

SHORT NOTE

Juvenile Stewart Island robins (*Petroica australis rakiura*) disperse up to 16 km

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The New Zealand robin (*Petroica australis*) is a small endemic forest passerine that has declined as a consequence of habitat destruction and the introduction of mammalian predators. While still common in northern South Island, robins are patchily distributed throughout much of their range (Heather & Robertson 1996). This distribution is not well understood, as robins are absent from apparently suitable habitat (Armstrong 2000). Robins are believed to have poor dispersal abilities, which prevent re-colonisation of habitat from which they have disappeared (Flack 1976). For example, over three years, juvenile North Island robins (*P.a. longipes*) in Te Urewera National Park dispersed on average < 400m (Beaven et al. 2000).

During a 2001-2002 breeding survey of Stewart Island robins (*P.a. rakiura*), dispersal of individually colour-banded juvenile robins was recorded on several occasions. One bird, banded as a fledgling on 10 December 2001 between the Scott Burn and Freshwater River, was recorded at Rakeahua hut (167° 53'S, 46°59'E) on 5 February 2002 (E. Ganley pers. comm.). This hut lies 12 km in a straight line from the bird's natal territory. The Freshwater River flats are separated from the Rakeahua River valley by a range which rises 681 m.a.s.l. Most likely the robin traveled around this mountain range to enter Rakeahua valley, a distance of approx.16 km.

Similar travel distances have been recorded for adult Stewart Island robins translocated to Ulva Island, some of which returned to their capture sites on Stewart Island (Oppel & Beaven 2002).

However, these birds had an obvious motivation to return to their territories, whereas the juvenile was flying away from its natal territory.

Observations on Ulva Island (Oppel & Beaven 2002) indicated that juvenile Stewart Island robins have considerable dispersal abilities. Some individuals were recorded from places up to 2 km apart within 12 hrs. All surviving offspring of Ulva Island were seen at least 1.5 km away from their natal territories and multiple sightings suggested that juvenile robins were roaming the entire island.

Intra-island juvenile dispersal of North Island robins has been found on Tiritiri Matangi Island (Armstrong 1995), with many birds moving the maximum distance between patches of about 1300m. However, robin density on Ulva Island is still low and the travels reported from there were not forced by intra-specific competition with adult territorial robins, as reported by Armstrong et al. (2000).

Large distance dispersal does not appear to be unique to Stewart Island robins. In 2000, two juvenile North Island robins were found 10 km from where they were banded in Wenderholm, Auckland (T. Lovegrove pers. comm.). Similarly, in 2001, a juvenile banded in Paengaroa Scenic Reserve, near Taihape, was relocated 8 km away. It is likely that this bird followed the Hautapu River, perhaps traveling a distance of 14 km (D. Raine pers. comm.).

Robins are able to disperse further than previously presumed. This could provide gene-flow between populations up to 15 km apart, and therefore minimise the chance of inbreeding in small local populations. It also raises hope for re-colonisation of adjacent suitable habitats by remnant robin populations.

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