

The use of Hardy–Weinberg Equilibrium in clonal plant systems

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Journal of Ecology 2010, 98, 1–10

Keywords

clonal plants, Hardy–Weinberg equilibrium, genetic diversity, population genetics

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Funding Information

This work was supported by the National Science Foundation (grant number 0908150) and the University of California, San Diego.

Abstract

The Hardy–Weinberg equilibrium (HWE) is a fundamental principle of population genetics that describes the relationship between allele frequencies and genotype frequencies in a large, randomly mating population. In clonal plant systems, where individuals are genetically identical copies of a single parent, the HWE is often violated. This is because clonal plants can reproduce asexually, leading to a high degree of genetic relatedness among individuals. In this paper, we explore the implications of the HWE for clonal plant systems and discuss how it can be used to estimate genetic diversity and to understand the evolution of clonal plants. We show that the HWE can be used to estimate the number of genotypes in a clonal plant population and to test for deviations from HWE. We also discuss how the HWE can be used to understand the evolution of clonal plants, including the role of selection and drift. Finally, we discuss the implications of the HWE for conservation biology and the management of clonal plant populations.

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