages. ISBN 90-247-2967-X. £33.00

I wonder how many scientists working in the broad field of biological nitrogen fixation will reach for this monograph with a sense of eager anticipation, only to find that it is an exact reprint of "Plant and Soil" 78(1-2) which has been on New Zealand library shelves for a whole year? Presentation is now in hardback, with the same preface, the same dedication, and no explanation about the need for reprinting in a more expensive format. The papers, as is usual in scientific journal format, pursue their individual themes with little cross-referencing. Surely the publishers would have been justified in encouraging some sort of overview as an additional contribution to the new publication? At the very least, a new and expanded preface and a subject/species index would have been welcome. As it is, we have only the original set of 22 rather specialised contributions (one in French) which were presented at the Workshop on *Frankia* Symbioses, held in Noordwijkerhout and Wageningen, The Netherlands, in September 1983.

Most of the work on actinorhizas (non-leguminous nitrogen-fixing symbioses) has been concentrated on the *Alnus-Frankia* association, but it is heartening to see papers which document work with other higher plants, some of which are important understorey or tree species in temperate forests. They include the genera *Comptonia*, *Ceanothus*, *Dryas*, *Rubus*, *Datisca*, *Hippophaë*, *Myrica*, *Eleagnus*, *Colletia*, and *Casuarina*.