How will climate change affect where high-elevation Alpine birds live?

April 20 2022

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A recent study published in *Global Change Biology* has examined where climate-sensitive bird species dependent on high-elevation habitats might survive across the European Alps in the face of climate change.

Investigators focused their analysis on four species: rock ptarmigan, water pipit, alpine accentor, and white-winged snowfinch. Accurate

distribution models, projected over current and future conditions, predicted that all species (with the partial exception of the water pipit) will undergo a range contraction towards higher elevations, losing 17% to 59% of their current range. Investigators found that ~15,000 km^2 include areas that are suitable for at least three species in current conditions and are expected to remain suitable for them also in the future, of which 44% is currently designated as protected areas.

"Knowing how distribution of high-elevation birds will change, and which areas will offer suitable conditions also in a warmer future, is key to the conservation of such sensitive species and the unique environments they inhabit," said lead author Mattia Brambilla, Ph.D., of Università degli Studi di Milano, in Italy. "These areas represent 'climate refugia' for alpine biodiversity and should be preserved from anthropic alteration and habitat degradation."

  More information: Identifying climate refugia for high-elevation Alpine birds under current climate warming predictions, *Global Change Biology* (2022). DOI: 10.1111/gcb.16187