

**Foraging ecology and habitat use of the  
Chestnut-rumped Thornbill (*Acanthiza uropygialis*)  
at the Arid Recovery Reserve, South Australia**



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## Abstract

South Australia's arid rangelands have been grazed by stock and rabbits since European settlement, and changes to ecosystem structure and function have been observed at multiple levels. Of particular concern is the lack of recruitment and regeneration in long-lived perennial shrubs and trees, which form an important aspect of the foraging habitat of many small insectivorous birds that are declining in southern Australia. This study investigated the foraging ecology and habitat use of the Chestnut-rumped Thornbill (*Acanthiza uropygialis*: Acanthizidae). Bird distributions and vegetation characteristics were surveyed within the Arid Recovery Reserve, South Australia, and in an adjacent pastoral property. Individual birds were tracked in the Reserve to determine home range size and identify patterns in habitat use, and attributes of high- and low-use areas were examined. Key plant species were tested for preferential selection, and Indicator Species Analyses were run to characterise the plant communities of the various habitat types in the study area. The distribution of the Chestnut-rumped Thornbill and other small shrub- and ground-foraging birds were surveyed and compared to historical records. Recorded distributions of all bird species surveyed were consistent with long-term trends. Home ranges of Chestnut-rumped Thornbill groups were  $57.8 \pm 12$  ha, and varied considerably in habitat composition. Home range boundaries appeared to correspond with changes in the vegetative community. Foraging habitats included dune, *Acacia aneura* (mulga) woodland and mixed non-dune shrubland (excluding chenopod shrubland). Key species selected for foraging were *Callitris glaucophylla*, *Acacia tetragonophylla*, *A. ligulata* and *A. aneura*, and these species were significantly less abundant outside the Reserve than inside. No significant differences were identified between areas of high and low use inside the Reserve, suggesting that factors other than habitat structure influence activity hot-spots. This study provides evidence that deterioration of the perennial shrub layer has significant consequences for the Chestnut-rumped Thornbill, and active revegetation and restoration of South Australia's arid shrublands are essential to prevent the continued decline of this species.