

## ESTABLISHING THE INDIVIDUAL TERRITORY FOR SOME RODENT POPULATIONS IN A HAYFIELD FROM THE BEREȘTI-TAZLĂU VILLAGE, BACĂU COUNTY

DALIA PARASCHIV\*

### ABSTRACT

The paper presents the results of the research conducted in a 2 ha hayfield, during the May-August period of 2010, in order to establish the individual territory for some rodent populations. Thus, we established the individual territory for several individuals belonging to the species *Apodemus sylvaticus*, *Apodemus flavicollis*, *Apodemus agrarius* and *Mus spicilegus*, species recaptured for two, three or four times.

From our observations, we were able to conclude that the species *Apodemus sylvaticus* presents the greatest mobility. Besides, our study confirms the data from the specialty literature according to which females occupy a smaller individual territory than males.

**Key words:** rodents, individual territory, hayfield, Bacău County

### Introduction

Rodents have a specific way to organize their populations, this fact resulting from a certain life style of individuals in the middle of a population, manifested through the occupation of a territory, the usage of the territory, the relations among individuals etc.

The majority of the rodent species live in solitude; each individual has its own nest and there is a territory around the nest from which to get food. These compose the individual sector of that animal. The shape, the size and the placement of the individual sector change according to season, sex, age as well as to animal density in that area.

### Material and methods

In order to establish the individual territory we used the method „capture-marking-recapture”, with sliding wall traps (Figure 1). The traps were placed into the researched area, in a nest form, 10 m to each other (1). They were kept in the field 9 successive days per month from May to August 2010.

The marking was made by cutting the phalanges in the following way: the left hind limb represents the units' figure, the right hind limb represents the tenths' figure, the left front limb represents the hundreds' figure and the right front limb represents the hundreds' figure. For example, in order to mark the individual no. 32 we cut the first phalanx of the toe 3 from the right hind limb and the first phalanx of the left hind limb.

The material was determined by using the specialty literature (2, 3,4).

### Results and discussions

From the total of 41 captures made throughout the experiment, 46.34% were recaptured at least once (19 individuals), of which 26.83% recaptured just once (11 individuals), 9.76% recaptured twice (4 individuals), 7.32% recaptured three times (3 individuals) and 2.43% recaptured four times (1 individuals) (Figure 2).

In table 1 we present the situation of the markings and of the rodent recaptures during May-August 2010.

For the evaluation of the individual territory we made the plan of the researched sector, represented by a square net, a trap being in the centre of each square. The identification of the area inhabited by individuals requires the sum of the adjacent square areas in which the individual was captured and recaptured. When the squares are not adjacent but at a certain distance to each other, we consider it as being part of the inhabiting zone and the intermediate parcels (Figure 3).

We established the individual territory for certain individuals belonging to the following species: *Apodemus sylvaticus*, *Apodemus flavicollis*, *Apodemus agrarius* și *Mus spicilegus*, which were recaptured one, two, three or four times.

The individual no. 14 (adult male of the species *Apodemus sylvaticus*) occupied an individual territory with a 1300 m<sup>2</sup> surface; for no. 25 (an adult male of the same species) we established a 1200 m<sup>2</sup>

\*„Ion Borcea” Natural Science Museum Complex Bacău, Aleea Parcului, no. 9, Bacău, dalia\_yvs@yahoo.com

territory and for a subadult female (no. 22) – a 900 m<sup>2</sup> surface.

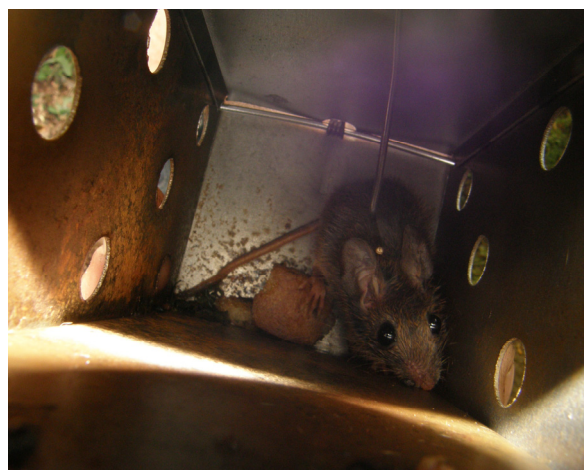
Of the *Apodemus flavicollis* species we recaptured a subadult male (no. 40) for which we established it occupied a 1000 m<sup>2</sup> surface and a subadult female (no. 36) which occupied a 800 m<sup>2</sup> territory.

The individual no. 18 (an adult male of the *Apodemus agrarius* species) occupied a 1000 m<sup>2</sup> species and the individual no. 31 (an adult female of the same species) - 800 m<sup>2</sup>.

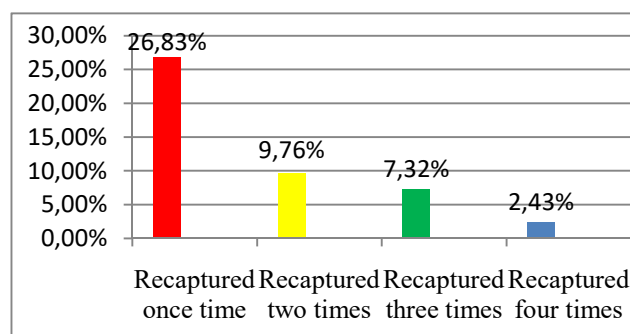
Of the *Mus spicilegus* species we recaptured only an adult male (no. 7) which occupied a 600 m<sup>2</sup> individual territory.

**Table 1** - The situation of rodent markings and recaptures during May-August 2010

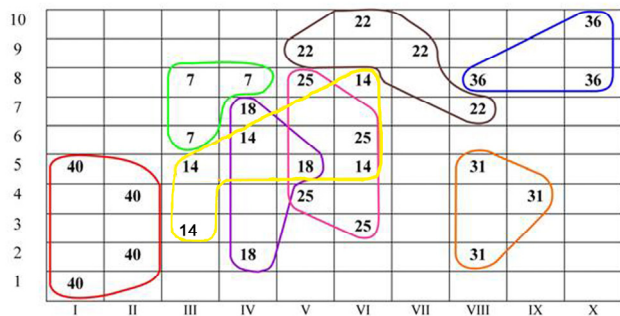
No.	Number of the individuals	Month	Day	Trap
1	3	May	1	VII-5
		June	3	VI-7
2	8	August	2	V-3
		August	8	III-1
3	21	May	2	II-3
		May	5	I-4
4	5	June	2	VIII-5
		July	7	X-5
5	11	May	3	VII-8
		June	9	VII-10
6	15	August	1	IX-8
		August	5	IX-5
7	33	June	2	IX-1
		July	3	X-3
8	9	May	2	VII-5
		July	4	VI-2
9	19	June	4	I-9
		August	2	IV-10
10	38	July	1	IV-4
		July	6	VII-7
11	27	May	2	X-5
		May	6	X-8
12	7	June	1	III-8
		June	4	III-6
13	36	August	2	IV-8
		May	3	X-8
		June	3	VIII-8
14	18	August	4	X-10
		June	1	IV-2
		July	2	V-5
15	31	July	6	IV-7
		May	3	VIII-2
		May	5	VIII-5
16	25	June	2	IX-3
		July	2	VI-3
		July	4	V-4
		August	3	VI-6
17	40	August	5	V-8
		May	2	I-1
		May	6	II-2
		June	3	II-4
18	22	July	3	I-5
		May	3	VIII-7
		June	4	VII-9
		June	6	V-9
19	14	July	2	VI-10
		May	1	III-3
		May	5	III-5
		June	4	IV-6
		June	6	VI-5
		June	6	VI-5
		July	3	VI-8



**Fig. 1** - Sliding wall trap.



**Fig. 2** - The graphic representation of the recaptures made in the hayfield during May-August 2010.



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**Fig. 3** - The representation of the individual territories for rodents captured two, three or four times

### Conclusions

The *Apodemus sylvaticus* species (individual no. 14) shows the greatest mobility. It occupies a 1300 m<sup>2</sup> individual territory

Our study also confirms the data in the specialty literature according to which females occupy a smaller individual territory than males (5).

### Rezumat

Lucrarea prezintă rezultatele cercetărilor efectuate într-un fânaț cu o suprafață de 2 hectare, în perioada mai-august a anului 2010, cu scopul de a stabili teritoriul individual pentru unele populații de rozătoare. Astfel, am stabilit teritoriul individual pentru mai mulți indivizi aparținând speciilor *Apodemus sylvaticus*, *Apodemus flavicollis*, *Apodemus agrarius* și *Mus spicilegus*, specii recapturate de două, de trei sau patru ori.

Din observațiile noastre, am putut concluziona că specia *Apodemus sylvaticus* prezintă cea mai mare mobilitate. În plus, studiul nostru confirmă datele din literatura de specialitate conform căreia femelele ocupa un teritoriu individual mai mic decât masculii.

### References

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