



## Does sex affect both individual and collective vigilance in social mammalian herbivores: the case of the eastern grey kangaroo?

Submitted by Olivier Pays-Volard on Thu, 04/06/2017 - 21:56

Titre	Does sex affect both individual and collective vigilance in social mammalian herbivores: the case of the eastern grey kangaroo?
Type de publication	Article de revue
Auteur	Pays, Olivier [1], Jarman, Peter J [2]
Pays	Allemagne
Editeur	Springer Verlag
Type	Article scientifique dans une revue à comité de lecture
Année	2008
Langue	Anglais
Date	Mars 2008
Numéro	5
Pagination	757-767
Volume	62
Titre de la revue	Behavioral Ecology and Sociobiology
ISSN	0340-5443
Mots-clés	collective vigilance [3], Group living [4], Individual vigilance Group [5], Sex differences [6], vigilance [7]

In several vertebrate taxa, males and females differ in the proportions of time they individually devote to vigilance, commonly attributed to sex differences in intra-specific competition or in absolute energy requirements. However, an effect of sex on collective vigilance is less often studied (and therefore rarely predicted), despite being relevant to any consideration of the adaptiveness of mixed- vs single-sex grouping. Controlling for group size, we studied the effect of sex on vigilance in the sexually dimorphic eastern grey kangaroo *Macropus giganteus*, analysing vigilance at two structural levels: individual vigilance and the group's collective vigilance. Knowing that group members in this species tend to synchronise their bouts of vigilance, we tested (for the first time) whether sex affects the degree of synchrony between group members. We found that females were individually more vigilant than males and that their vigilance rate was unaffected by the presence of males. Collective vigilance did not differ between female-only and mixed-sex groups of the same size. Vigilance in mixed-sex groups was neither more nor less synchronous than in single-sex groups of females, and the presence of males seemed not to affect the degree of synchrony between females. Sixty-six percent of vigilant acts were unique (performed when no other kangaroo was alert), and only about one unique vigilant act in every three induced a collective wave of vigilance. The proportions of vigilant acts that were unique were 60% for females but only 46% for males. However, the sexes differed little in the rates at which their unique vigilant acts were copied. This limited study shows that the differences in vigilance between male and female kangaroos had no discernible effect upon collective vigilance.

Résumé en anglais

URL de la notice <http://okina.univ-angers.fr/publications/ua15856> [8]

DOI [10.1007/s00265-007-0501-4](https://doi.org/10.1007/s00265-007-0501-4) [9]

Lien vers le document <http://link.springer.com/article/10.1007%2Fs00265-007-0501-4> [10]

Titre abrégé Behav Ecol Sociobiol

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## Liens

- [1] <http://okina.univ-angers.fr/olivier.pays/publications>
- [2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=17108>
- [3] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22778>
- [4] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=15133>
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- [6] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22776>
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Publié sur *Okina* (<http://okina.univ-angers.fr>)