



Figure S2 Fixation times and fixation probabilities with background selection, in analogy to Fig. 2 of the manuscript. The left panel shows the mean fixation time of neutral mutations in populations of different sizes at different ratios r/σ . Fixation times are normalized by N . In contrast to Fig. 2 of the manuscript, the fitness variation here does not result from sweeping beneficial mutations but from many deleterious mutations. Comparing Fig. 2 to this figure, one sees that the effect of background selection on the fixation time of neutral mutations is very similar to that of multiple sweeps in a facultatively sexual population. The right panel shows the fixation probability of mutations with different effects on fitness for different ratios r/σ , normalized to the neutral expectation N^{-1} . Again, the fitness variance is due to background selection rather than sweeps, but the effect on the fixation probability is similar. These observations are consistent with the argument that from the perspective of a novel mutation, the nature of the fitness variation is irrelevant. What matters is the dynamics of the fitness of individual genotypes relative to the mean: For background selection, the fitness of genotypes declines due to accumulation of deleterious mutations, while in the case of adaptation the mean increases steadily.