**Abstract**

Populations of clonal or partially clonal organisms typically violate assumptions Hardy-Weinberg equilibrium, which is a common assumption in many population genetic analyses. For these populations it is important to test for linkage between all unique multilocus genotypes before proceeding to perform population genetic analyses, given the violation described above. This is due to the fact that clonal populations will effectively have complete linkage as the entire genome is transmitted during mitotic reproduction. It has been previously demonstrated that one measure, the index of association, is sensitive to very high amounts of clonal reproduction within a population and that it is able to also detect population structure. These demonstrations were performed using simulations of ideal populations with identical numbers of microsatellite loci and individuals.