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Soil seedbanks and long-term seed survival in the endangered Florida beach clustervine

(*Jacquemontia reclinata* House [Convolvulaceae])

John B Pascarella, Joyce Maschinski, and Samuel J Wright

ABSTRACT

We investigated the seed biology of the beach clustervine (*Jacquemontia reclinata* House [Convolvulaceae]), a federally endangered Florida endemic, through the study of soil seedbanks, including sampling of seed densities at varying locations and times of the year, and through several seed survival experiments in 2001, 2003, 2006, and 2007. Based on soil core and vacuum samples, seeds are present in the soil seedbank, with peak abundance occurring in late spring and early summer at the beginning of the rainy season, and lowest levels occurring by the following dry season (December). Field experiments with seeds at the soil surface and buried in seed bags found evidence of seed survival ranging from a low of 3% to a high of 59%. In 2007 to 2008, percentage survival did not vary significantly across 3 sites that span the existing range of the species, nor did it correlate with total precipitation at a site in this year. Surviving seeds are capable of subsequent germination, with 11% germinating within 6 mo. A tetrazolium test of a subsample of non-germinating 1-y-old seeds found 100% were alive. The long-term persistence of seeds in the soil may decrease the extinction risk for this species, because its recruitment niche is not common under current environmental conditions.

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conservation, dormancy, extinction, seed burial

NOMENCLATURE
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