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Impact of fire on small vertebrates in mallee woodlands and heathlands of temperate Australia: A review

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Abstract

The short- and long-term post-fire response patterns of small mammals, reptiles and amphibians inhabiting mallee woodlands and heathlands in temperate Australia are reviewed with respect to species' life history parameters in a search for unifying trends. Pyric response patterns of small mammal species are closely tied to their shelter, food and breeding requirements. There is a trend of increased specificity and reduced flexibility in life history traits concomitant with increased impact of fire and later post-fire recolonization. For reptiles there appears to be a strong relationship between the shelter and foraging requirements of species and their abundance in various successional states. The high incidence of burrowing in the mallee/heath amphibian fauna imparts considerable resilience to fire, and most species' abundance and distribution patterns seem more closely linked to moisture regimes than to fire *per se*.

The high degree of consistency between species' postfire response patterns and their life history parameters points to the feasibility of developing a model to predict the impact of fire on small vertebrates. Such a model is currently being developed.

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Keywords

Australia; small vertebrates; mallee woodlands; fire; seral responses

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