

ECOLOGIA BALKANICA

2018, Vol. 10, Issue 2

December 2018

pp. 255-258

Short note

*On the Activity of Edible Dormouse (*Glis glis* Linnaeus, 1766) in the Central Part of Stara Planina Mts (Bulgaria)*

*Stanislava P. Peeva**

Trakia University, Faculty of Agriculture, Department of Animal Production –
Non-ruminants and other Animals, Stara Zagora, 6000, BULGARIA

*Corresponding author: st.peeva@abv.bg

Abstract. Both, the daily and seasonal activity of Edible dormouse (*Glis glis* Linnaeus, 1766) in the region of National Park “Bulgarka” (Stara Planina Mts, Bulgaria) were studied using camera traps. The results showed nonstop full night activity of this species in the region (1266 m a.s.l.). It became active in the beginning of May and minimized its movements above the ground in the end of October. Short decrease period of its activity was observed during August.

Key words: Edible dormouse, night activity, camera traps.

Introduction

Edible dormouse (*Glis glis* Linnaeus, 1766) is a small to medium sized rodent from family *Gliridae*. The species is categorized by the International Union for Conservation of Nature (IUCN) as Least Concern ([AMORI et al., 2016](#)). It is the largest dormouse inhabiting Bulgaria ([POPOV & SEDEFCHEV, 2003](#)). The Edible dormouse was characterized as arboreal and nocturnal species, spending most of the daytime in nests and tree cavities ([KRYSTUFEC, 2010](#)) and considered true hibernator ([WILZ & HELDMAIER, 2000](#)). To investigate the activity pattern of the species the “continuous recording” ([RODOLFI, 1994](#)) and radio tracking ([PROPERZI et al., 2003](#)) were applied.

Little is known about the activity of the Edible dormouse in mountainous regions in Bulgaria. It is only known that the species is going out of hibernation at the end of April and the beginning of May ([PASPALEV et al., 1952](#)).

Materials and Methods

Three infrared camera traps Keep Guard EB 690 were set in a coniferous tree patches (*Pinus* spp.) in a forest dominated by beech (*Fagus sylvatica*) on the summit of the Central Stara Planina Mts, Bulgaria (National Park “Bulgarka”). For successful detection the cameras were set at the places related to the target species’ locomotion ([ANCRENAZ et al., 2012](#)). Slope trees - typical dormouse habitat niches were chosen for the observation. The cameras were mounted on the neighbor tree at a distance 1.5-2 m, taking side pictures of the target tree (captures - 3, interval - 5 minutes), similar to the method used for detecting martens ([RAICHEV, 2018](#)). According to the individual territory parameters of the Edible dormouse reported by [PROPERZI et al. \(2003\)](#), a distance of 600 m between the used trap sites prevents the capturing of the same individual. A total of 428 photographs of Edible dormouse specimens were made.

Camera traps were set between January and December 2017. The photographed individuals were determined according POPOV & SEDEFCHEV (2003).

Results and Discussion

The results showed that the Edible dormouse from Central Stara Planina Mts was active from May to October (Fig.1). Its activity increased from May to July. A little decrease during August was observed, followed by a peak in September. A similar tendency in activity changing was described in Italy (RODOLFI, 1994). Returning to dormancy in summer of non-reproductive dormice (BIEBER & RUF, 2009), as well as a possibility for temporal migration from a microhabitat in search for food, could affect detectability of species by camera traps. In

the present study, no young individuals have been detected. Thus the probability of unreal increased activity owing to the raised number of photographed individuals was minimized.

In the study area the Edible dormouse demonstrated emphatic nocturnal activity (Fig. 2). There were no any photos obtained during daylight. A survey revealed that another dormouse species, *Muscardinus avellanarius*, was being active around 30 min after sunset and around 50 min before sunrise. The authors considered that this pan-seasonal activity to be influenced by photoperiod (BRIGHT *et al.*, 1996).

In this survey the peak of activity of the species was registered around midnight for all the months and a fall of its activity - between 01.00 and 03.00 a.m.

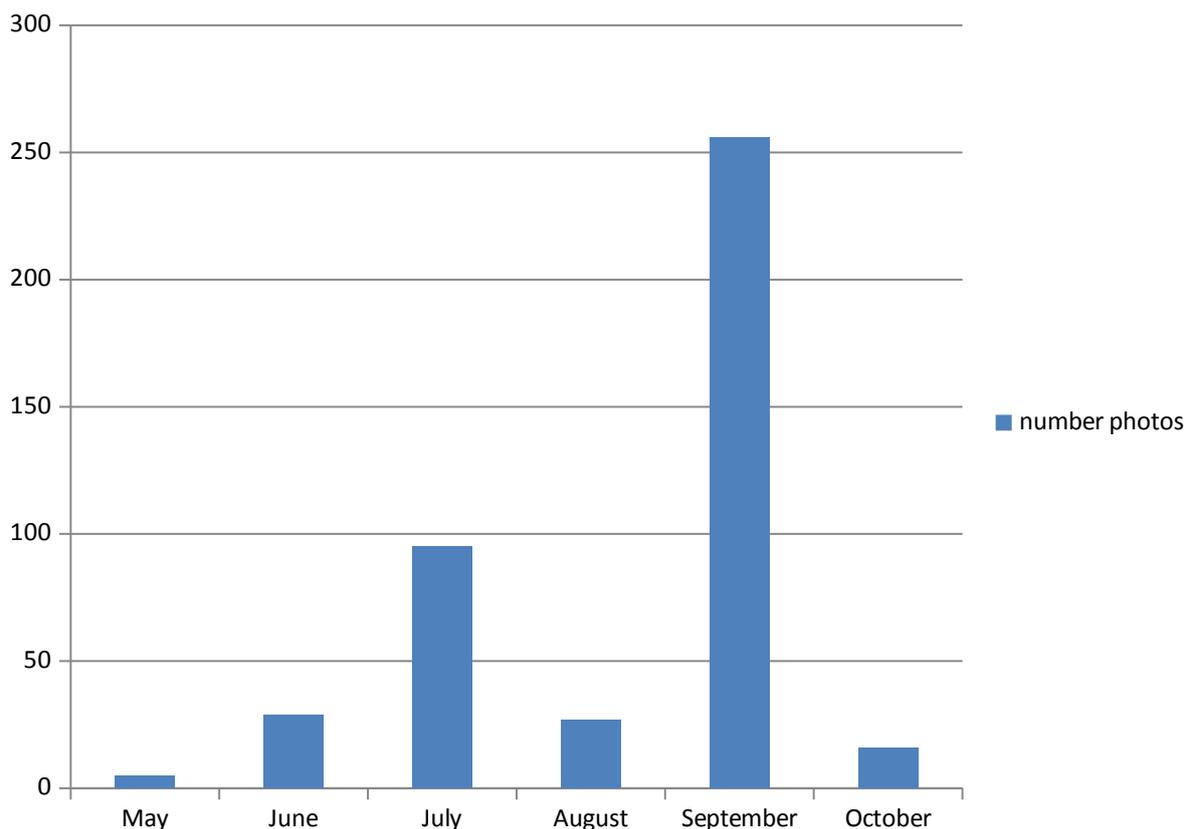


Fig. 1. Seasonal activity of the Edible dormouse (*Glis glis*) from Central Stara Planina Mts expressed by a total number of photographs made per month.

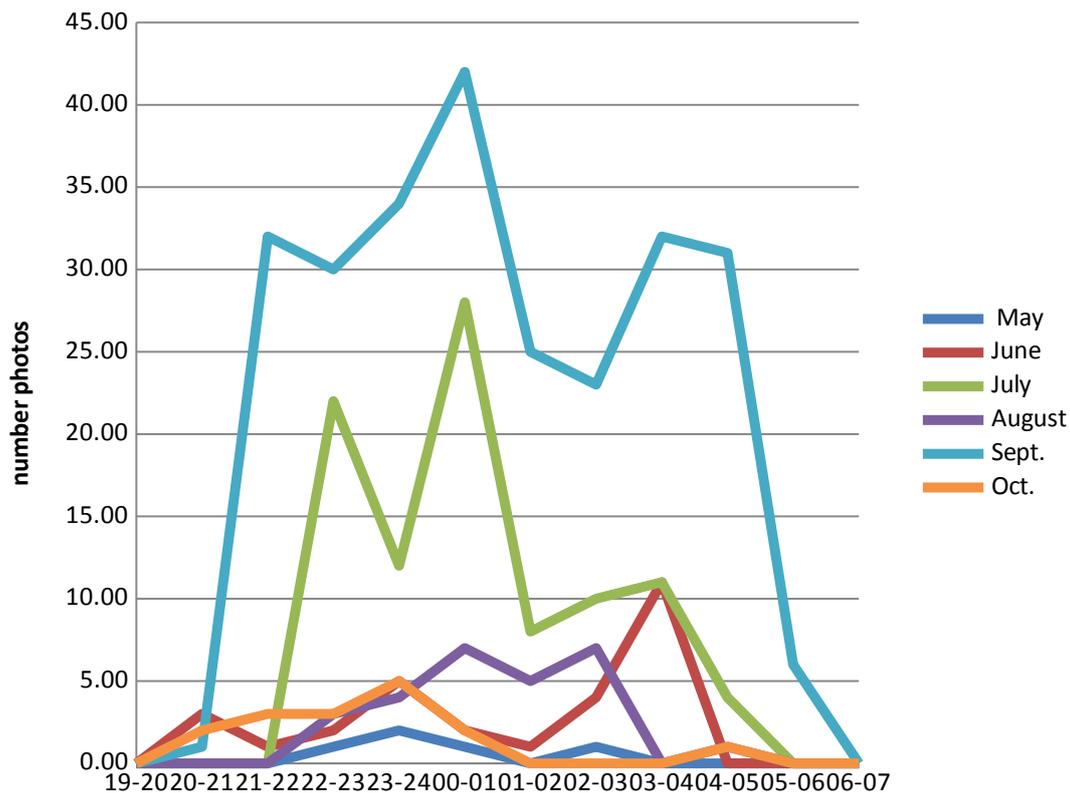


Fig. 2. Night activity of the Edible dormouse (*Glis glis*) from Central Stara Planina Mts expressed by total number of photographs made per particular hour interval

References

- AMORI G., R. HUTTERER, B. KRISTUFEK, N. YIGIT, G. MITSAIN, L. J. P. MUNOZ, H. MEINIG, R. JUSKAITIS. 2016. *Glis glis* (errata version published in 2017) In: The IUCN Red List of Threatened Species. 2016:e. T39316A115172834.
- ANCRENAZ M., A. HEARN, J. ROSS, R. SOLLMANN, A. WILTING. 2012. *Handbook for wildlife monitoring using camera-traps*. BBEC II Secretariat, Sabah, Malaysia, 271 p.
- BIEBER C., Th. RUF. 2009. Summer dormancy in edible dormice (*Glis glis*) without energetic constraints. *Naturwissenschaften*, 96: 165-171. [DOI]
- BRIGHT P., P. MORRIS, N. WILES. 1996. Effects of weather and season on the summer activity of dormice *Muscardinus avellanarius*. - *Journal of Zoology*, 238: 521-530. [DOI]
- KRYSTUFEK B., 2010. *Glis glis* (Rodentia: Gliridae). - *Mammalian species*, 42(865): 195-206. [DOI]
- PASPALOV G., K. MARTINO, Ts. PESHEV. 1952. [Research on some rodents of Vitosha Mts]. - *Godishnik na Sofiiska Universitet* 47, Biologo-geologo-geografski fakultet, kniga 1 Biologia (Zoologia): 193-237 (In Bulgarian).
- PESHEV Ts., D. PESHEV, V. POPOV. 2004. [Fauna Bulgarica], 27, Mammalia. Editio Academica, Marin Drinov, 644 p. (In Bulgarian).
- POPOV V., A. SEDEFICHEV. 2003. [Mammals in Bulgaria]. Geosoft EOOD, 291 p. (In Bulgarian).
- PROPERZI S., D. ANTONELLI, D. CAPIZZI, G. M. CARPANETO, F. RIGA. 2003. Home range and activity pattern of the edible dormouse (*Glis glis*) in Central Italy. - *Acta Zoologica Academiae Scientiarum Hungaricae*, 49 (Suppl. 1): 166.

- RAICHEV E., 2018. Determination of Stone marten (*Martes foina*) and Pine marten (*Martes martes*) in natural habitats using camera traps. - *Agricultural science and technology*, 10(2): 160-163. [DOI].
- RODOLFI G. 1994. Dormice *Glis glis* activity and hazelnut consumption. - *Acta Theriologica*, 39(2): 215-220.
- WILZ M., G. HELDMAIER. 2000. Comparison of hibernation, estivation and daily torpor in the edible dormouse *Glis glis*. - *Journal of comparative physiology. B, Biochemical, systemic, and environmental physiology*, 170(7): 511-21.

Received: 29.10.2018
Accepted: 21.12.2018