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Access to mates in a territorial ungulate is determined by the size of a male's territory, but not by its habitat quality.

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Source

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Abstract

1. Territoriality is commonly associated with resource defence polygyny, where males are expected to gain access to females by anticipating how resources will influence female distribution and competing for resource-rich sites to establish their zone of dominance. 2. We tested this hypothesis in European roe deer (*Capreolus capreolus*) by simultaneously assessing the influence of resources on female distribution and the influence of female distribution on male distribution and breeding success using paternity analyses. 3. Females did not fully distribute themselves among male territories in relation to resources. As a result, relative female abundance in a male's territory depended on territory size, but not on its habitat quality. In turn, relative female abundance in a male's territory determined, at least partially, his breeding success. 4. Interestingly, male territory size, and hence access to females, was partly determined by male body mass (all males) and by residual antler size (subadults only). The latter result suggests that large antlers may be important to young males for establishing their first territory, which is then usually retained for all subsequent reproductive seasons. 5. To conclude, although territoriality of male roe deer has certainly evolved as a tactic for ensuring access to mates, our results suggest that it does not really conform to a conventional resource defence polygyny strategy, as males seem to gain no obvious benefit from defending a territory in an area of high habitat quality in terms of enhanced access to mates. 6. This may explain the stability of male territories between years, suggesting that male territoriality conforms to an 'always stay' and 'low risk-low gain' mating strategy in roe deer.

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