

## Acceptable overlap

### Sperm Competition Games Played by Dimorphic Male Beetles

Recent theoretical examinations of sperm competition predict that males should invest in ejaculate production in relation to the risk that sperm competition will occur. Within species selection for increased expenditure on the ejaculate depends on a males role; individuals that have a consistently lower probability of fertilization should increase ejaculate expenditure. One situation in which males will be consistently in the disfavored role is when they adopt alternative mating tactics. Often, small males sneak copulation's from large superior competitors. In beetles of the genus *Onthophagus*, males have suites of behavioural and morphological adaptations that characterize an alternative mating strategy. Here I show that within species, hornless sneaks invest more heavily in sperm competition than do horned males that compete for and guard females. However, across species the disparity in ejaculate expenditure between male morphs may depend on the risk of sperm competition. The fitness consequences for males adopting alternative ejaculation strategies will be examined.

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