

Programme and Abstracts

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Potential spatio-temporal mismatching in trophic relationships of Alpine Chough (*Pyrrhocorax graculus*) in North-Western Italy

Cristina Vallino¹, Enrico Caprio¹, Fabrizio Genco¹, Dan Chamberlain¹, Claudia Palestini¹, Angela Roggero¹, Rolando Antornio¹

¹*University, Turin, Piedmont, Italy*

Climate change has already had significant impacts on animal communities including habitat loss and phenological mismatches. Mountain ecosystems are expected to be particularly subject to the effects of global warming, but the impacts on bird populations inhabiting these environments are poorly known. This project concerns the potential mismatching between the Alpine Chough (AC), a widespread mountain bird species that occurs almost exclusively above the treeline, and grasshoppers, their most important food source during the reproductive period. A pilot study carried out in summer 2016 in North-Western Italy showed that AC decreased while grasshoppers increased with altitude. This may lead to a potential spatio-temporal mismatch between AC and grasshoppers. We also observed that local ACs didn't feed only on natural grasslands and pastures, but rather they exploited human food scraps (e.g. at bars and restaurants). In assessing these dynamics, it is clear that further studies need to evaluate the influence of human food sources on the behaviour and body condition of the individuals and on the Choughs' spatio-temporal responses to natural grasshopper prey by comparing populations subject to different levels of anthropogenic influence. We will assess: i) the abundance of grasshoppers along altitudinal transects; ii) the foraging behaviour, diet, movements and habitat use of Choughs through isotope analysis, radiotelemetry and direct observations; and, iii) individual bird body condition indirectly measured through analysis of contaminants and antioxidant levels in blood plasma and feathers.