On energetics of mating behaviour of pied flycatcher (Ficedula hypoleuca) males

E. V. Ivankina 1, A. B. Kerimov 2, A. V. Bushuev 2 and T. A. Ilyina 2

1 Zvenigorod biological station, Faculty of Biology of Moscow State University, Post box Shikhovo, Odintsovo district, Moscow region, 143092, Russia
2 Dept. of Vertebrate Zoology, Faculty of Biology of Moscow State University, Moscow 119991, Russia
Email: ivankinalena@yandex.ru

Estimation of energy cost of mating behaviour may provide valuable clues for understanding diversity of reproductive strategies in birds. To attract females pied flycatcher males perform exaggerated advertising behaviour accompanied by inspection and demonstrations of nest holes. We attempted to find how different styles of male mating behaviour in this species were related to basal metabolic rate (BMR), forming significant portion of maintenance energy expenses. Bachelor males temporarily removed during pre-nesting period were divided on two samples. Males from first sample (n = 137) were one by one tested in open field (OF) representing 2X2X4m indoor aviary supplied by artificial trees and nest boxes. Their BMRs were measured at night time just before or after OF tests. Males from second sample (n=68) after OF tests were also put in outdoor aviaries where they were exposed to female placed in adjoining room. Their BMRs were measured next night. Males which frequently got into nest boxes in OF and/or in female presence had lower BMR than males which did it rarely. Increased BMR was peculiar to males with increased rate of circle flights in OF. This type of locomotion negatively correlated with the rate of activities devoted to nest box. On average, males which passed both tests (OF plus stimulation by female) had higher BMR than males tested only in OF. The results suggest that contact with female may lead to short time BMR increase in males. Low (or lowered) BMR is peculiar to males who already switched over purposeful forms of mating behaviour.