

## CORRESPONDENCE

# Village modernization and farmland birds: A reply to Rosin et al. (2021)

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Rosin et al. (2021) draw the attention of the conservation community toward the impact of village modernization on farmland bird populations. Village modernization affects synanthropic farmland biodiversity through a loss of nesting and foraging habitat (Rosin et al., 2016). We agree with Rosin et al. (2021) that village modernization might be an important driver of farmland species declines, and that maintaining wildlife-friendly infrastructures is a potential lever to restore depleted populations. However, certain elements in this study are potential sources of confusion for the unwary reader and might result in a misinterpretation of the conclusions by practitioners and policy-makers.

First, Rosin et al. surveyed bird populations only during a single spring. But the results and their discussion read as if village modernization had been related to temporal changes in bird populations (population trends), for example, in the abstract: “The central tenet of European farmland ecology is that agricultural intensification [...] was largely responsible for dramatic declines in species abundances [...] The relative contribution of modernization versus agricultural intensification to predicted bird declines was 88% versus 12% [...]”

Turning a spatial gradient into a temporal one, that is, space-for-time substitution, has a long tradition in ecology

given the scarcity of time-series (Pickett, 1989), but there are important assumptions to this approach: First, the sampling units share the same history, and second, both temporal and spatial patterns of the studied variables are being driven by the same mechanisms (Damgaard, 2019). These limitations are not discussed, thereby preventing the reader from developing an idea of the limits of this study. Further research capitalizing on archival satellite imagery (Munteanu et al., 2021) together with time series of farmland bird abundance data could provide stronger evidence into the impact of village modernization on farmland bird temporal changes.

Second, it is unclear, which mechanisms might link village modernization with the abundance of field nesters such as the Eurasian Skylark (*Alauda arvensis*). The reported relations might be driven by hidden (latent) variables that affect both village modernization and nonbuilding nesters, such as the overall availability of financial resources available to farmers that are then used for intensified land management as well as the restoration of farmers' homes. This latent variable might not be captured by the variables used in the analysis and therefore the relationship between village modernization and nonbuilding nesters could be a spurious correlation.

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Finally, the implications of the results deserve better discussion: under soaring energy prices nobody wants to live in a poorly isolated house so how to solve this trade-off and provide nesting structure for farmland biodiversity in modern rural landscapes? Agricultural policies such as the Common Agricultural Policy (CAP) are one of the potential policy instruments to address these issues, although CAP agri-environmental schemes, as area-related schemes, are not suitable policy instruments for housing renovations. More relevant in the context of housing renovation are European programs such as the European fund for regional development and the LIFE-program, and other CAP pillar 2 measures such as LEADER or nonproductive investments.

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### AUTHOR CONTRIBUTIONS

L.R. Hertzog coordinated coauthors' input and wrote the first draft. All authors revised the manuscript for critical intellectual contributions; edited the manuscript; support its content; approve of the final manuscript form; and agree to be accountable for its content.

### ETHICS STATEMENT

This article does not contain any studies involving animals or human participants performed by any of the authors.

### DATA AVAILABILITY STATEMENT

Data sharing not applicable, and no new data are generated.

### CONFLICT OF INTEREST


All authors declare no conflict of interest.

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