



Phenological response of selected bird species (two residents and one migrant) in central Europe

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In this study we analyzed the breeding times of two residents (*Sitta europaea*, *Parus major*) and one long-distance migrant (*Ficedula albicollis*) from 1961 through 2007 in middle Europe. The timing of the phenophases of all three bird species showed a significant advance to earlier times. Nevertheless, the most marked shift was observed for the long-distance migrant (1.9*** days per decade). In contrast, the shifts shown by the residents were lower (1.6* days for *S. europaea* and 1.5* days for *P. major*). Spearman rank correlation coefficients calculated for pairs of phenophases of given bird species in 20-year subsamples (e.g., 1961-1980, 1962-1981) showed higher phenological separation between the residents and the migrant. This separation is most apparent subsequent to the 1980's. The phenophases of the resident species were most strongly correlated with the average temperature at the breeding site during the MA period (March-April), and the phenophases of the long-distance migrant were most strongly correlated with the average temperature during MAM (March-April-May). Thus our results indicate that the interconnections between the studied phenological stages of the three bird species are becoming weaker.