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Foraging strategies associated to alternative reproductive tactics in a large mammal.

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Abstract

Foraging behaviour plays a key role in growth, survival and reproduction. Male ungulates in temperate environments show seasonal fluctuations in uptake and use of energy, with summer accumulation of reserves later used to sustain the costs of the mating season. To date, however, very little information is available on the foraging behaviour of individuals adopting alternative reproductive tactics. We investigated the year-round foraging strategies of nine territorial and 10 non-territorial male Alpine chamois *Rupicapra rupicapra* in the Gran Paradiso National Park (Italy), and discussed them in relation to space use and forage quality. Territorial males showed marked seasonal changes in foraging behaviour, with low values of time spent foraging in spring, followed by an increase in summer, a drop in November and a subsequent increase in winter. The foraging rates of non-territorial males, on the other hand, showed smaller variation, decreasing gradually from spring to autumn, and increasing in winter, but with no significant reduction during the November rut. Although in summer territorial males remained at lower elevations than non-territorial males, faecal crude protein did not show any significant difference between male types. The effort to establish and defend territories (in spring and in November, respectively) may constrain foraging in territorial males, forcing them to compensate by increasing their energy intake over summer. Different levels of vertical movements in the warm months did not affect forage quality, suggesting that territorial males may be selective in the choice of palatable plants. Our results show that different reproductive tactics imply different foraging strategies over the year, which do not seem to depend on forage quality. Different foraging strategies over summer may possibly lead to different body conditions at the beginning of the mating season, which, in turn, could influence individual capability to cope with the costs of mating.