Photo Gallery

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SPECIES DISTRIBUTION MODELS AT FINE SCALE CAN PREDICT LOCAL ABUNDANCE OF FARMLAND BIRDS

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Study Description

Species distribution models are a widespread tool in ecology, and their use to predict local abundance of modeled species had been highly debated. Until now, evaluations focused on relatively large-scale models at relatively coarse resolutions. Working on 14 farmland bird species at two spatial scales, we showed that environmental suitability in farmed landscapes derived from fine-scale (resolution: 1 ha) distribution models may predict local abundance in more than half the cases.

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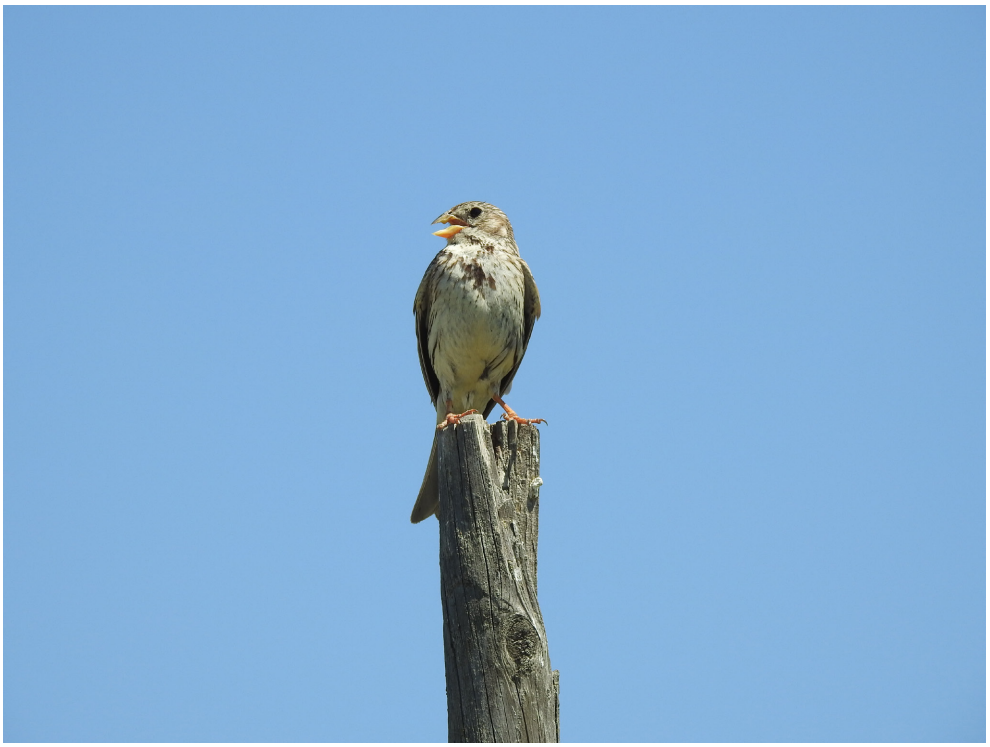

Photo 1. For more than half of the species, including corn bunting *Miliaria calandra*, suitability predicted by fine-scale distribution models is a predictor of local abundance. Photo credit: Mattia Brambilla.

Photo 2. Red-backed shrike *Lanius collurio* was the only species for which it was possible to predict local abundance also from 1-km-resolution models. Photo credit: Mattia Brambilla.

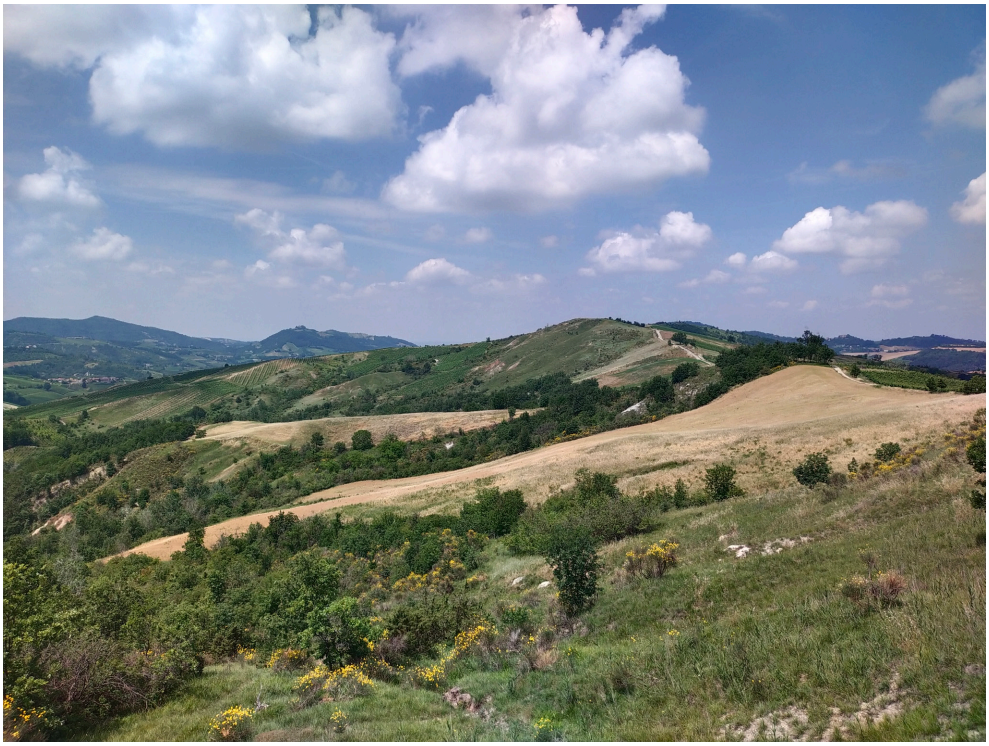

Photo 3. Inclusion of local, fine-scale variables that describe habitat characteristics is key to developing ecologically accurate distribution models, which can predict local abundance. Photo credit: Mattia Brambilla.

These photographs illustrate the article "The effectiveness of species distribution models in predicting local abundance depends on model grain size," published by M. Brambilla, G. Bazzi, and L. Ilahiane in *Ecology*. https://doi.org/10.1002/ecy.4224