

Supplementary material

Relationships between time since fire and honeyeater abundance in montane heathland

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Honeyeater detection and repulsion effects

Across the range of sites, honeyeaters were recorded in all parts of the sampling area, with the exception of the few metres adjacent to the observer (Fig. S1). The frequency distribution of distances at which honeyeaters were detected varied greatly among study sites. There was no consistent evidence of honeyeater repulsion from the observer among sites with shorter fire-age, or reduction in the detection of honeyeaters among sites with longer time since fire.

Linear regression analysis was conducted to determine if there was any relationship between the mean distance of honeyeater observations from the observer and time since fire. The mean distance of honeyeater observations for each site was obtained by summing the distances and dividing by the number of observations. During the study, only one pair of honeyeaters was recorded in site DC1 (Fig. S1), but it was retained in the analysis because its omission did not provide further insight into the relationship. The mean distance between honeyeater observations and the survey centre point showed no relationship with time since fire ($F_{1,10} = 1.73$, $P = 0.22$, $R^2 = 0.15$).

The minimum distance between observer and bird at site SU1 is somewhat greater than the other sites (Fig. S2). However, there is some uncertainty around this result given the low numbers of birds recorded at the site. The mean distance was nevertheless similar to other sites, so birds would not have been repulsed more than several metres, if at all. Thus, honeyeater density within the sampling area was probably not appreciably affected. The ability to detect honeyeaters up to the outer extremity of the sampling circles did not appear to diminish as time since fire increased, with honeyeaters generally recorded up to 25 m in the study sites.

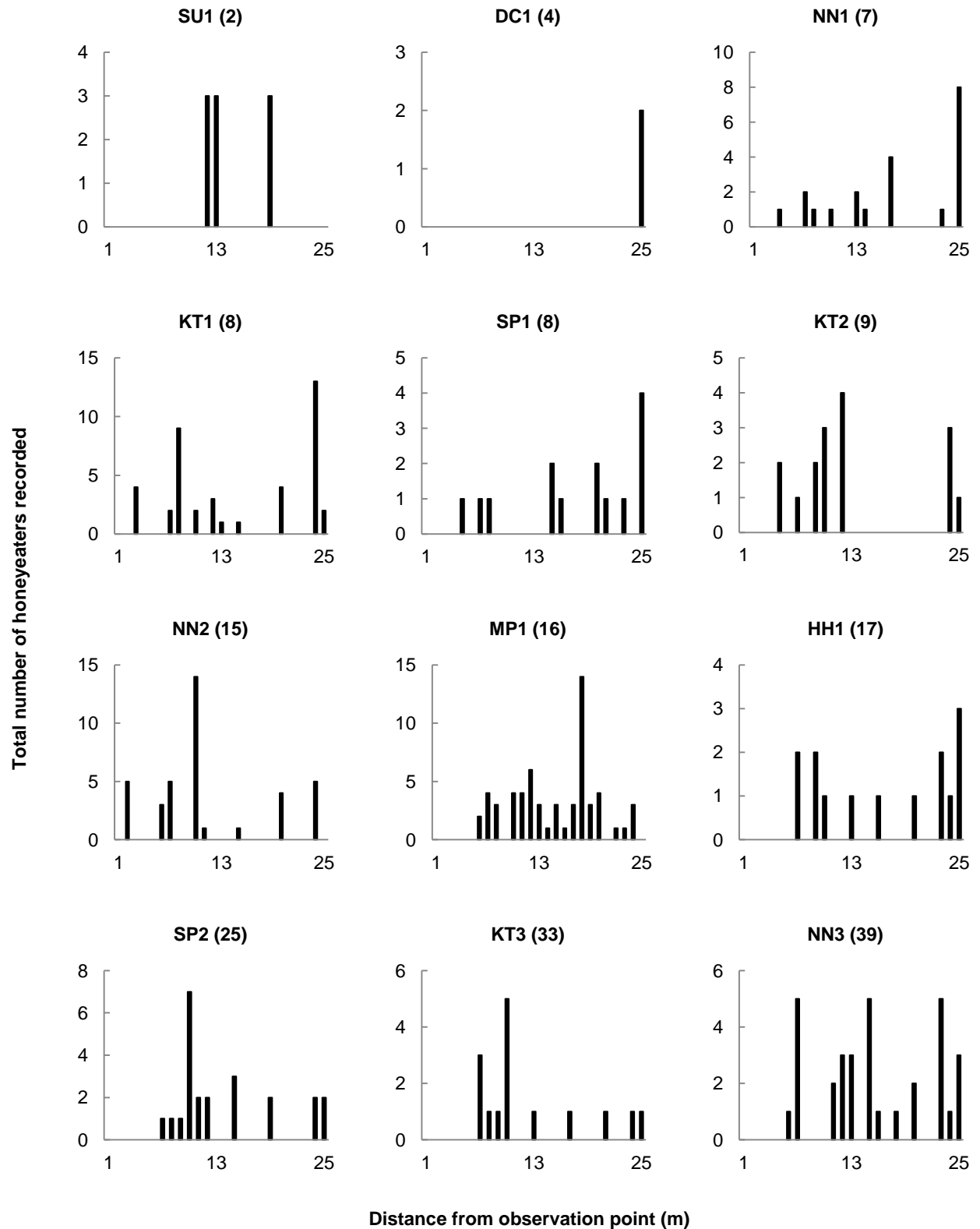


Fig. S1. Frequencies of total honeyeaters recorded at distances from the observation point during surveys in the study sites. Time since fire (years) is shown in parentheses after the site code.

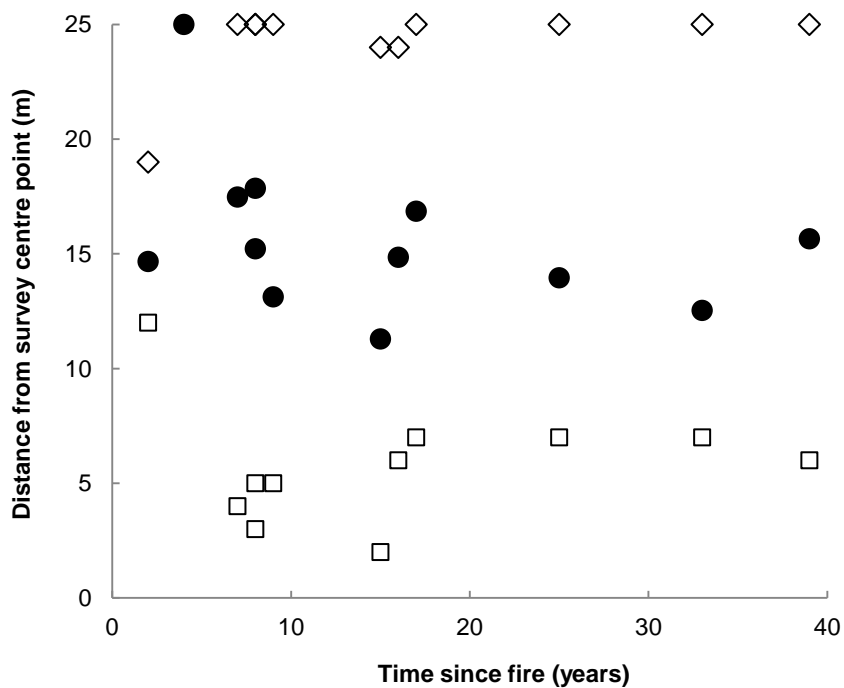


Fig. S2. The maximum (◇), mean (●) and minimum (□) distances between honeyeater observations and the survey centre point in the study sites.