

A short-term radiotelemetry study of movements by a Lewin's Honeyeater

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The Lewin's Honeyeater *Meliphaga lewinii* is a common bird of eastern Australia, thought to be sedentary although possibly making some local movements in autumn-winter (Higgins *et al.* 2001). It has not been the subject of many studies, and various aspects of its social organisation are unknown. There appears to be no information available about the size of its territory or its home range.

On 15 January 2021, as part of a bird study project at Blue Gum Hills Regional Park (Little 2021), I fitted a radio transmitter to an adult Lewin's Honeyeater. I attached the transmitter by glueing it to the bird's back feathers. The bird's sex is unknown (males and females are identical in plumage: Australian Bird Study Association 2020). The transmitter was an ATS Australia A1055 1.0g backpack transmitter, operating at 40ppm pulse rate at a frequency of 151.301 MHz. The expected battery life for a new A1055 transmitter is 55 days, however the unit I attached was about two years old (although previously unused) when I applied it to the bird.

Over the ensuing 31 days, I visited the park 28 times (on 22 different days) and located the bird's position (each time, by triangulation using an ATS R410 receiver and a 3-element folding Yagi antenna.). The final reading was obtained on 15 February 2021. After that date there was no longer any signal from the transmitter; presumably the transmitter battery had depleted. Using QGIS software (<https://www.qgis.org/en/site/>) I plotted the locations of the Lewin's Honeyeater onto a map of the Regional Park and some of its immediate surrounds (see **Figure 1**). The bird was often in the park but several times it had moved to locations of up to 50-100 m outside of the park boundary. All of those

external locations were in bushland that was contiguous with bushland in the park. Note that there are 29 positions plotted on the map because I have included the location where I caught the bird.

Using a function available within the QGIS software, I estimated the Lewin's Honeyeater had ranged over an area of about 8 ha. The honeyeater's range at 95% confidence interval was subsequently estimated to be 10-11 ha, by fitting bivariate normal 95% probability ellipses to the data after calculating the determinant of the X, Y covariance matrix (A. Stuart pers. comm.).

Because of the limited duration of the study, it would be premature to make any conclusions about the size of the bird's territory or home range. It may have been that certain food resources were available in that particular area at that time and that, at other times of the year, the Lewin's Honeyeater would use other parts of a larger territory. Also, Blue Gum Hills Regional Park mostly comprises heavily-disturbed habitat, much of it being recovering native vegetation plus introduced species (Little 2021); in more natural environments a Lewin's Honeyeater might be able to have a smaller territory. Nevertheless, these findings provide a new insight about the Lewin's Honeyeater and they also demonstrate the potential of radio-tracking for learning about bird movements and the sizes of bird territories and home ranges.

ACKNOWLEDGEMENTS

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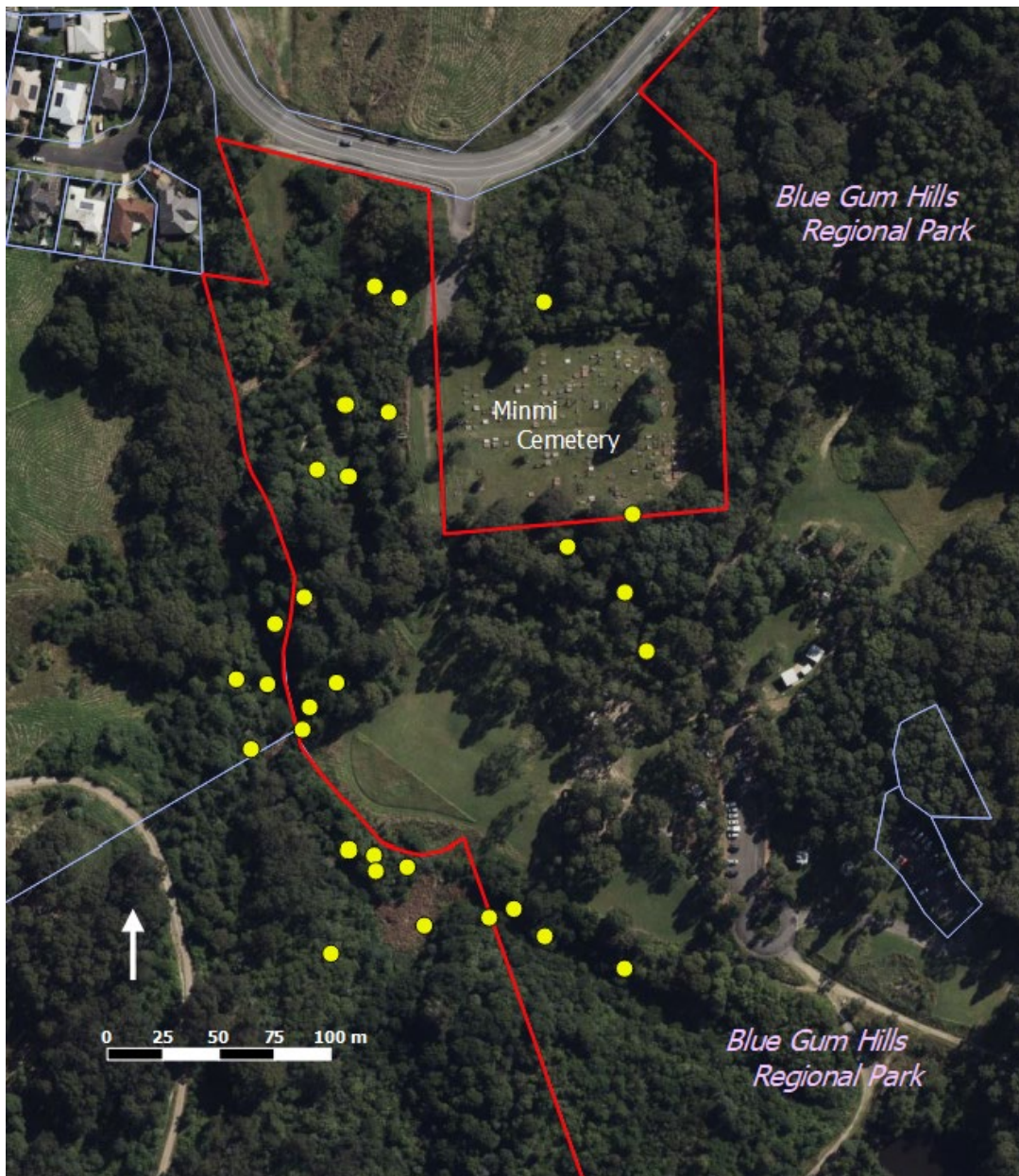


Figure 1. Locations for the radio-tagged Lewin's Honeyeater in and around Blue Gum Hills Regional Park between 15 January and 15 February 2021.

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