Handbook of Spatial Point-Pattern Analysis in Ecology

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Additions and errata (version 21th of May 2014)

Corrections are in red fond

Page XXV, line 6

It must be Pablo Cipriotti

Page 76, line 3 from bottom

For example, if we simultaneously test three scales in our analysis (with $\alpha = 0.05$) the risk that the null model is true, even if the three values of $g(r)$ are outside the simulation envelopes, is in the "worst" case when all three assessments are independent $1 - (1 - 0.05)^3 = 0.143 > 0.05$. The true error rate will therefore be located somewhere between 0.05 and 0.143.

Page 146ff.

Section 3.1.2.1 *Different Strategies for Deriving Edge Correction Weights*

Both, "Stoyan edge correction" and "Ohser edge correction" were published by Ohser and Stoyan (1981). The Stoyan edge correction is also called "translation edge correction", and the "Ripley edge correction" is also called "Isotropic edge correction". An early summary of edge correction methods is given in Ripley 1988.

Ohser, J., and D. Stoyan. 1981. On the second-order and orientation analysis of planar stationary point processes. Biometrical J. 23, 523–533.

Ripley, B. D. 1988. Statistical Inference for Spatial Processes. Cambridge University Press.

Page 156

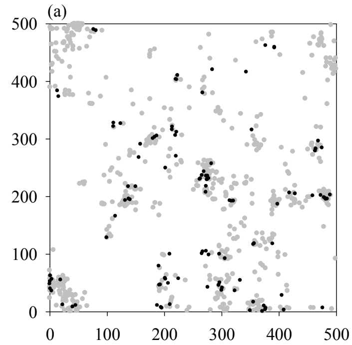
For homogeneous patterns, the product density $\rho(r)$ can be defined as the conditional probability $\rho(r)\, dx_1 dx_2$ that one point of a given point process occurs within a disk with area dx_2 located at x_2 given that another point is also located at distance r within a disk with area dx_1 located at x_1.

Page 207, line 6

(Goreaud and Pélissier 2003)

Page 209, Figure 3.26a

The axis of the ordinate must be multiplied with factor 2:



Page 222, line 9 and 10 from bottom
The normalization constant c_{t6} is given by the product $\sigma_1\sigma_2$ of the standard deviations of the two marks.

Page 228, lines 11 and12
However, in contrast to data type 8, the normalization constant is given by the product $\sigma_v\sigma_w$ of the standard deviations of marks of the two patterns.

Page 231, line 8
[$\beta_{\text{phy}}(r)/\beta^*_{\text{phy}}(r)$ must be $\beta_{\text{phy}}(r)/\beta^*_{\text{phy}}$]:
Thus, the difference between $\beta(r)/\beta^*$ and $\beta_{\text{phy}}(r)/\beta^*_{\text{phy}}$ is due to the phylogenetic spatial structure embedded in the pattern.

Page 233, line 15 from bottom
overall

Page 249, line 8 from the bottom
The index runs from $i = 1$ to n_m:
$$d_m = \sum_{i=1}^{n_m} g_m(x_i, r)$$

Page 250, line 23
Thus, the aggregation formula follows the recipe given in Equation 3.107. However, in the aggregation formula 3.108, the intensity (…)

Page 3.51, line 14
A realization of the fitted point process is shown in Figure 4.19b.

Page 257, line 6 from bottom
The experimental fires killed all plants and restarted the system through the germination processes.

Page 373, before equation 4.36
Note: The expectation of D_{12}^E under independence is in general not $D_{12}^E(r) = 1 - \exp(-\lambda_2 \pi r^2)$

The expectations of the two summary statistics yield D_{12}^E = 1 - exp($-\lambda_2$ πr^2) (CSR) and $K_{12}^{\text{E}}(r)$ = πr^2 (CSR and independence), where $\lambda_2 = n_2/A$ is the overall intensity of pattern 2 within the observation window and the “E” superscript means “expected by the null model for no spatial patterning.” The two axes of the scheme are therefore defined as

$$\hat{P}(r) = \hat{D}_{12}(r) - \hat{D}_{12}^{E}(r)$$
$$\hat{M}(r) = \ln(\hat{K}_{12}(r)) - \ln(\pi r^2)$$

Page 398, line 13 from bottom

In both cases, species pairs were categorized according to co-distribution type for scales from 1 to 50 m and significance was assessed for the two summary statistics using the GoF test employing a conservative 2.5% error rate. This yields an approximate 5% error rate overall (in the worst case where both summary statistics are independent), since we are testing two summary statistics simultaneously.