

Male-male competition is not costly to dominant males in a cooperatively breeding bird

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Abstract

Male-male reproductive competition occurs in many animal societies and can be costly, both through aggression or energy expenditure prior to mating and lost paternity. In most cooperative breeders, socially dominant males breed more often than do subordinates, but the costs of pre-copulatory subordinate male reproductive competition (including unsuccessful competition) have rarely been investigated in these systems. Here, we examine the association between such competition and the fitness of dominant males in the cooperatively breeding southern pied babbler (*Turdoides bicolor*). Babbler groups comprise a dominant breeding pair with adult subordinates of both sexes. Roughly 35 % of adult subordinate males live in groups with unrelated adult females, but despite their common engagement in active reproductive competition, these subordinate males rarely successfully breed (extra-group mating has never been detected). Overall, active reproductive competition with subordinate males is not costly to dominant males, notwithstanding that rare episodes of breeding by subordinate males cause large paternity losses (50–100 %). Specifically, the presence of an actively competing subordinate male does not affect the proportion of successful nests, the number of fledglings fathered by the dominant male or dominant male retention of dominance to the next breeding season. Instead, dominant male breeding success is likely to be more affected by factors such as food availability and group size. In the social context of cooperative breeding, a competing subordinate male may provide benefits of a larger group size or increased help; these may offset the low risk of paternity loss, possibly promoting tolerance of reproductive competitors by dominant males.