

THE EUROPEAN AUTUMN MIGRATION PATTERN  
OF THE BLACKCAP, *SYLVIA ATRICAPILLA* –  
FROM FAUNISTIC OBSERVATIONS TO A BASIC  
ANALYSIS OF ORIENTATION CAGE FIELD DATA

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ABSTRACT

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Presentation of a general pattern of migration is very difficult in the case of small passerines, especially nocturnal migrants, as the few accepted methods are inefficient here. It is difficult to follow migration visually (by visual field observations or moon watching). Classic ringing must be extremely intensive due to low or very low recovery rates, especially in Africa, Eastern Europe and Asia, which additionally rule out any reasonable estimation of the intensity of migration towards different destinations. Radar studies tell us nothing about the migration of individual species. Even the most modern methods, such as geolocation and radio tracking, are of very limited use for population studies. For these reasons, in most cases our knowledge in this area is fragmentary and insufficient for a satisfactory description of migration. In many cases only the breeding areas have been faunistically described in detail, while the winter-quarters and areas where the species is observed during migration are frequently described with less precision. The introduction of an effective method for studying local headings of migrants, using 'orientation cages', has made it possible to study the migration patterns of small passerine nocturnal migrants. The presented work is a case study on the migration pattern of the Blackcap, using data from orientation tests collected in autumn as part of the work of SEEN (SE European Bird Migration Network), consisting of 5,392 tests performed at 28 ringing sites in Central/Eastern Europe and the Middle East. The paper continues the discussion of the problem of applying the method to presentation of migration patterns in a geographically wide territory (Busse 2018, 2019, 2020).

The hypothesis put forth by Busse (2019) that the arrival/departure heading axes are generally linear is accurate to within about one 10° sector was confirmed earlier. Here it was confirmed at the level of local patterns for the study sites. In general, the average deviation from the straight line is below 1°. However, there is some geographical variation, and this problem could be discussed when many more results of this kind become available for a few more species. Eight headings/streams of migrants are defined for the Blackcap within the area. Southward and south-eastern streams dominate in most of the study area. However, a very special, nearly longitudinal heading was found in southern Europe and the Middle East, which requires further study. Comparison of the patterns obtained from three different procedures strongly suggests that the general picture

of Blackcap migration in Central/Eastern Europe and the Middle East is clear and coherent. Some variation in migration stream parameters (linearity and reversed heading share) suggests that further research in this direction should be conducted using data from other species.

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