



**DEMOGRAPHY OF SONG THRUSH *TURDUS
PHILOMELOS* IN A MEDITERRANEAN WINTERING
AREA**

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1. Introduction

Mediterranean is important region for the wintering of song thrush (*Turdus philomelos*). Song thrush is a medium distance migrant and one of the most important migratory species for the hunting economy of Mediterranean countries (Thomaides et al. 2007). The impact assessment of hunting is essential because potentially the exploitation could negatively affect song thrush populations that should be regarded as an international resource. According to Birds Directive 79/409/EEC, migratory species must not be hunted during their return to rearing grounds (article 7.4). The aim of this study is to give preliminary results on the demography of species as an index of differential migration.

2. Material and methods

The study area consists of a 5 Km² area of maquis shrublands and olive groves. The hunting of song thrush is permitted from 15/9 – 28/2. In total, 640 birds were collected from December to February in 26 sampling days, mainly in three hunting periods. After approval by the Hellenic Ministry of Rural Development and Foods 90 birds were collected in the spring. Song thrushes were aged (Jenni and Winkler 1994) and sexed (Brooke and Birkhead 1991). Chi-square was used for data analysis.

3. Results

In total, the age ratio yearlings/adults is 2,7 (Table 1). The ratio is higher at the period 2001-02 in comparison with 2002-03 ($p=0,012<0,05$), but not with the period 2006-07 ($p=0,19>0,05$). At the period 2003-04 the population and the sample were very small. Significant was the difference that found between the winter and spring ratio at 2006-07 ($p=0,001$). The same difference was not found at the 2002-03 period, but in this period the spring sample was small.

Table 1. Yearlings/adults ratio.

Period	Dec	Jan	Feb	Winter	Spring
2001-02 (n=148)	4,7	1,92	4	3,5	-
2002-03 (n=144)	-	1,5	1,83	1,79	1,5 (n=10)
2003-04 (n=12)	-	-	0,71	0,71	-
2006-07 (n=357)	2,95	2,46	2,34	2,55	9 (n=80)

In total the sex ratio females/males is 1,29 (Table 2). Between years and months there isn't a significant difference ($p>0,097$).

Table 2. Females/males ratio.

Period	Dec	Jan	Feb	Winter	Spring
2001-02 (n=138)	1,26	1,33	0,89	1,12	-
2002-03 (n=136)	-	1,14	1,08	1,09	1,5 (n=10)
2003-04 (n=12)	-	-	2	2	-
2006-07 (n=353)	1,44	1,4	1,79	1,55	1.1 (n=80)

The ratio yearlings/adults is higher at females for the periods 2001-02 and 2002-03. This difference didn't found at 2006-07 period and the spring of 2007.

Table 3. Yearlings/adults ratio.

2001-02		2002-03		2006-07		Spring 2007	
male	fem.	male	fem.	male	fem.	male	fem.
2,1	5,64	1,23	2,65	2,34	2,69	11,67	7,4
p=0,015		P=0,047		p=0,616		p=0,55	

4. Discussion

The age ratio is lower at the periods 2002-03 and 2003-04, something that is related with the low population densities of song thrush in Hellas (Thomaides et al. 2007).

Changes in age and sex ratio consist indications of bird's movement or migration (Berthold 1993, McCloskey and Thompson 2000). We found a significant change in age ratio at the March of 2007 which indicates that adult thrushes migrate earlier than juveniles.

5. Conclusion

- The low age ratio predicates low reproduction success and this is the main cause of the 2002-03 and 2003-04 low population densities.
- This study revealed that the demography of song thrush didn't change significant during the period December – February of the same year.
- We recorded a first evidence of differential migration, where the adults migrate earlier than juveniles.

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