

Individual variation in the relationship between vigilance and group size in eastern grey kangaroos

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R sum  en anglais The mean vigilance of animals in a group often decreases as their group size increases, yet nothing is known about whether there is individual variability in this relationship in species that change group sizes frequently, such as those that exhibit fission-fusion social systems. We investigated variability in the relationship between group size and vigilance in the eastern grey kangaroo (*Macropus giganteus*) by testing whether all individuals showed decreased vigilance with increased group size, as has been commonly assumed. We carried out both behavioural observations of entire groups of kangaroos and focal observations of individually recognised wild female kangaroos. As in other studies, we found a collective group-size effect on vigilance; however, individuals varied in their vigilance patterns. The majority (57%) of the identified individual kangaroos did not show significant group-size effects for any of the recorded measures of vigilance. The females that did not show a negative group-size effect were, on average, more vigilant than those females that did show a group-size effect, but this difference was not significant. We propose that some females exhibit higher levels of social vigilance than others, and that this social vigilance increases with group size, cancelling out any group-size effect on anti-predator vigilance for those females. Our results therefore suggest that only some prey individuals may gain anti-predator benefits by reducing their time spent scanning when in larger groups. The large amount of variation that we found in the vigilance behaviour of individual kangaroos highlights the importance of collecting and analysing vigilance data at the individual level, which requires individual recognition.

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