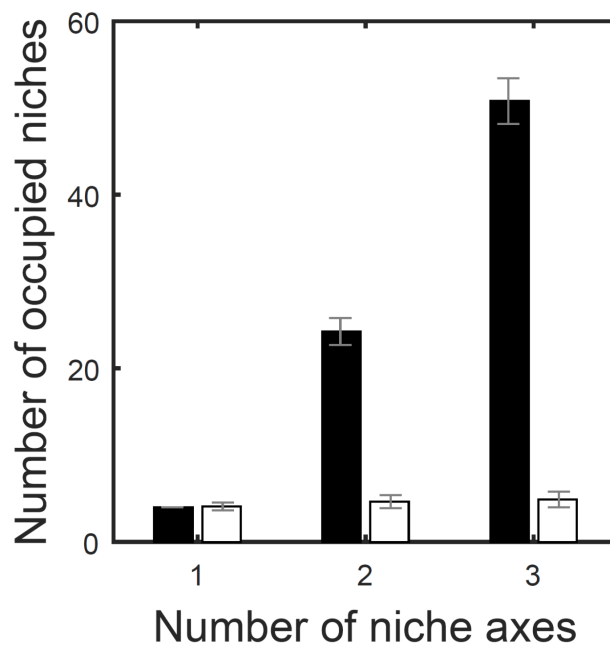


Competing species leave many potential niches unfilled: Supplementary Information

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Supplementary Figure 1 - Number of occupied niches at equilibrium (with variable demographic parameters, r_i , and K_i). Mean number of occupied niches (\pm sd) when niche space consists of substitutable (black) or non-substitutable (white) resources (20 simulations). The demographic parameters decrease linearly with distance from the origin, such that a species at distance d from the origin has $r = 1 - m_r d$ and $K = 1 - m_K d$. The results are broadly similar to those described in Fig. 3, where demographic parameters are held constant. The number of coexisting species increases exponentially with dimensionality when niche space contains substitutable resources, but remains constant when resources are not substitutable. Parameters as in Fig. 2, with $m_r = m_K = 0.05$ (the results are qualitatively similar for different parameters).