

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



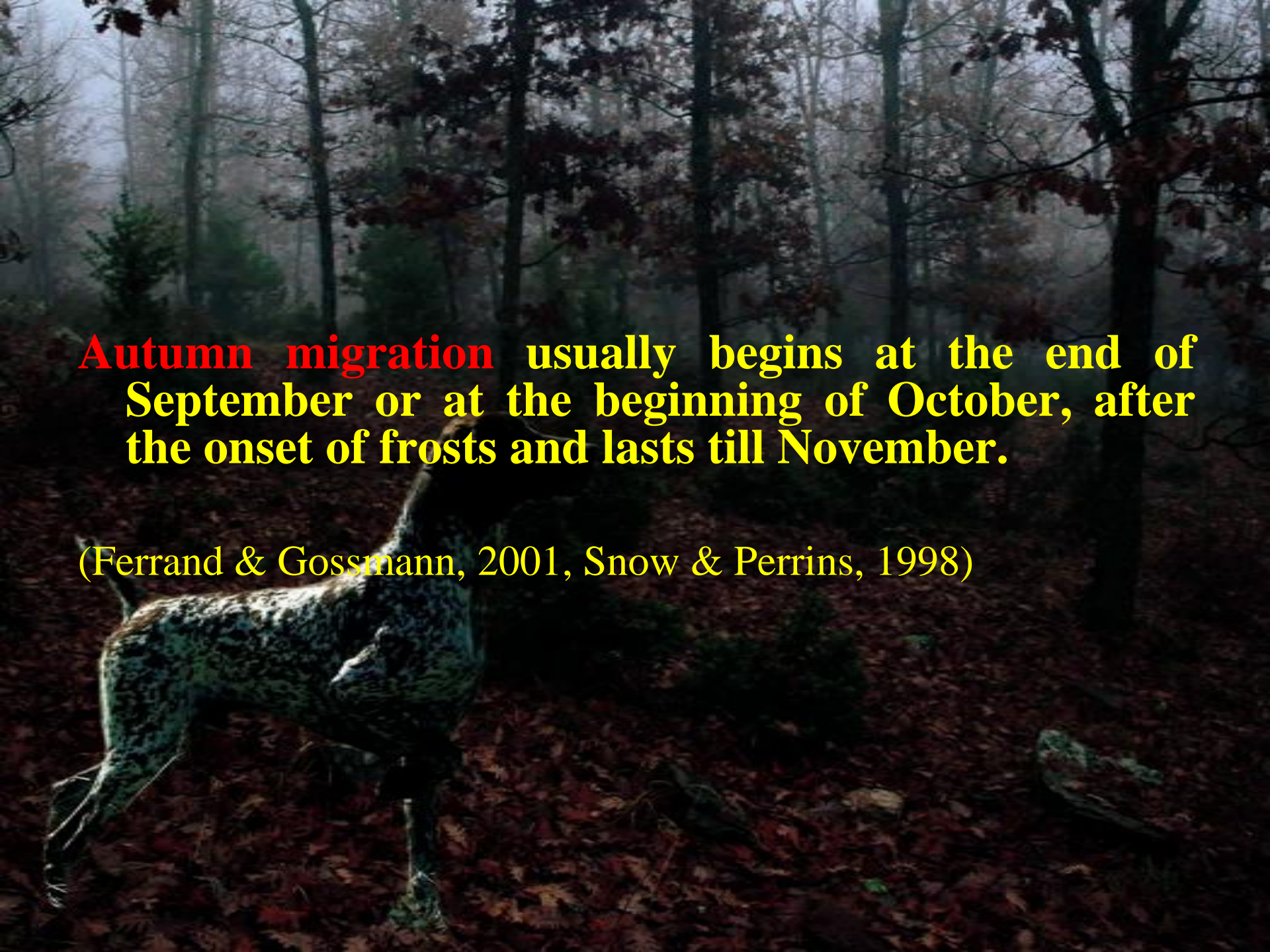
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**<sup>1</sup> Hunting Federation of Macedonia & Thrace, Hellas**

**<sup>2</sup> *ORION – The Hunters'Net***

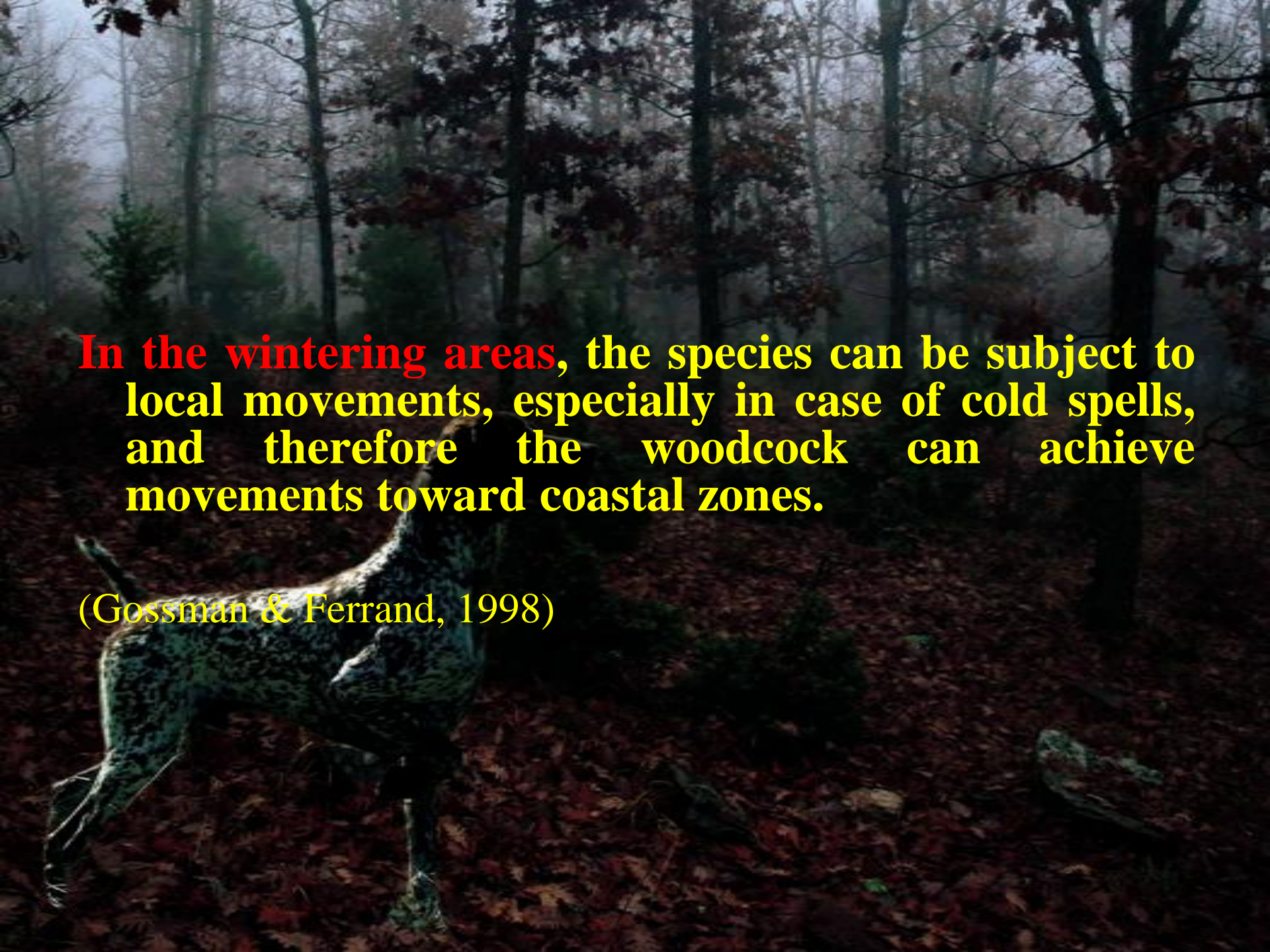


**The woodcock (*Scolopax rusticola*) is a migratory species having a great patrimonial and hunting interest in Hellas**

A German Shorthaired Pointer dog is standing in a forest. The ground is covered with fallen autumn leaves in shades of brown and red. The trees in the background have sparse, brown leaves, suggesting a late autumn or early winter setting. The lighting is somewhat dim, creating a moody atmosphere.

**Autumn migration** usually begins at the end of September or at the beginning of October, after the onset of frosts and lasts till November.

(Ferrand & Gossmann, 2001, Snow & Perrins, 1998)

A woodcock is shown in profile, standing on a forest floor covered in fallen leaves. The bird has mottled brown and black feathers. The background consists of tall, thin trees with sparse, brownish leaves, suggesting an autumn or winter setting. The lighting is somewhat dim, creating a moody atmosphere.

**In the wintering areas, the species can be subject to local movements, especially in case of cold spells, and therefore the woodcock can achieve movements toward coastal zones.**

(Gossman & Ferrand, 1998)

A dog, possibly a pointer or similar breed, is standing in a forest. The dog is facing right and has its head slightly raised. The forest floor is covered in fallen leaves, and the background shows tall, thin trees with some autumn-colored foliage. The lighting is somewhat dim, suggesting an overcast day or a shaded forest.

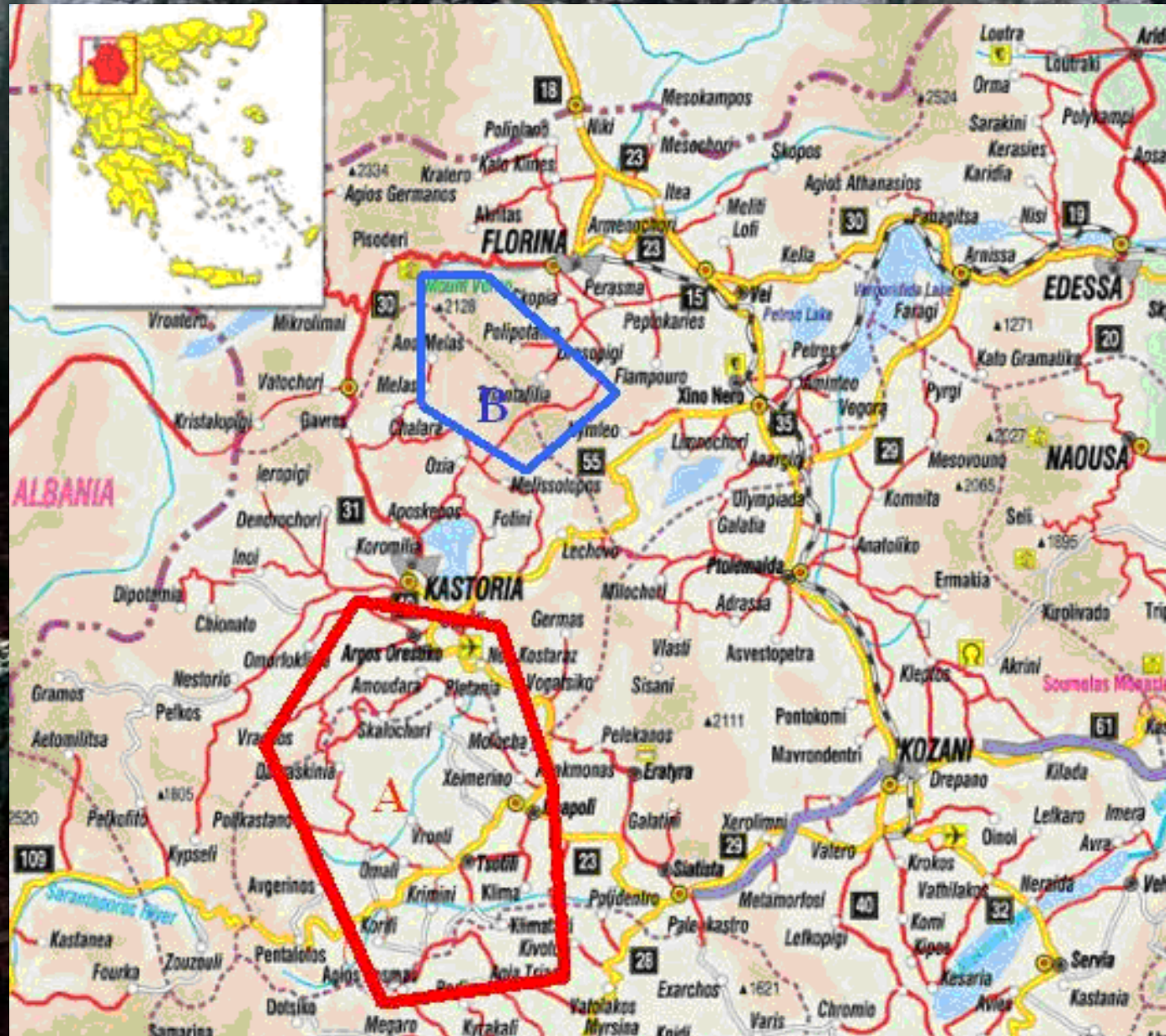
The date of **spring migration** receives a lot of discussion due to migratory species must not be hunted during their return to rearing grounds.

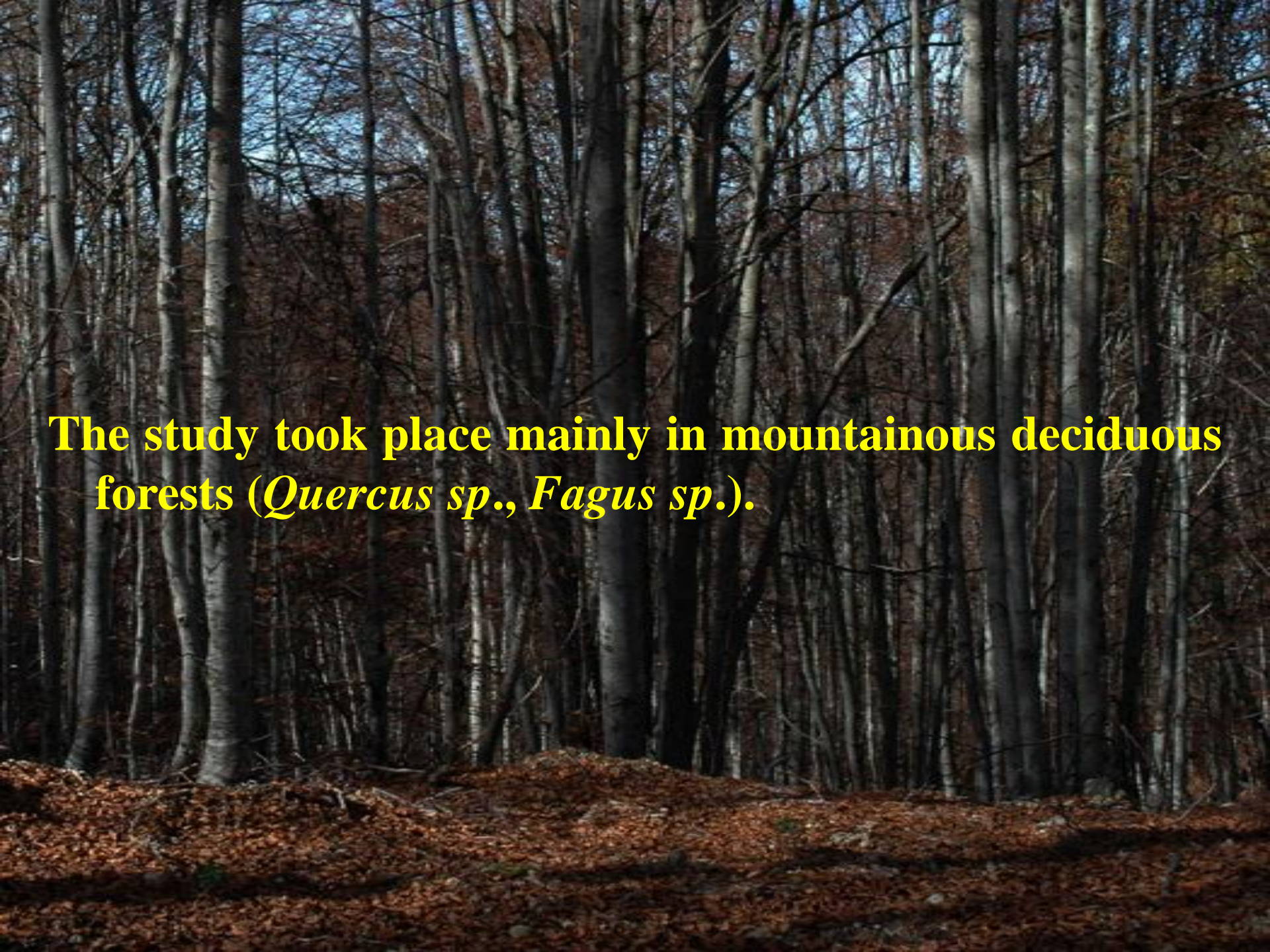
**(Article 7.4, Birds Directive 79/409/EEC).**

A German Shorthaired Pointer dog is standing in a forest. The dog is facing right and has a speckled coat. The forest floor is covered in fallen leaves, and the trees in the background have some autumn-colored foliage. The lighting is somewhat dim, suggesting an overcast day or a shaded forest.

**Aim of this study is to contribute to the knowledge of phenology of species in Hellas.**

# Study area





**The study took place mainly in mountainous deciduous forests (*Quercus sp.*, *Fagus sp.*).**



A woodcock is visible in the lower-left portion of the image, standing on a forest floor covered in fallen leaves. The background consists of a dense forest of trees with bare branches, suggesting an autumn or winter setting. The text is overlaid on this background in a bright yellow color.

**The phenology was estimated through the cynegetic index abundance. Woodcocks spotted during each daily hunting trip were recorded.**

**The same hunters (third author) made 333 hunting trips for 13 hunting periods (1992-93 – 2006-07).**

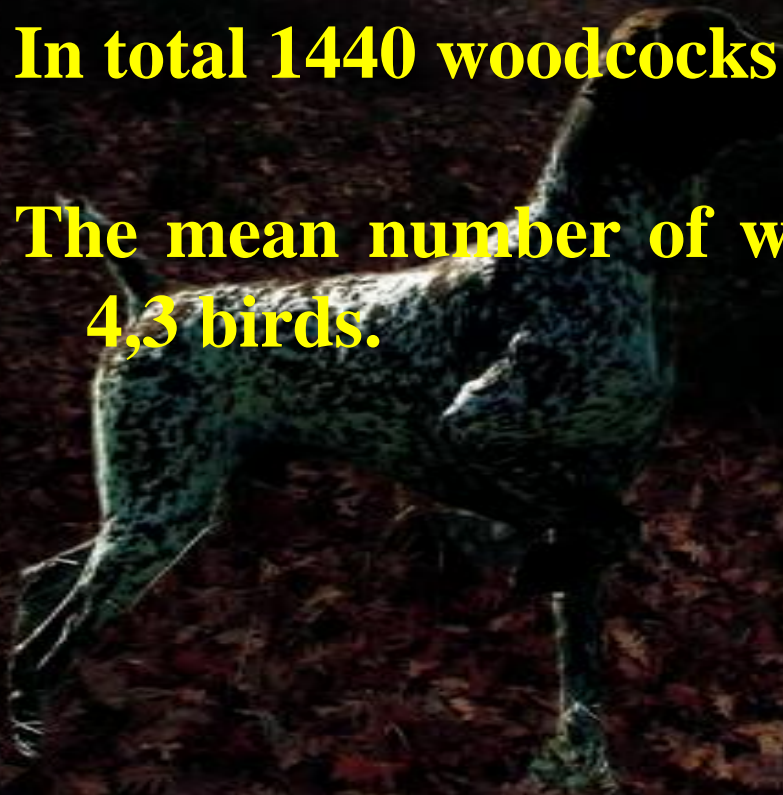
**The hunting period is between 15/09 – 28/02.**

**Cynegetic index abundances were compared with the paired T test and regression analysis.**

## **Results and Discussion**

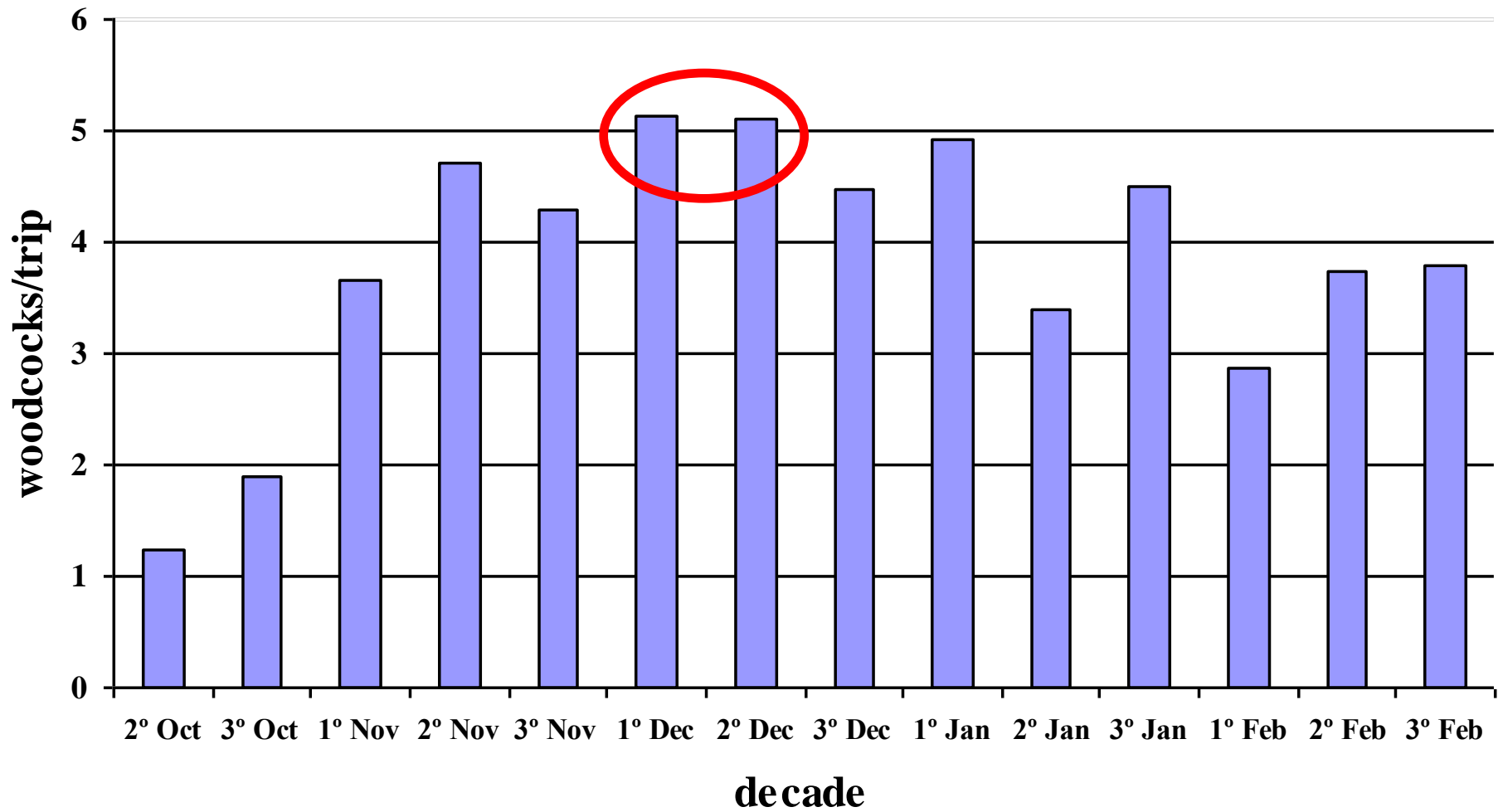
**In total 1440 woodcocks were recorded.**

**The mean number of woodcocks per hunting trip was 4,3 birds.**

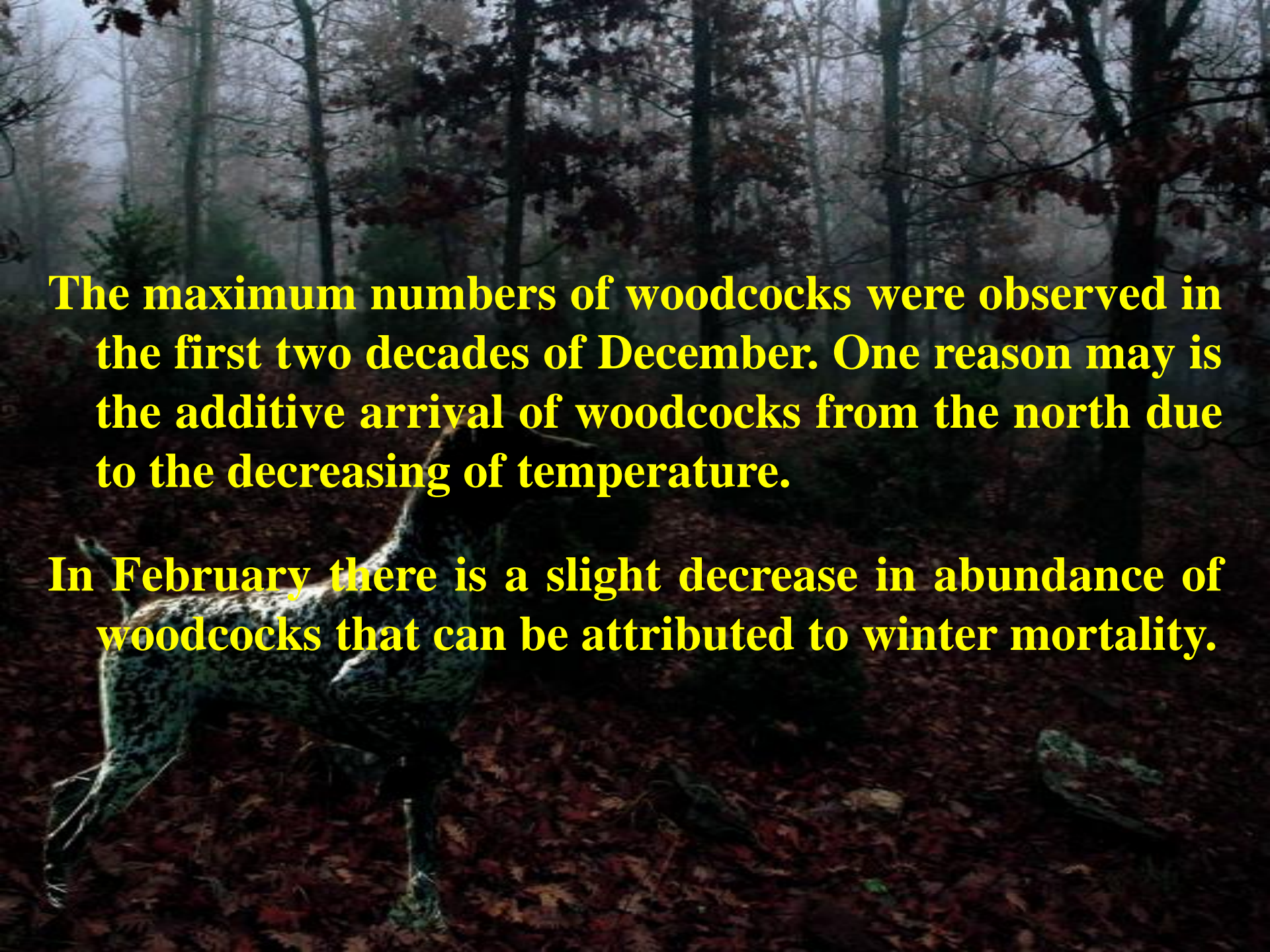


**The first birds were arriving in the area in October, but most woodcocks were coming at the first decade of November.**





*Figure 1. Mean number of woodcocks per hunting trip*

A woodcock is shown in a forest setting, standing on a ground covered with fallen leaves. The background consists of tall, thin trees with sparse foliage, suggesting a late autumn or winter environment. The lighting is somewhat dim, creating a moody atmosphere. Overlaid on the image is yellow text in a bold, sans-serif font.

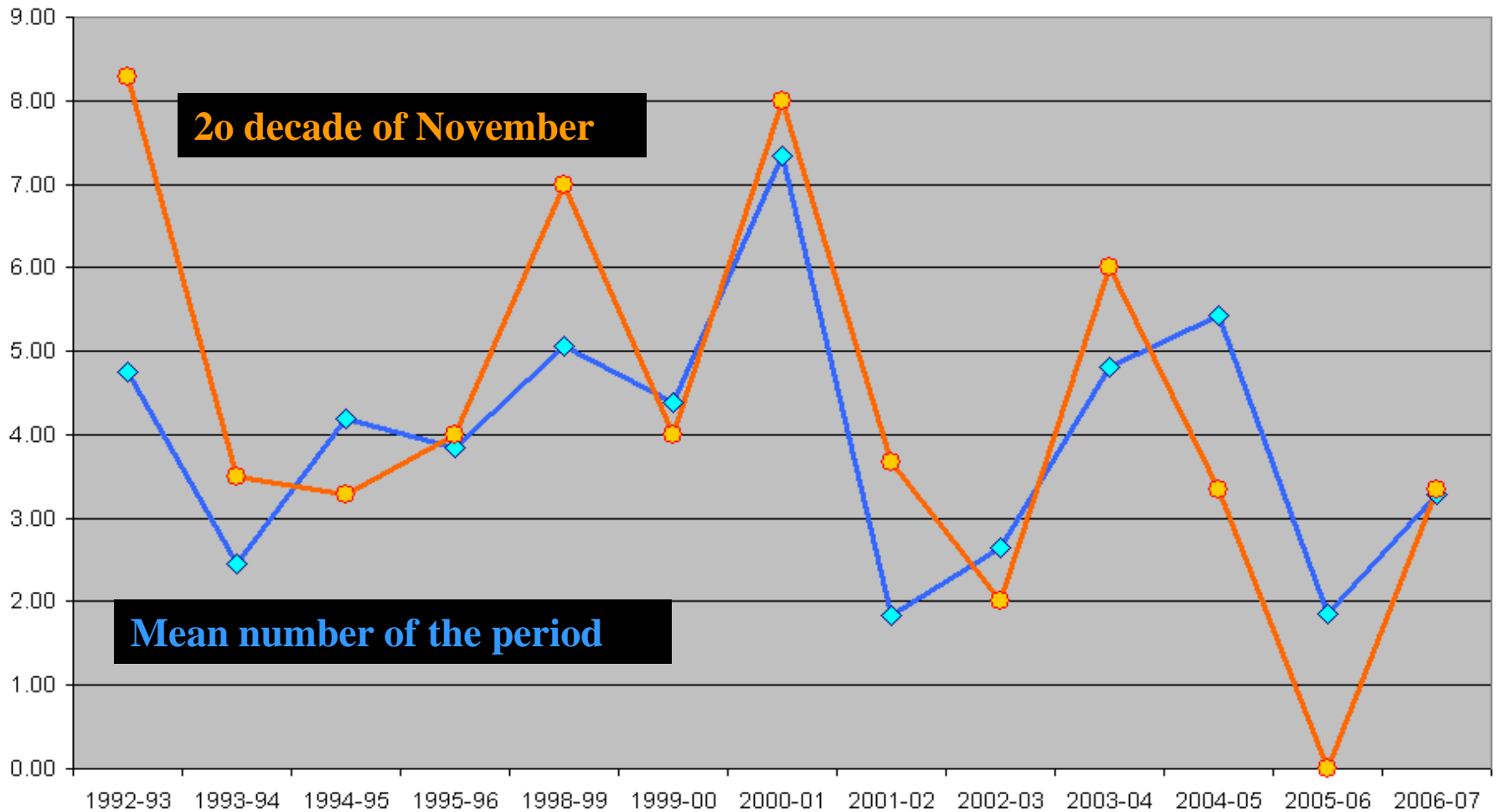
**The maximum numbers of woodcocks were observed in the first two decades of December. One reason may be the additive arrival of woodcocks from the north due to the decreasing of temperature.**

**In February there is a slight decrease in abundance of woodcocks that can be attributed to winter mortality.**

### ΕΜΦΑΝΙΣΕΙΣ ΠΟΥΛΙΩΝ ΑΝΑ ΗΜΕΡΑ - ΠΡΟΒΛΕΨΗ ΤΑΣΗΣ ΕΤΟΥΣ

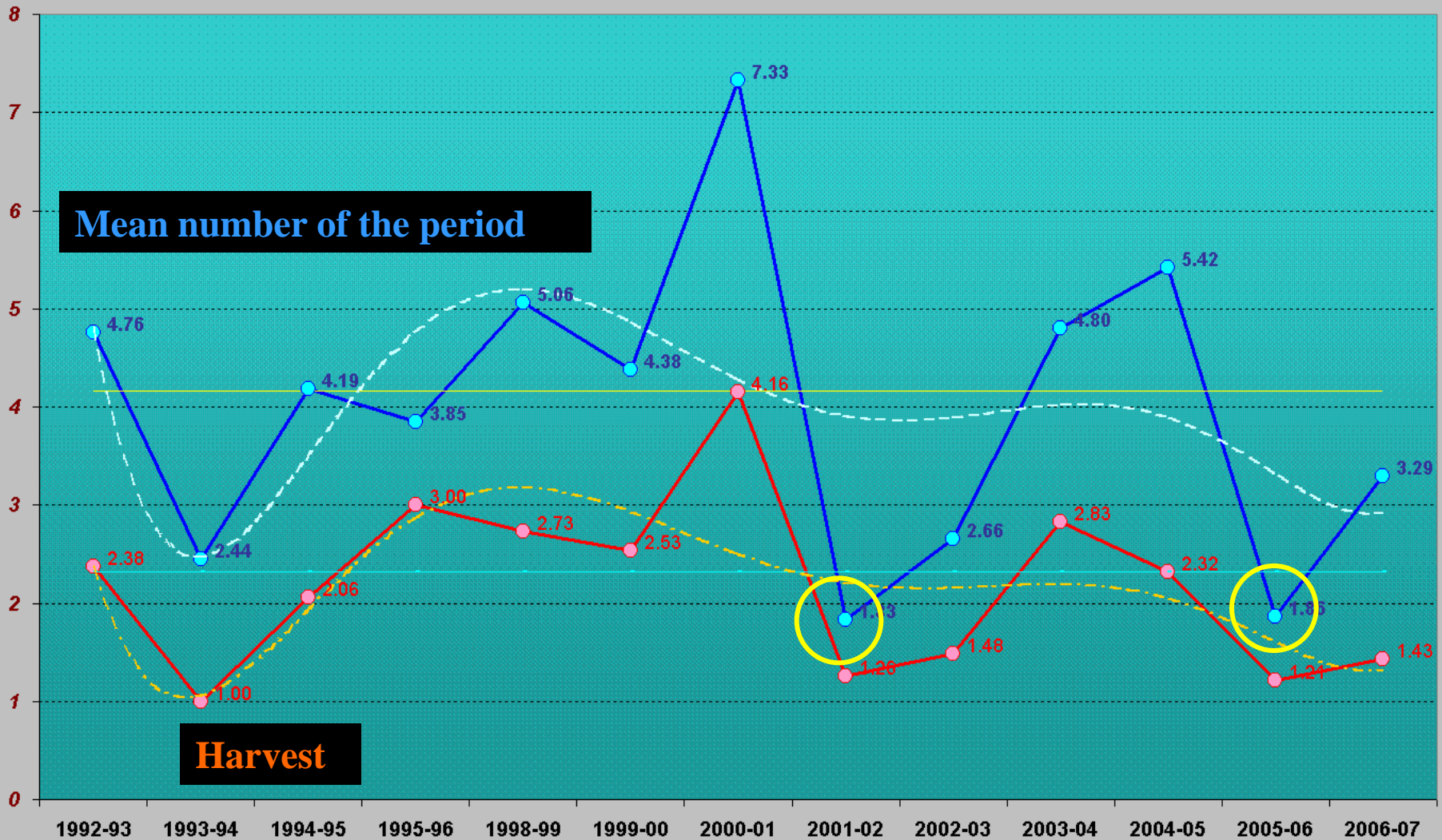
ΜΕΣΟΣ ΟΡΟΣ ΕΤΟΥΣ

2ο ΔΕΚΑΗΜΕΡΟ ΝΟΕΜΒΡΙΟΥ

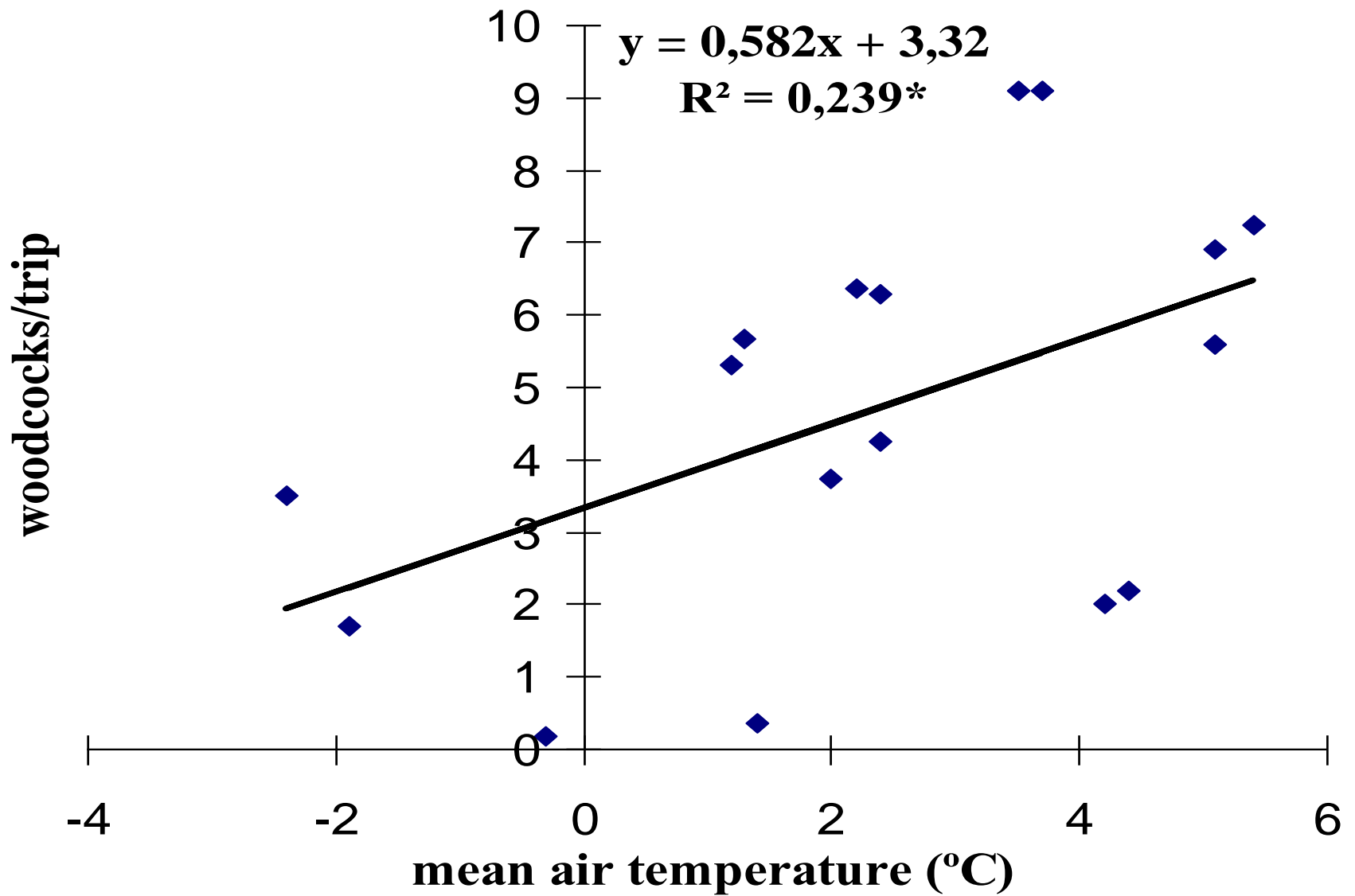


**Figure 2. The abundance of 2o decade of November can forecast the abundance of the period.**

ΕΜΦΑΝΙΣΕΙΣ - ΕΠΙΤΥΧΙΕΣ ΑΝΑ ΗΜΕΡΑ / ΜΕΣΟΣ ΟΡΟΣ ΚΥΝΗΓΕΤΙΚΗΣ ΠΕΡΙΟΔΟΥ

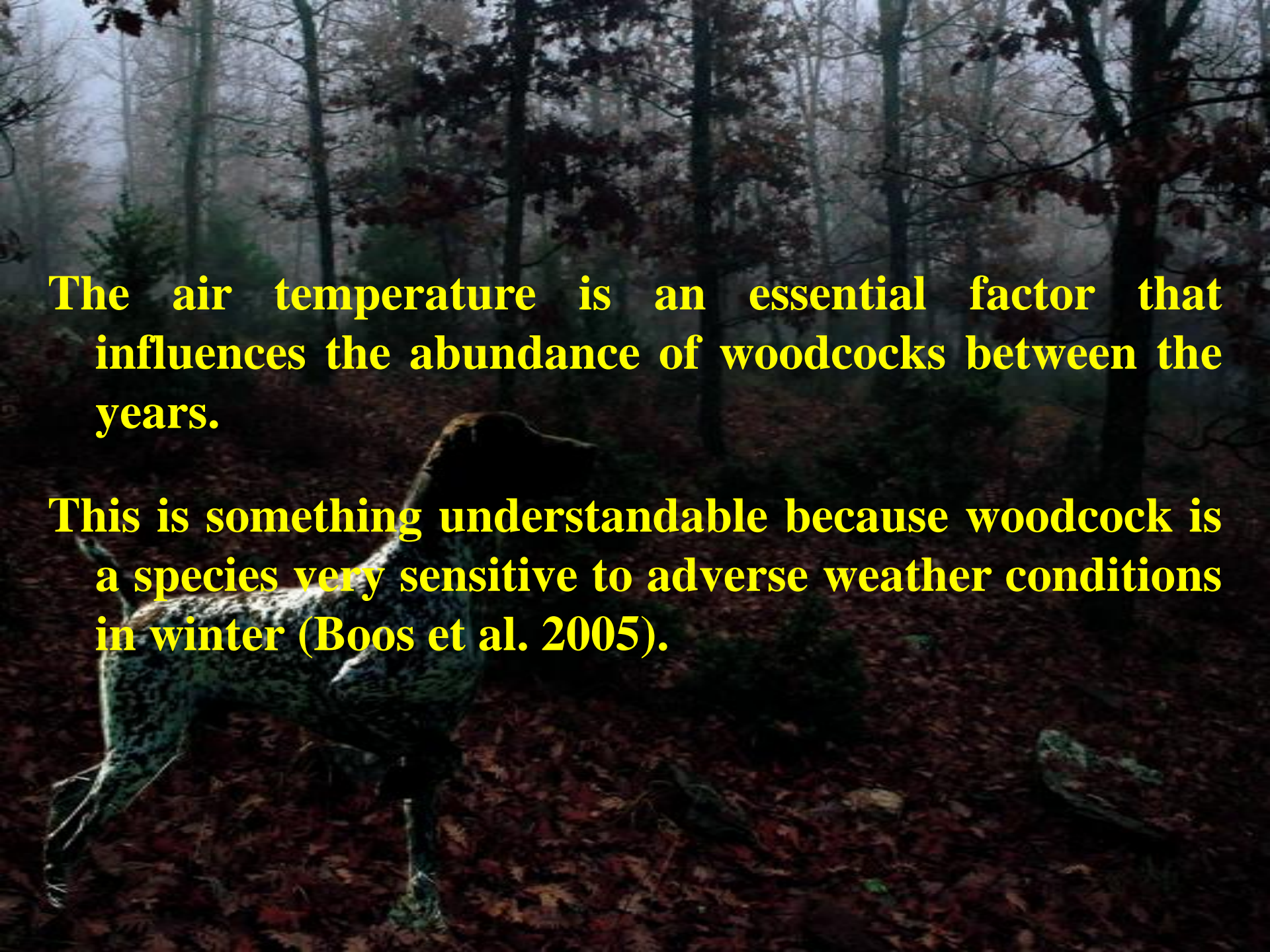


*Figure 3. Relation between abundance and harvest.*



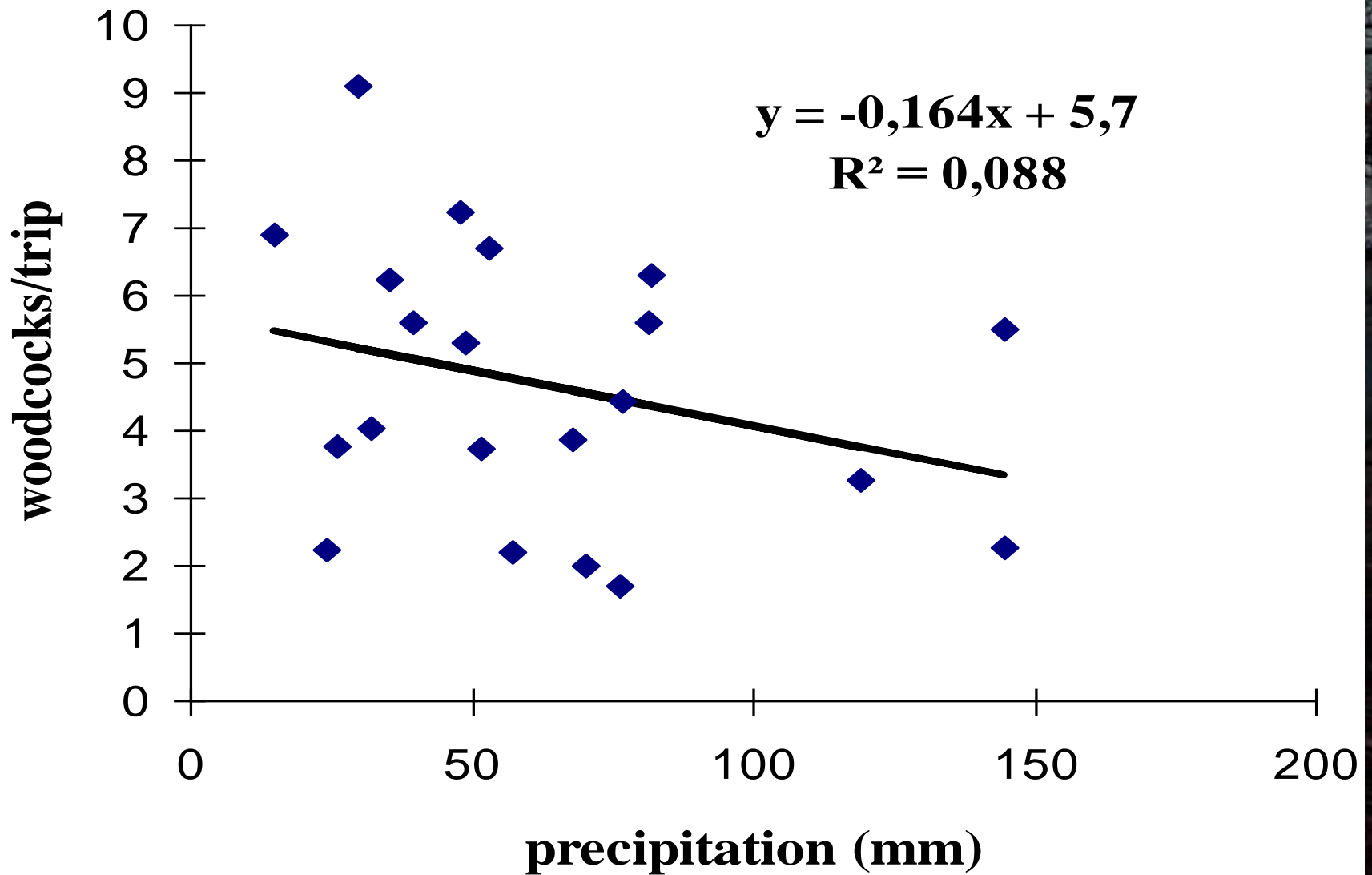
*Figure 4. Abundance in correlation with the mean air temperature during December and January.*



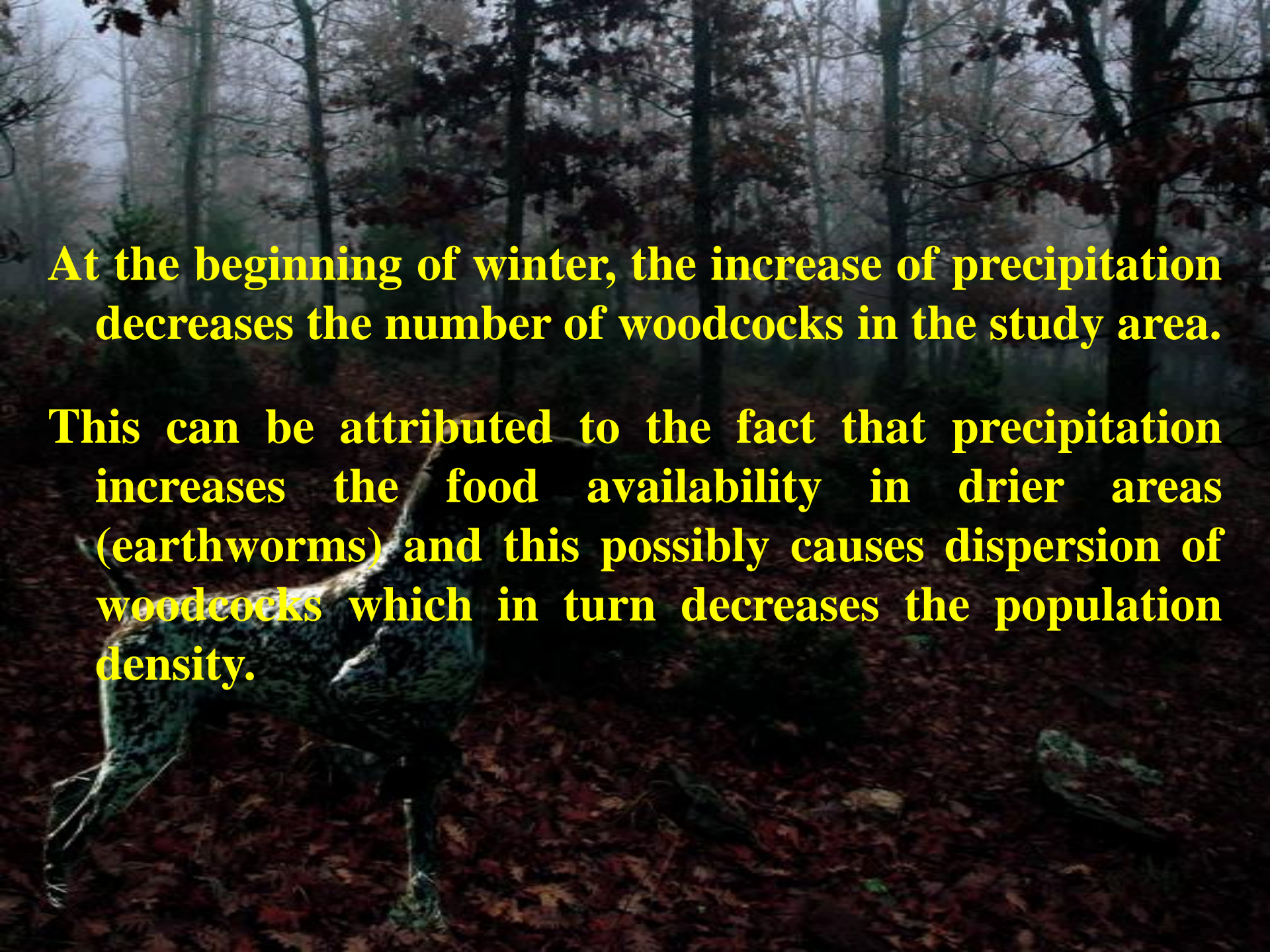
A woodcock is shown in a forest setting, standing on a ground covered with fallen brown leaves. The bird has mottled brown and black feathers and a long, thin beak. The background consists of tall, thin trees with sparse foliage, suggesting an autumn or winter environment. The lighting is somewhat dim, creating a naturalistic atmosphere.

**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).**



*Figure 5. Abundance in correlation with the month precipitation during November and December.*

A woodcock is shown in a forest setting, standing on a ground covered with fallen leaves. The background consists of tall, thin trees with sparse foliage, suggesting a late autumn or winter environment. The lighting is somewhat dim, with a soft glow around the bird.

**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.**

## CONCLUSIONS

**The phenology doesn't change significantly during winter, this indicates that the prenuptial migration takes place mainly in spring.**

**The abundance of 20 decade of November can forecast the abundance of the period.**

**Weather conditions, mainly air temperature, influence the abundance of woodcocks between the years.**

Thank you

