

## Distribution Patterns of Introduced Plants Differ From Native Plants in Lowland England

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The hypothesis that introduced plants show different patterns of distribution to native plants was tested on the flora of southern England. Spatial patterns were investigated using semi-variograms of presence and pseudo-absence data from floristic surveys of 2 km<sup>2</sup> grid squares with data collected between 1987 and 2008. Semi-variograms are a convenient technique to visually represent the patchiness (auto-correlation) of species distributions. Various patterns of spatial distribution were seen in the flora, including species that are highly patchy, through to species whose distribution is apparently random at this scale. Almost all native plants showed patchiness in their distribution at distances of less than 10km, whereas introduced plants either showed no patchiness or over less distance than native plants. The best predictors of patchiness were the environmental preferences and nativeness of the species. The difference between native and introduced plants is likely due to the difference in the mechanism of spread for native and introduced plants. This patchiness of distributions has important consequences for how vegetation change is currently assessed using large ( $\leq 10$  km<sup>2</sup>) grid squares as this significantly biases results towards introduced species. Also, the difference in patchiness of introduced species has consequences for understanding the migration of plants in a modern landscape and the breakdown of geographic barriers to gene flow.