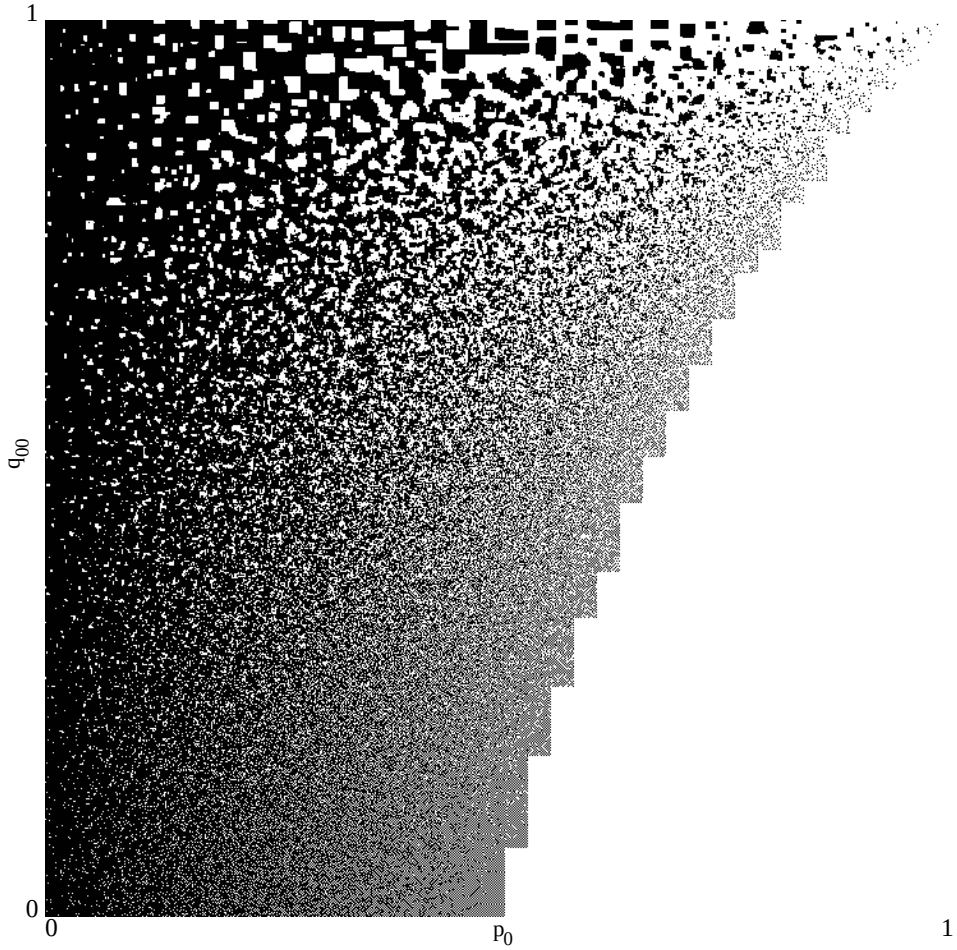

Figure 2: A composite landscape with varying values of the amount p_0 (horizontal axis) of suitable habitat and its clustering q_{00} (vertical axis). This allows one to see the patterns of habitat distribution that result from various combinations of the two landscape parameters. For example, the region across the top of the figure has highly clustered patterns, but with varying amounts of suitable habitat available from left to right. The large white area in the lower right represents invalid landscapes, that is, values of the parameters p_0 and q_{00} which do not satisfy inequality (8).

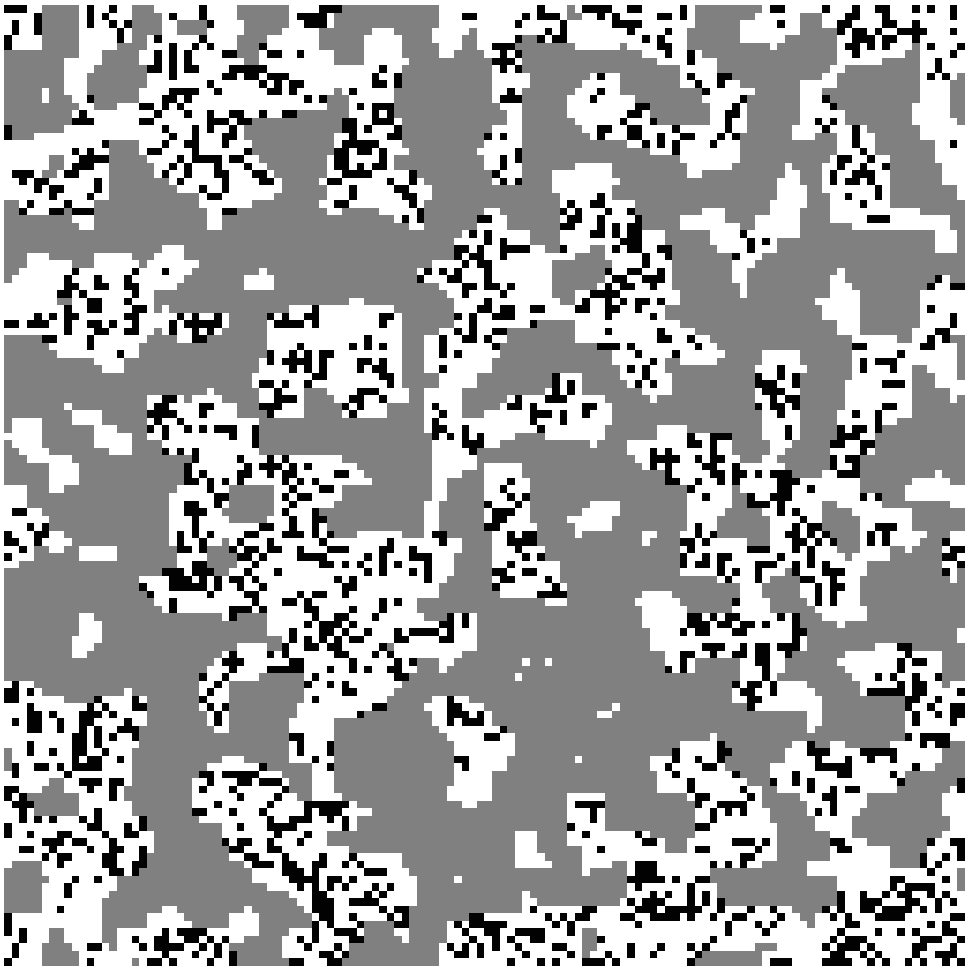

Figure 3: The configuration of the lattice after reaching equilibrium, with $\phi = 0.5$, $\mu_0 = 0.5$, $\mu_1 = 1$, $p_0 = 0.5$, and $q_{00} = 0.90$. White represents empty type-0 (suitable) sites, gray represents type-1 (unsuitable) sites, and black represents occupied type-0 sites.

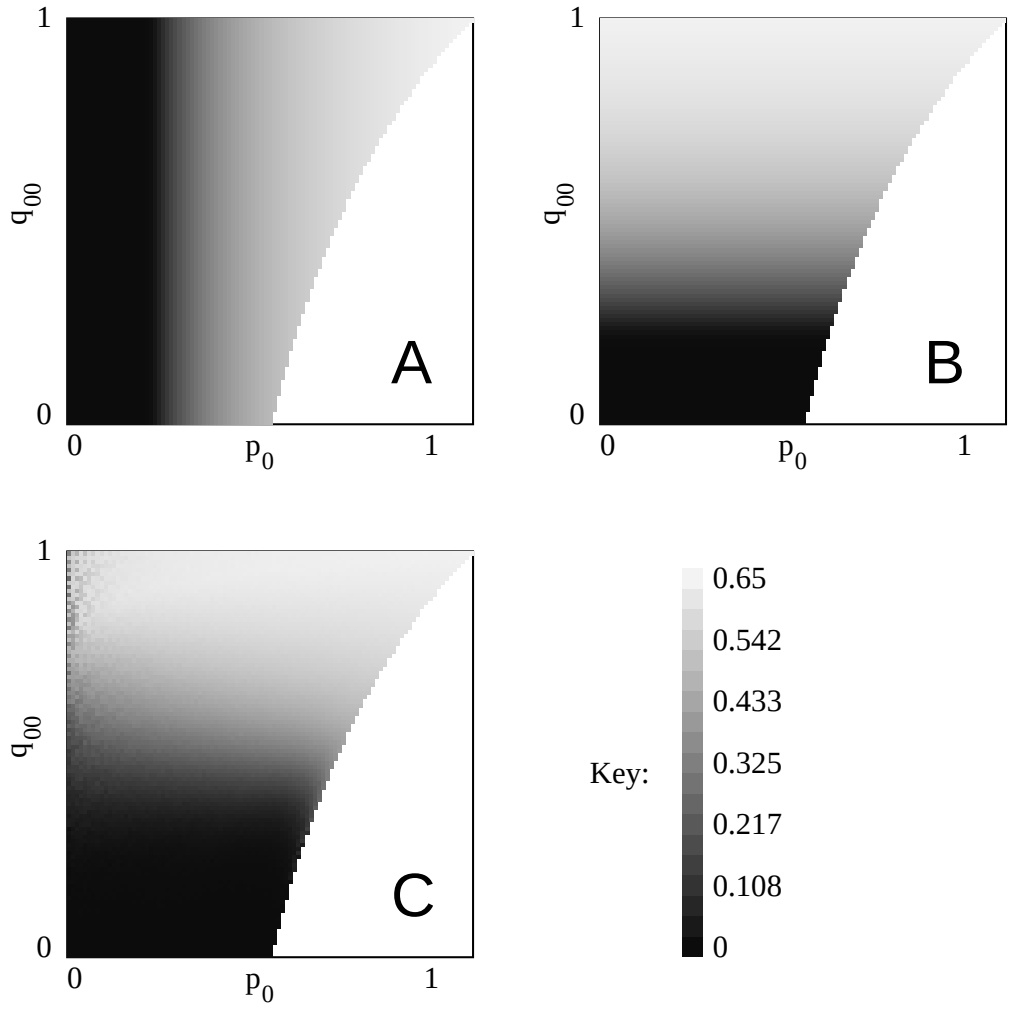

Figure 4: Equilibrium normalized patch occupancy ρ^* (the proportion of suitable sites which are occupied) is plotted against the proportion of suitable habitat p_0 (horizontal axis) and the habitat clustering parameter q_{00} (vertical axis). The white area in the lower-right portion of each picture represents invalid landscapes, that is, values of the parameters p_0 and q_{00} which do not satisfy inequality (8). (A) Predictions from the mean-field approximation. Observe that ρ^* depends only on the amount of habitat available, p_0, and not its spatial arrangement q_{00}. (B) Predictions from the pair approximation. Observe that ρ^* depends only on the habitat clustering parameter q_{00}, and not on the amount of habitat available, p_0. (C) Measurements from simulations. For each combination of landscape parameters, five replicate simulations were performed on independent 180×180 landscapes with the given parameters as described in *The population model*, and their results averaged. Observe that ρ^* depends primarily on the habitat clustering parameter q_{00}, and only very slightly on the amount of habitat available, p_0, as predicted by the pair approximation.