The dynamics of group formation in large mammalian herbivores: an analysis in the European roe deer

Submitted by Olivier Pays-Volard on Thu, 04/06/2017 - 21:59

Titre	The dynamics of group formation in large mammalian herbivores: an analysis in the European roe deer
Type de publication	Article de revue
Auteur	Pays, Olivier [1], Benhamou, Simon [2], Helder, Remi [3], Gerard, Jean-François [4]
Pays	Pays-Bas
Editeur	Elsevier Masson
Ville	Amsterdam
Type	Article scientifique dans une revue à comité de lecture
Année	2007
Langue	Anglais
Date	Novembre 2007
Numéro	5
Pagination	1429-1441
Volume	74
Titre de la revue	Animal Behaviour
ISSN	0003-3472
Mots-clés	aggregation; Capreolus capreolus; European roe deer; fusion–fission dynamics [5], group instability [6], Group living [7], group size [8], interattraction [9], open plain [10], perception distance [11], ungulates [12]
Résumé en anglais	In large mammalian herbivores, herd size usually increases with openness of the environment, but the proximate mechanisms that underlie this phenomenon remain poorly known. We investigated the dynamics of group formation in a population of roe deer, Capreolus capreolus, living in open cultivated plain. Our results show the high spontaneous instability of groups. The probability of fission per unit time increased approximately as the square of group size, and the sizes of the groups resulting from a splitting-up followed a uniform distribution. Attraction between groups was the main cause of fusion and was at work over distances of more than 200 m, far exceeding the perception radius of roe deer in forest. In addition, when not yet separated by than more than 200 m, two groups resulting from a single splitting-up had a high probability of remerging and restoring the parent group. Our results are thus consistent with the assumption that in large herbivores group size increases with habitat openness, not because of a change in individual's behaviour, but because groups are unstable and any increase of the distance at which animals perceive one another enhances the rate at which groups merge.
URL de la notice	http://okina.univ-angers.fr/publications/ua15857 [13]
DOI	10.1016/j.anbehav.2007.02.012 [14]
Lien vers le document	http://www.sciencedirect.com/science/article/pii/S0003347207002667 [15]

Titre abrégé Animal Behaviour

Liens
[1] http://okina.univ-angers.fr/olivier.pays/publications
[2] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26700
[3] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26701
[4] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26702
[5] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22769
[6] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22770
[7] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=15133
[8] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22771
[9] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22772
[10] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22773
[11] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22774
[12] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=22775
[13] http://okina.univ-angers.fr/publications/ua15857
[14] http://dx.doi.org/10.1016/j.anbehav.2007.02.012
[15] http://www.sciencedirect.com/science/article/pii/S0003347207002667