

PHENOLOGY OF WOODCOCK *SCOLOPAX RUSTICOLA* IN A WINTERING AREA OF NORTHWEST HELLAS

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1. Introduction

The woodcock (*Scolopax rusticola*) is a migratory species having a great patrimonial and hunting interest in Hellas (Thomaides et al. 2007). Hellas is mainly a wintering area for the woodcock; most birds which were recovered had been ringed in Russia and Finland (Akriotis and Handrinos 2004). The aim of this study is to contribute to the knowledge of phenology of species by the use of the most long-term data which are available in Hellas.

2. Material and methods

The study was undertaken on a wider area of 800 Km², around the city of Kastoria in northwest Hellas. The phenology was estimated through the cynegetic index abundance. Woodcocks spotted during each daily hunting trip were recorded. The hunting took place mainly in mountainous deciduous forests (*Quercus sp.*, *Fagus sp.*). The same hunters (third author) made 333 hunting trips for 13 hunting periods (1992-93 – 2006-07). The hunting period is between 15/09 – 28/02. Cynegetic index abundances were compared with the paired T test and regression analysis.

3. Results

In total 1440 woodcocks were recorded. The mean number of woodcocks per hunting trip was 4,3 birds. The first birds were arriving in the area in October, but most woodcocks were coming at the first decade of November (Fig. 1).

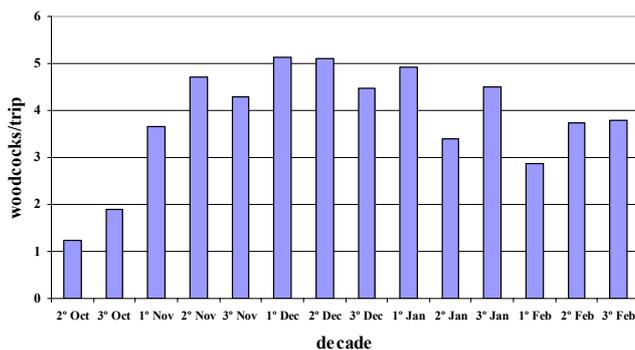


Figure 1. Mean number of woodcocks per hunting trip for the corresponded decade.

Table 1 shows that the abundance of woodcocks didn't change significantly between the months from November to February ($p > 0,094$ paired T test).

Table 1. Mean number of woodcocks per hunting trip for the corresponded month.

month	November	December	January	February
MEAN±SE	4,55 ± 0,616	5,41 ± 1,03	4,2 ± 1,22	3,46 ± 0,91

The lowest abundances of woodcocks 1,83 and 1,66 birds/trip were observed at the periods 2001-02 and 2005-06 respectively. The common characteristic of these periods was the cold weather.

Specifically, the abundance of woodcock is dependent from the mean air temperature during December and January ($p = 0,046 < 0,05$) (Fig. 2). The hunting period of 2002-03 has excluded from the analysis due to the decreased population of woodcocks (Thomaides et al. 2007).

The precipitation during November and December seems to be a secondary factor influencing negatively the abundance of woodcocks (Fig. 3). But, its influence isn't significant ($p = 0,19 > 0,05$).

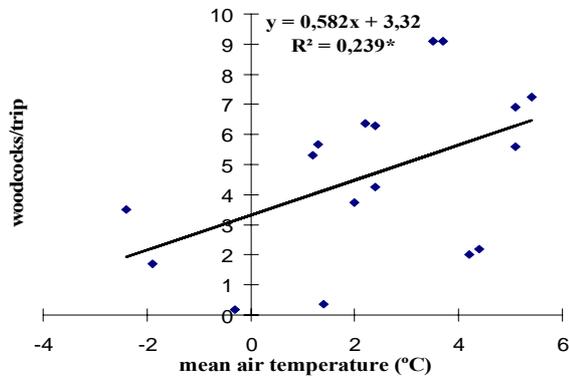


Figure 2. Mean number of woodcocks per hunting trip in correlation with the mean air temperature during December and January.

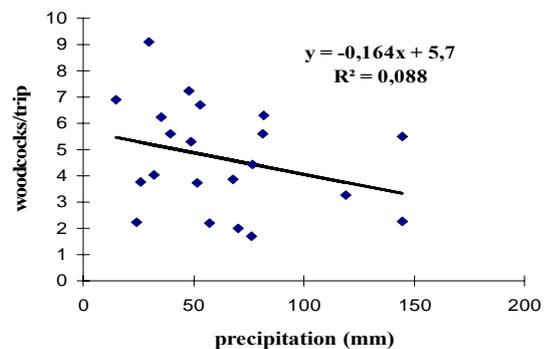


Figure 3. Mean number of woodcocks per hunting trip in correlation with the month precipitation during November and December.

4. Discussion

This study revealed that the abundance of woodcock doesn't change significant from November to February in the same year. The maximum numbers of woodcocks were observed in the first two decades of December. One reason may be the additive arrival of woodcocks from the north due to the decreasing of temperature. In February there is a slight decrease in abundance of woodcocks that can be attributed to winter mortality. Our data on phenology are almost identical with that of Hidalgo and Rocha (2001) in eastern Spain.

In our study the air temperature is an essential factor that influences the abundance of woodcocks between the years. This is something understandable because woodcock is a species very sensitive to adverse weather conditions in winter (Boos et al. 2005).

At the beginning of winter, the increase of precipitation decreases the number of woodcocks in the study area. This can be attributed to the fact that precipitation increases the food availability in drier areas (earthworms) and this possibly causes dispersion of woodcocks which in turn decreases the population density.

5. Conclusion

The phenology doesn't change significantly during winter, this indicates that the prenuptial migration takes place mainly in spring. Weather conditions, mainly air temperature, influence the abundance of woodcocks between the years.

6. References

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