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## Carnivorous Marsupials

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In July 1999, the Australian Mammal Society held a symposium on 'Carnivorous Marsupials' in conjunction with its Annual Conference and General Meeting at the University of Western Sydney. Almost 20 years had elapsed since the first 'Carnivorous Marsupials' symposium (Ed. Mike Archer, 1982), which inspired and directed research on these taxa during the 1980s and 1990s. The last decade, particularly, has seen an expansion in research on carnivorous marsupials. This issue presents nine papers on dasyurids, including six from the symposium. All of the papers in this issue address, or have implications for, conservation, reflecting the urgent need for both basic knowledge and conservation-related research on carnivorous marsupials.

Five papers present ecological information on lesser-known dasyurids from arid and semi-arid areas. Roberta Bencini and her colleagues establish a mainly insectivorous diet for the endangered dibbler (*Parantechinus apicalis*), and demonstrate habitat preferences on one of two Western Australian islands studied. Sandra Gilfillan discusses the implications that a dependable food resource, found in rocky habitats in central Australia, may have for reproduction, life history, movement patterns and population dynamics of arid-zone dasyurids. *Pseudantechinus macdonnellensis*, a generalist insectivore, has higher residency, greater longevity and a monoestrous, highly seasonal breeding strategy compared with the more common polyoestry and shifting home ranges of some plains-dwelling dasyurids. Darren Bos and Susan Carthew report quite a low capture and recapture success of southern ningau (*Ningaui yvonneae*) in semi-arid South Australia. Ningau appear to be polyoestrous, breeding in early spring, and populations are dominated by single cohorts, with individual lifespans of approximately 14 months. Departing from single-species studies, Chris Dickman and coauthors provide an analysis of climatic and ecological factors driving populations of three species of small dasyurids from the Simpson Desert over a 10-year period. Compared with other arid-zone mammals, factors influencing dasyurid population dynamics appear to be quite subtle and findings suggest that this group has limited flexibility in its life history.

Three papers address impacts of anthropogenic habitat fragmentation and/or alteration on both common and threatened dasyurids from more mesic parts of Australia. Dan Lunney and coauthors discuss dietary differences in *Antechinus agilis* and *A. swainsonii* related to age of logged and unlogged forest. Rodney van der Ree and coauthors discover the high value for phascogales of road and streamside woodland remnants near Euroa, Victoria, where larger trees, which have been removed in adjacent State Forests and Parks, provide nesting and foraging habitat. Barbara Wilson and team reflect on the likelihood of extinction and requirements for species survival of small and severely fragmented populations of the swamp antechinus (*Antechinus minimus maritimus*) in the eastern Otway Ranges of Victoria, in light of pressures of habitat fragmentation, coastal development and wildfire.

Last but not least, Dan Lunney and Alison Matthews provide us with a useful discussion of the scope of community-based wildlife postal surveys for obtaining information on species (in this case, the spotted-tailed quoll) that are both difficult to census but easy to identify. They comment on the potential for this type of survey in conservation programs that involve private land and require local support.

Dasyurid marsupials are a unique group of Australian mammals, many of which are threatened with extinction. The studies in this issue represent significant and fascinating new findings that will contribute to knowledge and conservation management of this fauna.