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Ecological Studies in the Museum: Great Grey Shrikes of Different Phenotype use Different Foraging Niches

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SUMMARY

We tested relationships between morphological traits and foraging efficiency in the Great Grey Shrike *Lanius excubitor*.

From the collections of the Department of Natural History, Sarriske Museum, Bardejov, Slovakia we used moulted feathers, measurements and stomach contents. Only adult birds collected between April and October were selected for the analysis (N=48).

Ordination methods (redundancy analysis) and generalized linear model regression show that the composition of birds' food was nonrandom in respect to body characteristics. Tarsus and wing length are the most important morphometric factors and explain 12.7 % of overall variance in food data. Smaller birds forage

mainly on Carabidae. Individuals with longer wings and tails more frequently prey on flying and plant dwelling insects. We conclude that phenotypic traits of an animal at least partially determine its efficiency in obtaining specific kind of food. Phenotype-dependent differences in foraging efficiency are important factors in maintaining high variability within populations, and may serve as a source of adaptive radiation.

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