Temperature constraints on foraging behaviour of male Alpine ibex (Capra ibex) in summer

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Abstract
In arctic and alpine environments, warm summer temperatures may force a reduction in foraging time of large herbivores, whose tolerance for heat is lower than for species adapted to warmer weather. We constructed time budgets for marked ibex (Capra ibex) males over two summers to test whether warm temperatures constrained foraging behaviour and forced altitudinal migrations. As daily temperature and solar radiation increased, feeding activity was reduced at midday and evening, but increased in the early morning, probably to anticipate for an expected reduction in foraging later in the day. With increasing temperature and solar radiation, ibex moved to higher elevations where they spent very little time feeding. Changes in forage quality and availability could not explain altitudinal migration. Temperatures above 15–20°C apparently result in heat discomfort in male Alpine ibex. As temperature and solar radiation increased, older and larger ibex spent less time feeding during daylight and showed a steeper decrease in feeding time than younger and smaller ibex. Larger males may be more sensitive to temperature and solar radiation, or may have more flexibility in allocating time to different activities, given their lower relative energetic requirements.

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