

## **Seasonal migration of Alpine ibex in relation with vegetation phenology: a trade off between forage quality and quantity?**

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Mountain ungulates have to cope with topography and particularly with elevation. They can take advantage of elevation during the growing season. Many authors have shown altitudinal migration between spring and summer home ranges for some species.

Alpine ibex, in Belledonne-Sept Laux reserve (Isère, France), use relative low altitudes in spring (mean altitude:  $1748 \pm 250$  m in April) and highest altitudes in summer (mean altitude:  $2358 \pm 183$  m in July-August). We have study this altitudinal migration through the vegetation phenology with the hypothesis of a foraging determination of the ibex locations. It is usually predicted that optimal foraging strategy for mountain ungulates is to follow the green-up because of the good forage quality of emerging vegetation. The vegetation phenology is described in relation with altitude, aerial biomass, covert height, and forage digestibility. We have analysed if the ibex altitudinal locations depend on some of these parameters. We found a greatest forage digestibility of vegetation just after snowmelt but the forage quantity is very scarce. Ibex doesn't use preferentially the snow-melting vegetation. They adopt another strategy that consists in a trade off between forage quality and quantity. Ibex follow snowmelt with a delay in order to obtain sufficient quantity of a good forage quality. But this strategy is in competition with others priorities like the choice of the parturition site for females and thermoregulator behaviours. The trade off ends in beginning of June for females and in beginning of July for males.