
Reproductive behavior in the great tit *Parus major* in urban and rural environments

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Résumé

Urbanization is a process characterized by rapid environmental change. Thus, urban areas provide a specific opportunity for studying organisms' phenotypic responses to new artificial conditions. Many studies have described phenotypic differences between urban and rural bird populations, e.g. in morphology or life history. Recently, several studies investigated the divergences in reproductive traits and the associated selection pressures between habitats. However, these studies only focused on first clutches, without considering multiple clutches. We quantified linear reproductive selection force and direction (using reproductive success as a proxy of reproductive output) on laying date for first and multiple clutches (replacement and second clutches) in urban and forest great tits exploiting a 12-year data set. We confirmed that urban birds bred on average earlier compared to their forest counterparts and that for their first clutches of the season, forest great tits exhibited negative selection favoring earlier breeding whereas statistically non-significant positive selection was found in the city. Interestingly, when combining the reproductive success from first and later clutches, selection patterns changed as both urban and forest great tits exhibited negative selection favoring earlier first breeding attempt. We propose that the between-habitat differences in reproductive strategies are probably caused by spatial variation in the peak-date of food required to rear the nestlings. Our study also highlights the need to consider later broods in further analyses.

Mots-Clés: great tit, urbanization, life history traits, selection pressures

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