

# Size matters: point pattern analysis biases the estimation of spatial properties of stomata distribution

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© 2016 The Authors. *New Phytologist* © 2016 New Phytologist Trust Stomata distribution is an example of biological patterning. Formal methods used to study stomata patterning are generally based on point-pattern analysis, which assumes that stomata are points and ignores the constraints imposed by size on the placement of neighbors. The inclusion of size in the analysis requires the use of a null model based on finite-size object geometry. In this study, we compare the results obtained by analyzing samples from several species using point and disc null models. The results show that depending on the null model used, there was a 20% reduction in the number of samples classified as uniform; these results suggest that stomata patterning is not as general as currently reported. Some samples changed drastically from being classified as uniform to being classified as clustered. In samples of *Arabidopsis thaliana*, only the disc model identified clustering at high densities of stomata. This rein