

## Kurze Mitteilungen

### Nest structure and egg-characteristics of the Blackcap (*Sylvia atricapilla*) in a region of Croatia

During May–July from 1989–1991 I studied Blackcap nests and eggs in the Hrvatsko Zagorje region. I examined the lowlands along the Krapina River and particularly the area belonging to the village of Mokrice in the Hrvatsko Zagorje. In this region there are the remainings of a once widespread hornbeam (*Carpinus betulus*) and common oak (*Quercus robur*) forest. In the mentioned region Blackcaps are the most common nesting birds of the genus *Sylvia*. According to VAURIE (1959) they belong to the subspecies of *Sylvia atricapilla atricapilla*. The data are the first collected on the territory of Croatia.

As part of the research I measured the length and the width of 1286 eggs. The measurements were done with a sliding gauge. Using a precise scale „Tehnica“ I determined the mass of 90 eggs and the mass of 90 egg shells. I used 50 nests for the analysis of the nest structure. The egg index was calculated according to SCHÖNWETTER (1967–79), and the egg volume according to HOYT (1979). The nest structure was first sorted according to origin and then it was counted. The nest building materials were sorted into 6 groups: the material of vegetable origin was classified into 3 groups (A, B, C), the material of animal origin into 2 groups (D and E) and the materials made by man into one group (F) which was mainly thread.

#### Results

The results of the nest structure analysis is shown in table 1. The most represented are parts of dry herbaceous plants (65.6%), mostly dry stalks of different short herbaceous plants. The most dominant structure of the nest is of vegetable origin (79.7%), then of animal origin (19.9%), and the least represented (0.4%) is of man made products. The animal material mostly consists of mammal hair, and fowl and bird feathers constitute only 0.04% of the total structure. On average one nest contained 674 pieces of building elements (min. no. of elements 287, max no. of elements 1134). The nest structure mainly corresponds to published data (for example NIETHAMMER 1937, VERHEYEN 1967, BERTHOLD, QUERNER & SCHLENKER 1990). GREGORI & KREČIČ (1979) report on bird feathers in the inner part of the nest, however according to my research, there were very little.

The altitude of the nests which I found was from 30 cm to 190 cm, mostly 40–70 cm above ground, mainly situated in hornbeam shrubs (75%), but also in elder shrubs (*Sambucus nigra*), elm shrubs (*Ulmus minor*), willow shrubs (*Salix* spp.) and similar. In small forests, I found nests in shrubs of a big spotted dead nettle (2% of the total observed nests).

Tabl 1: Nest structure of 50 analysed nests. — Nestaubau von 50 analysierten Nestern.

	Number of pieces (%)	average number per nest
A thin roots of different plants	2805 (8.3)	56.1
B dry twigs and dry leaves of trees	1940 (5.8)	38.5
C dry parts of herbaceous plants	22085 (65.6)	441.7
D fowl and bird feathers	15 (0.04)	0.3
E mammal hair	6690 (19.9)	133.8
F thread and similar	142 (0.4)	2.8
TOTAL	33677 (100)	673.5

Table 2: Egg-characteristics (n=number of eggs). – Ei-Markmale (n= Eizahl).

		n
$\bar{x}$ per nest	4.76	1286
min number in a nest	2	1286
max number in a nest	6	1286
$\bar{x}$ length and $\bar{x}$ width (mm)	19.28–14.24	1286
min length – max length (mm)	17.33–22.96	1286
min width – max width (mm)	13.86–15.88	1286
$\bar{x}$ egg mass (g)	2.03	90
$\bar{x}$ egg shell mass (g)	0.13	50
$\bar{x}$ egg volume (mm <sup>3</sup> )	2139.16	1286
$\bar{x}$ egg index	1.34	1286

On average I found 4.8 (2 to 6) eggs per nest. The average length of an egg was 19.28 mm, the average width 14.24 mm (max. and min. values in table 2). The average mass of a fresh laid egg was 2.03 grams, of the egg shell 0.13 grams, the calculated egg volume was 2139.16 mm<sup>3</sup>, and the egg index 1.34 mm. When comparing these characteristics with the data given by NIETHAMMER (1937), VERHEYEN (1967) and WALTHER (1987) there aren't any considerable differences.

### Zusammenfassung

Neststruktur und Ei-Charakteristika Kroatischer Mönchsgrasmücken (*Sylvia atricapilla*). – Die Zusammenstellung enthält erste Angaben aus Kroatien über die Neststruktur (Tab. 1) und Ei-Charakteristika (Tab. 2) der Mönchsgrasmücke.

### References

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## Dartford Warbler, *Sylvia undata*, ringed in Italy and recovered in Tunisia\*

The Dartford Warbler, *Sylvia undata*, is a partially migratory species, many birds wintering also at the northernmost limits of the breeding range (Cramp 1992, Glutz von Blotzheim & Bauer 1991). It is regularly observed, however, outside the breeding range; such records are usually referred to juveniles (Bibby 1979, Bergmann 1978). Many birds, for instance, spend the winter in the northwest-African countries (Etchecopar & Hue 1964, Hollom *et al.* 1988), which they partly seem to reach through Gibraltar (Bergmann 1978, Finlayson 1991). The regular presence on Mediterranean islands

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