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A Trophic Relation Reptiles-Raptors in National Park of Babors

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Abstract: Numerous are the important works about the owl's diet on the world; on the other hand, in Algeria, the existing fragmentary studies are localised and very limited excluded those carried out. Our balls' harvest of rejection on the whole of the park has a double goal: On the one hand, to study the diet of the Barn owl and to compare our results with those already appeared. Our study will hold account only species of Reptiles preys.

Key words: Reptiles, Raptors, trophic, Babors, park, *T. mauritanica*, *S. aluco*, *T. alba*

INTRODUCTION

The position of the Reptiles in various trophic levels and links of the food networks confer to them an important role in balances of the ecosystems (Korpimaki, 1992; Saint, 1968). Indeed, they are the predatory ones of a great number of species of insects and rodents (Spitz, 1974). They are at the same time the preys of Raptors or small carnivores (Boukhamza *et al*., 1994). Some are regarded as key species (Djirar, 1990). In Algeria the role of the reptiles in the trophic chain is very badly known (Biche *et al*., 2001; Sellami and Belkacemi, 1989). Indeed work concerning the herpétofaune is insufficient and even less the relations Reptiles-Raptors. Conse-quently they are not totally considerable. We have also judged it useful to study the impact of the Reptiles-Raptors which is considered as the summit of the trophic pyramid about the Reptiles to contribute of the trophic pyramid about the Reptiles to contribute in preserving the natural balance of the park. We have centred our study on two Raptors frequently present in the Babors (Djirar, 1990) it acts to seek the scraps of Tarentola mauritanica in the balls of dejections of *Strix aluco* and *Tyto alba*.

GEOGRAPHICAL SITUATION OF THE STUDY'S ENVIRONNEMENT

The Babors are situated in the subtropical zone at Northern latitude 36°30 mn and a longitude 5°30 mn Is. The mount culminates with 2004 m.

We were based on the work carried out in the park of the Institute of Agronomy of Algiers (Boukhamza *et al*., 1994). The method consists a daily collecting of the balls of dejection by the residents during 8 months (April 2005, November 2006) what is left of the year the park was inaccessible because of the snowfalls. We have selected three stations:

- Ampelodesmaie station has predominance of Ampelodesma mauritanica
- Subéraie station with predominance of Quercus suber
- Cedraie plantation station with predominance of Cedrus atlantica

The balls of dejections are stored in bags closed on which are mentioned the date and the place of collection. Each defecation is soaked in ethanol to isolate the bones. The analysis of the balls of dejections is regarded as the direct and the simplest one to determine the diet of the raptors. At the moment of the reproduction period, the owls are rather solitary (Cramp, 1985) and (Goodman, 1990). They gather only in "diurnal dormitories" generally localised in conifers (Yeatman-Berthelot, 1991) especially in the cedraie plantation. It is then easy to collect the balls of daily dejections to the foot of the trees of the same thicket. At the time of the period of reproduction, they disperse to nest around the wintry places of gathering on the edges or close to the large forest clearings (Yeatman-Berthelot and Jarry, 1995) (ampelodesmaie). It should be noted that often the balls are rejected with the liking of hunting. Consequently, during the nesting period, the number of preys obtained starting from the balls of regurgitation collected in the dormitories should always be regarded as partial. The qualitative estimate of the diet of the two Raptors is possible thanks to the determination

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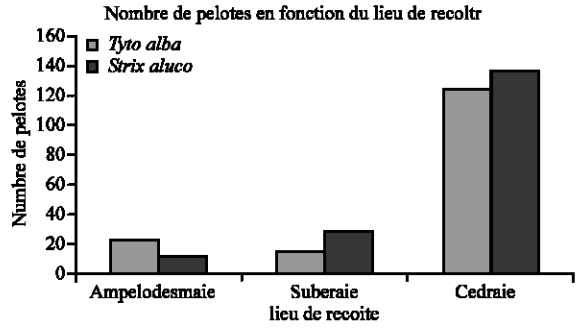
of the animal remainders found in the balls. This analysis makes it possible to highlight the bird's preferred preys (Thiollay, 1968) and to make in evidence the impact. We have taken into account that bones of Tarentola mauritanica in the two Raptors. We have collected during the period of study 338 balls of which: 162 balls of *T. alba* 176 balls of S.aluco The balls were found according to the following distribution.

	Ampelodesmaie	Subéraie	Cédraie
Tyto alba	23	15	124
Strix aluco	12	28	136



RESULTS AND DISCUSSION

In Babors like like some parks, the two Owls show a great eclecticism in the choice of their preys with nevertheless the prevalence of 3 species Apodemus sylvaticus (Fournier, 1998, 2000) (Le Louarn, 1977), Crocidura russula (Elton, 1942) Passer sp. (Chaline *et al*., 1974) primarily April and September for the two Raptors April being the beginning of a timid appearance of the Reptiles and September corresponds to the exit of the aestivation of the Reptile (Valverde, 1957) and (Rifai *et al*., 2000). The balls which contain the bones of the micromammifères and the birds constitute accidental preys of which percentages not exceeding 0,1%. However, we took account only of bones of Tarentola mauritanica. According to Table 1 and 2 the 2 balls of rejection of the 02 raptors collected in the national park of Babors are from 01-09 tarentes for Frightens and of 01 and 05 for the Brown owl. For the two owls the balls which contain a tarente constitute the highest percentage. Those with 9 tarentes are observed only at Frightens whereas the Brown owl seldom arrives at 5 tarentes by ball. However, Table 2 reveals that S.aluco is less predatory than *T. alba*. Generally we can say that the average number of tarentes per ball varies from 11.7 for the brown owl with 4.3 for frightens. The consumption of the tarente in great number is explained by the fact that these species are smaller than the other preys represent a less nutritive contribution for the raptors (Lesn and Thevenot, 1981). The latter are brought by compensation to capture some

Table 1: Number and percentage of the balls of *T.alba and S.aluco.*

Number of Tarentes per balls	*T.alba* Nombre de pelotes	(%)	*S.aluco* Nombre de pelotes	(%)
01	76	46.91	83	47.15
02	50	30.86	60	34.09
03	30	18.51	31	17.61
04	02	01.21	01	00.56
05	01	00.61	01	00.56
06	01	00.61	---	---
07	01	00.61	---	---
08	***	***	***	***
09	01	00.61	---	---
---	162	100	176	100

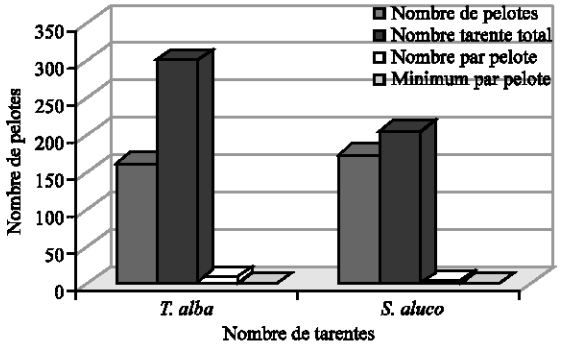


Table 2: Number of Tarentes per balls for *T. alba* and *S. aluco* 2005/2006

	Number of balls	Total number of tarentel	Maximum per ball	Minimum per ball
T.alba	162	301	9	1
S.aluco	176	205	5	1

Table 3: Effective of T. mauritanica noted each month in *T.alba*

Month	IV	V	VI	VII	VIII	IX	X	XI
Balls number	12	24	78	18	21	9	_	_
X	00	37	197	67	00	00		
N	01	39	201	69	02	01		
S	01	03	05	03	02	01		

Table 4: Effective of *T. mauritanica* noted each month in *S. aluco*

Month	IV	V	VI	VII	VIII	IX	X	XI
Balls number	10	12	84	53	12	3	2	_
X	00	32	125	48	00	00	00	
N	01	33	126	53	01	01	01	
S	01	02	02	06	01	01	01	

X = Number of T.mauritanica, N = Correspond to manpower species of preys confused for each month, S= Number species present monthly in the balls collected

of advantage. The presence of *T. mauritanica* in the balls of the barn owl is irregular of April until November. The maximum number of noted Tarente is in June for the two Raptors. Indeed June in Babors is the month of full activity for the Reptiles (abundance of food) and ideal temperature for any activity (Veiga, 1980). On the other hand the sign of diversity varies from 0.38 in July to at least 0.53 of September and May Table 3 and 4. The month in which Tyto and Strix consume more insects is from April to July, particularly in the nesting period when the Raptors are looking for a complementary

proteinic (Vein and Thevennot, 1978) to their daily food again during this same period that the sign of diversity appears the highest with the value of 0.530. The participation of the Tarente in the Raptor diet remains weak for the all the months in comparison with the effectives of the preys relatively rids varying between 29 May and 218 in August. Cisse (1993) announces that the highest effectives found in the brown owl's diet is in august with 33Tarentes. The reptiles are a value resource in the Raptors (Biche *et al*., 2001).

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