

Programme and Abstracts

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Impacts of grazing on mountain bird populations: A meta-analysis

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High altitude biodiversity is threatened by climate change and changes in land management. In the European Alps, both climate-induced upward shifts in the treeline and abandonment of pastoral practices have already resulted in the loss of high altitude open habitats (shrub-grassland mosaics and alpine meadows) in many areas. Grazing could be used as a conservation tool to maintain open habitats, but grazing management targeted in the wrong areas, or applied at intensive levels, could also be detrimental to biodiversity. In order to inform management strategies, we undertook a meta-analysis on the effects of grazing on mountain birds. Standardized effect sizes were calculated from studies carried out within objectively-defined mountain regions. There was no overall consistent effect of grazing. However, when species were defined according to their main nesting habitat (forest, forest-shrub ecotone, grassland), there were significant differences. Forest birds responded negatively to grazing, but ecotone nesting species were positively affected. There was no consistent response for grassland birds. This suggests that grazing could be a useful tool to maintain open habitats for shrub-nesting species around the treeline. Many of these species nest in shrubs that are unpalatable to livestock (e.g. rhododendron and juniper), hence grazing may maintain open grassy areas which are beneficial foraging habitats, whilst minimising damage to key shrub species, thus maintaining a habitat mosaic. Grazing could therefore be a key tool in preventing forest encroachment in the forest-shrub ecotone, which is typically the most biodiverse habitat within the mountain environment.