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## A UNIQUE COLONY OF THE BOBAK MARMOT, *MARMOTA BOBAK* (RODENTIA, SCIURIDAE), IN STEPPES OF THE RIGHT-BANK UKRAINE

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**A Unique Colony of the Bobak Marmot, *Marmota bobak* (Rodentia, Sciuridae), in Steppes of the Right-Bank Ukraine.** Rashevskaya, H. V., Semeniuk, S. K. — The analysis of historical data on the the bobak marmot distribution and failed attempts to reacclimatize the species in the right-bank Ukraine are presented. The article also informs about finding in Mykolaiv Region a colony of the the bobak marmot which history dates back to 1988.

**Key words:** *Marmota bobak*, right-bank Ukraine, reacclimatization

**Уникальная колония степного сурка, *Marmota bobak* (Rodentia, Sciuridae), в Правобережной Степи Украины.** Рашевская А. В., Семенюк С. К. — Приводится анализ исторических данных по распространению степного сурка и о неудачных попытках реакклиматизации вида в Правобережной Украине. Также предоставляется информация о находке колонии сурка в Николаевской области, которая ведет свою историю с 1988 г.

**Ключевые слова:** *Marmota bobak*, Правобережная Украина, реакклиматизация.

The mammal fauna of Ukrainian steppes is characterized by a number of iconic species that formed its unique landscape pattern during the past two thousand years. Along with ungulates, these keystone species include representatives of the subfamily Marmotinae, with the the bobak marmot *Marmota bobak* (Muller, 1776) occupying a special place. In the steppe zone of the right-bank Ukraine to the west of the Dnieper, the existence of this animal is known for most of the Quaternary period (Brandt, Woldrich, 1887; Pidoplichko, 1938). According to Pidoplichko's (1951) geochronological scheme the bobak marmots are found in Pleistocene and Holocene sediments. Kirikov (1959) gives data on the marmots recorded in the 1770s in steppes of the Southern Buh and the Dnieper lower reaches, though mentioning that findings of the species were very rare. In the early 19th century, the bobak marmot started to vanish from the right-bank steppes (Kirikov, 1966), and already in the early 20th century Brauner (1913) questioned even a slight possibility of this species presence in the right-bank area of Kherson and Bessarabia. As the reason for this restriction he regarded the Dnieper, being in his view an obstacle in the spread of steppe species. It should be added that the period was also marked by reducing numbers and shrinking the range of the bobak marmot in the east of Ukraine. As a result, in the 1930s Ukraine supported only 2 small colonies of these animals, located in Kharkiv and Luhansk Regions (Tokarsky, 2004). Since the 1950s, however, these colonies had grown and expanded the borders to reach maximum in the early 1990s. And after that a reverse process started with even faster rate than the previous increase.

The rapid growth of the bobak marmots in the east seemed to point to a suitable ecological situation for this species in Ukraine on the whole and also made it possible to capture a sufficient number of animals for further relocation. Both factors provided the basis for numerous attempts of reacclimatization, when thousands of animals were relocated. In particular, during 1960–2004 the animals, captured in the east of Ukraine and Kazakhstan, were released in the right-bank Ukraine: in the regions of Mykolaiv, Zaporizhzhia, Odesa, Kyrovohrad, Khmelnytsk, Kherson, Dnipropetrovsk, Zhytomyr, Vinnytsia and Kyiv. However, all these attempts failed because no stable colony was formed, and over time all the animals died (Tokarsky, 1997; Tokarsky et al., 2006).

Nevertheless, a survey in the lands of Kryvozerske Hunting Association (carried out on 29.07.2013) found rather a large colony of the bobak marmot at the border of Vradiivka and Kryve Ozero Districts of Mykolaiv Region. The colony is situated on the right-bank slope of the Kodyma river valley (fig. 1) covered with steppe vegetation and solitary bushes of wild rose (*Rosa* sp.), wild pear (*Pyrus communis*) and apple trees (*Malus sylvestris*).



Fig. 1. Bobak marmot, the vicinity of Syrovo Village, Vradiivo District, Mykolaiv Region, 29.07.2013 (photo's author: S. K Semeniuk).

During a short survey of the colony in May 2014 we carried out a preliminary estimate of the bobak marmot numbers. The total area of 50 ha held 23 family sites. The colony density was 2.2 families per one hectare. The surveys of other authors indicate that the average size of the bobak marmot's family is 4–5 animals. Correspondingly, we can conclude that the colony's size is circa 92–115 animals.

According to the staff of the local hunting association, the bobak marmots had been released here in 1988. At present, the origination of these animals could not be spotted reliably.

Despite the colony is supervised by local people, protecting it from poachers and stray dogs, we still cannot exclude a possibility of its loss. After all, there are cases where the first successful attempts to acclimatize bobak marmots eventually ended in the colony extinction. For example, it happened in Askania Nova Reserve where marmots existed for almost 40 years. The extinction causes in this case are uncontrolled factors: succession, inbreeding or changes in agricultural activity. Obviously, a colony as a unique phenomenon requires careful scientific observation and monitoring.

#### References

- Brandt, J. F., Woldrich, J. N. 1887. Diluviale europäisch-nordasiatische Säugethierfauna und ihre Beziehungen zum Menschen. *Memoires de l'Academie Imperiale des Sciences de St.-Petersbourg. 7e Ser.*, **35** (10), 1–162.
- Brauner, A. A. 1913. Systematical and zoogeographical notes on the jerboa, European souslik, bobak marmot, and the mole. *Zapiski Krymskogo obshestva estestvoispytatelei*, **3**, 61–92 [In Russian].
- Kirikov, S. V. 1959. *Changes of the animal world in natural zones of the USSR (steppe and forest-steppe zone)*. Moscow, 1–157 [In Russian].
- Kirikov, S. V. 1966. *Commercial animals, natural environment, and humans*. ABF Publishers, Moscow, 40–41 [In Russian].
- Tokarsky, V. A. 1997. *Marmota bobak and other species of the order Marmota*. Izd-vo Har'kovskogo teriol. obva, Kharkiv, 1–304 [In Russian].
- Tokarsky, V. A. 2004. Historical changes in the range and number of the the bobak marmot (*Marmota bobak* Mull. 1776) in Ukraine. *Proceedings of V. I. Vernadsky Tavrichesky University. Ser. Biology, Chemistry*, **17** (56, 2), 173–185 [In Russian].
- Tokarsky, V. A., Grubnik, V. V., Avdeev, A. S. 2006. Reacclimatization of the the bobak marmot (*Marmota bobak* Mull., 1776) in Ukraine (regions of Kharkiv, Poltava, Sumy, Zaporizhzhia, Dnipropetrovsk). *Bulletin of Karazin Kharkiv National University. Ser. Biology*, is. 4 (748), 100–109 [In Russian].
- Pidoplichko, I. H. 1938. *Materials on the studies of past faunas of the UkrSSR*. Vid-vo AN URSR, Kyiv, is. 1, 1–174 [In Ukrainian].
- Pidoplichko, I. G. 1951. *On the Ice Age. Characteristics of European representatives of Quaternary fauna. Marmots, large sousliks. Is. 2. Biology and Geogaphy*. Vid-vo AN URSR, Kyiv, 1–265 [In Russian].

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