Response of polygenic traits under stabilizing selection and mutation when loci have unequal effects

Kavita Jain† and Wolfgang Stephan§

†Theoretical Sciences Unit, Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur P.O., Bangalore 560064, India

§Section of Evolutionary Biology, Department of Biology, Ludwig-Maximilians University of Munich, Planegg-Martinsried, Germany

DOI: 10.1534/g3.115.017970
Figure S1: Response to change in optimum when most effects are large. Solid lines show the mean deviation (1a) and variance (1b), while the large dashed curves show the contribution to these cumulants from the locus with the largest effect and lowest initial frequency ($\Gamma = 0.776, P_0 = 3.3 \times 10^{-4}$). In both cases, the exact numerical solution of the full model is used. The numerical solution of (18) (small dashes) is also shown. The dotted curves show (11) and (A.1) for $t > 100$. The final optimum value $z_f = 2.5$ and the other parameter values are the same as in Fig. 4.
Figure S2: Response to change in optimum when most effects are large. Solid lines show the mean deviation (1a) and variance (1b), while the two dashed curves show the contribution to these cumulants from the first two relevant loci with effect 0.77 (large dashes) and 0.34 (small dashes). In both cases, the exact numerical solution of the full model is used. The dotted curves show (11) and (A.1) with $C = 0.006$. The final optimum value $z_f = 0.3$ and the other parameter values are the same as in Fig. 4.