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TRACKING ADAPTATION TO ENVIRONMENTAL CHANGES IN EXPERIMENTAL OR MONITORED POPULATIONS: EVALUATION OF A METHOD TO DETECT LOCI UNDER SELECTION

par

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- In a single isolated populations, allele frequencies will change through time subject to the processes of selection (acting on specific loci) and genetic drift (acting on the whole genome). Genetic data collected at different times can be used to make inferences on the effective population size (i.e. strength of drift) and to detect outlier loci, whose changes in allele frequencies are unlikely to be only the product of the inferred demography. However, the presence of self-fertilization may pose a problem for the detection of loci under selection. Selfing reduces the effective size of populations and the effective recombination among loci (promoting hitch-hiking).

- We investigated the effect of the presence of partial selfing reproduction in the power and false discovery rate for the detection of selected loci. In addition, we characterized the footprint of selection along the chromosome containing the selected site.