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Ecological consequences and ontogeny of seed heteromorphism

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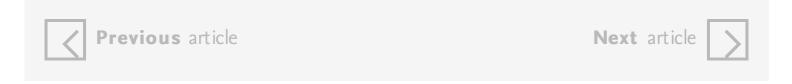
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Abstract

Seed heteromorphism represents the production of different kinds of seeds by a single individual. The morphological differentiation affects either the fruit $\hat{a} \in$ " heterocarpy $\hat{a} \in$ " or the seed sensu stricto $\hat{a} \in$ " heterospermy. In this study the phylogenetic distribution of seed heteromorphism among different families and habitats is investigated for 218 plant species based on existing literature. The ecological consequences of seed heteromorphism are explored as well. Seed heteromorphism is most common in the Asteraceae and Chenopodiaceae, suggesting that these families have morphological characteristics favouring the appearance of seed heteromorphism and ecological features that maintain it. Using the distribution of seed heteromorphism within the genus Crepis, the relationship between seed heteromorphism and life cycle and habitats is examined. From this analysis it appears that heterocarpic species are often monocarpic. In contrast, the relationship between heterocarpy and habitats is not obvious. Finally, a synthesis is presented about the ontogeny of heteromorphism and

some guidelines are proposed for future research on this topic.



Key words

bet-hedging; dispersal; germination; plasticity; seed morphology

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