

Dispersal of juvenile Southern Scrub-robins *Drymodes brunneopygia* in the Murray Mallee of South Australia

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A key to successful species conservation is knowledge of how an animal moves among habitats, especially in highly fragmented landscapes. The Southern Scrub-robin *Drymodes brunneopygia* is a sedentary, ground-foraging, insectivorous bird that inhabits shrubby Mallee habitat across the southern states of mainland Australia. Due to habitat loss and fragmentation in the Murray Mallee region of South Australia, the species is now largely restricted to four spatially separated patches of territories in this region. To study the species' movements in this area, juveniles individually recognisable by colour-bands or an attached radio-transmitter were intensively tracked at Short's Farm, Bakara, from 2008 to 2011. Chasing of juveniles by parents was observed on the natal territory, but juvenile males left their natal territory later (mean departure age 299 days) than juvenile females (mean 310 days). Juveniles of both sexes generally left natal territories earliest in 2010, the wettest year of the study, and some were observed to return to the natal territory after forays beyond its boundary. Juvenile females moved further from the natal territory (mean distance 1,832 m) than juvenile males (mean 604 m) and visited more territories than did males. Mean distance moved by scrub-robins differed among the four patches studied, and in one patch no birds left the natal territory. Female juveniles visited sites already occupied by scrub-robins, whereas males visited both occupied and unoccupied areas. Some juveniles were still present on their natal territory at one year of age, and these birds were predominantly on territories with more shrub cover in the high use areas of the territory. As females typically moved further from the natal territory, they may have been more affected by habitat fragmentation than were males. The results provide an insight into dispersal of Southern Scrub-robins in a fragmented environment that could be helpful in the species' management and conservation.

Keywords: Southern Scrub-robin; mallee; juveniles; ground foraging insectivore dispersal; habitat fragmentation; habitat corridor