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A case of communal nesting of the Western broad-toothed field mouse (Apodemus epimelas Nehring 1902)

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Abstract. Here we report a case of communal nesting of *Apodemus epimelas* observed several times in a bunker in southern Albania. *A. epimelas* has a simple nest placed on the ground or in a small hole in the wall. The mice showed no aggressive behaviour.

Key words: *Apodemus epimelas*, communal nesting, artificial habitat, bunkers.

The Western broad-toothed (rock mouse) field mouse (*Apodemus epimelas* Nehring 1902) is the largest member of the field mice (genus *Apodemus*) in Europe. It occurs in southern and western parts of the Balkans (Albania, Croatia, Montenegro, Bosnia and Herzegovina, North Macedonia, Greece, Serbia, Bulgaria), and on some Adriatic islands and the Ionian islands (Storch, 1999; Amori, 2024). It has a small home range, and the average radius of activity varies between 8 m (young females) and 15 m (adult males) (Mendelssohn & Yom-Tov, 1999). Ecology and biology are little studied. Groll (1992) observed its behaviour and biology in captivity - two males and six females, and two generations. *A. epimelas* has a prolonged breeding season, as in the case of Bulgaria, pregnant females were found from January to Novem-ber (Peshev at al., 2004). Kryštufek & Vohralík (2009) noted that the closely related Eastern broad-toothed mouse (*A. mystacinus* Danford & Alston 1877) continuously breeds throughout the year in Turkey.

Here, we reported a case of communal nesting of *A. epimelas* that we observed in a bunker in southern Albania. The bunker is located on the southern slope of a rocky cliff (40.18447N 19.59296E, elevation - 660 m), about 5 km north-west from Palasë village, Vlorë District. It has been visited several times between 2023-2025. The bunker has a big entrance room and 11 small rooms and is about 60 m long (Fig. 1). The rooms are completely dark; sunlight reach only the entrance.

Nest - active and abundant, were observed in different numbers, between 2 and 11 nests, or 1.8 nests on 10 m^2 (Fig. 1).

Observed nests in our visit:

- 13.7.2023 - at least 13 active nests with young, most of the nests are one the wall cornice and holes
- 21.4.2024 - 20 nest, at least one active nest with pups
- 21.4.2025 - 29 nests, at least 4 active nests.

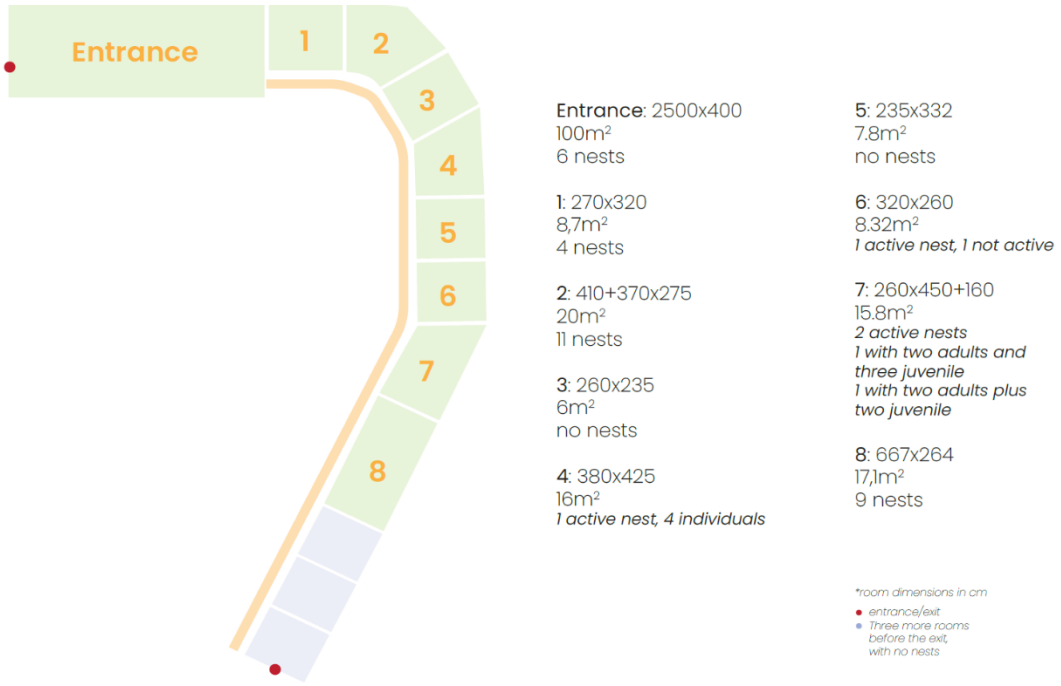

Fig. 1. The Structure of the bunker and the mouse nests observed on 21.04.2025.

Nests looked simply, made of various materials - leaves (mostly oak leaves), plastic, and paper debris, with a shallow hole. Most of the nests were placed in the dark part of the bunker, on the ground or high on the wall cornice and holes (Fig. 2).

In the active nests, we observed an adult (probably the mother) with 2 or 3 juveniles (visually smaller individuals). The number of juveniles is close to what is reported in the literature. *A. epimelas* has several litters per year with 2-9 embryos, but usually 4 (Peshev et al., 2004). We were able to approach the mice at a very close distance and even touch them, young took pekan walnuts from our hands. The mice were easily climbing on a vertical concrete wall.

According to Groll (1992) *A. epimelas* lives in a small group of one male and a few females. Only females take care of the young, as females from one group can help each other in rearing the young. Groll (1992) observed mothers exchanging pups and mother milking young of obviously different ages. Groll (1992) observed that in captive breeding mice, if a female has more than one nest, and is in need (stress and disturbance) can transport the pups to the new one. In captivity *A. epimelas* made a nest from leaves among the rocks, as the mouse tightly closed the cavities and small holes among the rocks (Groll, 1992), but here the nests are open on the ground with simple structure.

In all our visits to the site, we did not observe aggressive behaviour among the mice - adults (most probable females, only females take care on pups) and juveniles. In our previous experience with mice from the genus *Apodemus*, the Western broad-toothed mouse seems calmer and relaxed, easy to handle, and manipulate, in contrast to *A. flavicollis* and *A. sylvaticus*. The lack of aggression in *A. epimelas* could be explained by the formation of kin clusters that lead to a lower gain of aggressive acts (Váchová & Frynta, 2004). Most of the observed mice were probably females with their pups, and those females probably share care for the young.

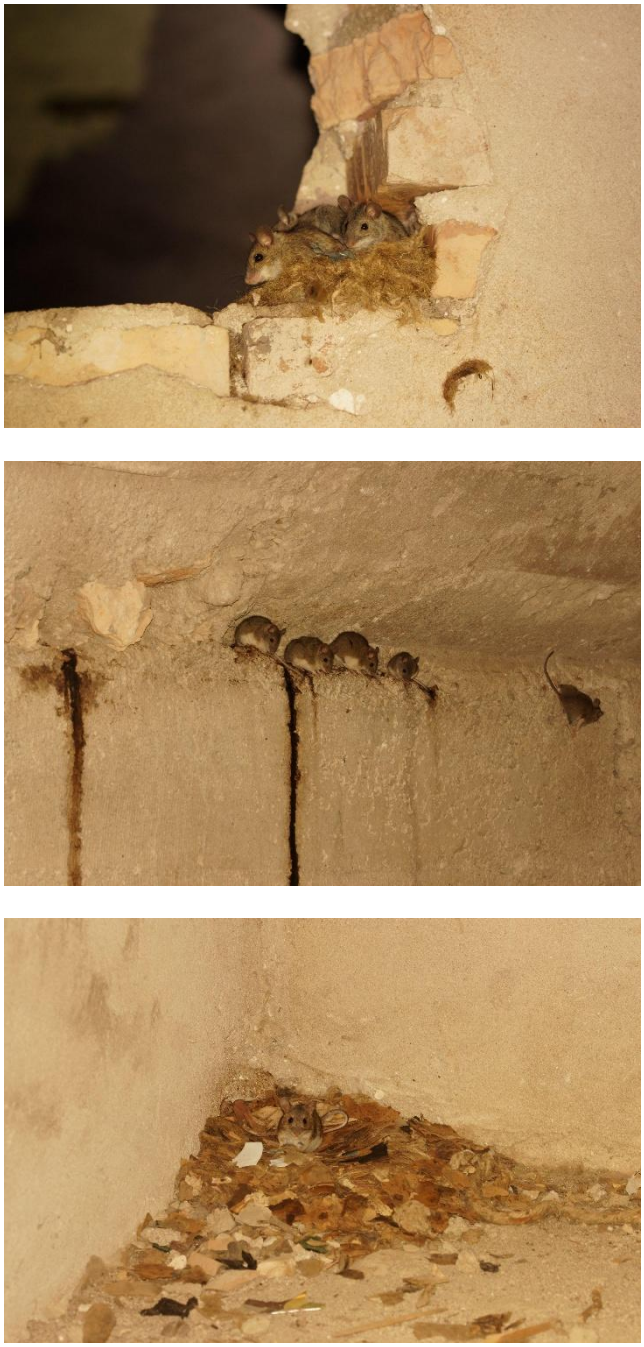

Fig. 2. *Apodemus epimelas* nests placed on the wall and the ground of bunkers.

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Appendix

Supplementary video:
https://onedrive.live.com/

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