

Institute of General and Experimental Biology, Mongolian Academy of Sciences;
Ministry of Nature, Environment, and Tourism of Mongolia;
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Commission on Marmot Investigation of the Theriological Society at the Russian Academy of Sciences
Mammalian Ecological Society of Mongolia;
Joint Russian–Mongolian Complex Biological Expedition of RAS and MAS



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STEPPE MARMOTS IN NORTHWEST KAZAKHSTAN

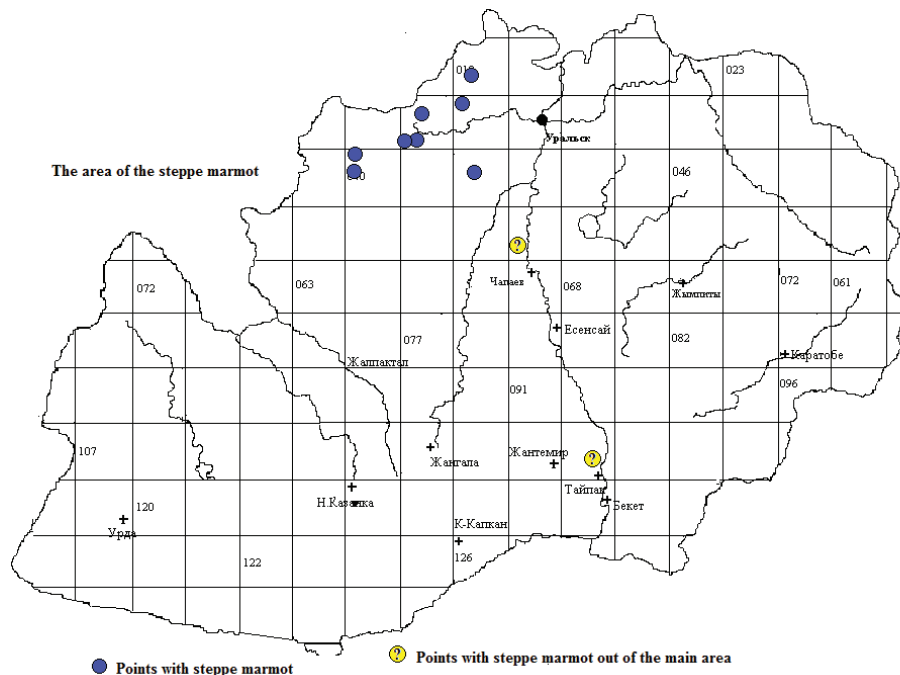
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Assessments of the state of steppe marmot colonies state have been made throughout the 20th century. They have included the bobak colonies located in western Kazakhstan (Kuznetsov, 1928; Ognev, 1947; Kuznetsov, 1948; Demjashev, 1964; Shubin, 1969; Zimina & Polevaya, 1977; Okulova et al, 2016.). These data now have particular value, because previously assessed colonies have now disappeared due to the plowing of previously virgin soil, unlimited hunting of bobak, and poaching (Kuznetsov, 1928; Ognev, 1947; Kuznetsov, 1948; Demjashev, 1964)..

Analysis of the published data shows that in general the steppe marmots in western Kazakhstan are on the southern edge of their range, limited by dry steppe distribution and coinciding with the south border of the Obshchy Syrt Plateau. In areas near the Trans-Ural River, the bobak has spread throughout steppe habitat in the Podural'skoye Plateau in the Orenburg oblast' of Russia and in the Aktobe oblast' of Kazakhstan. West of the Ile River no colonies were found. Reports of the species occurring in the Terektinskiy region of the west-Kazakhstan oblast' (WKO) in a Kuznetsov' monograph (Kuznetsov, 1928) were not confirmed (Demjashev, 1964).

No sign of bobak colonies was found along the numerous roads used for great bustard (*Otis tarda*) assessments, which cover a significant part of the Podural'skoye Plateau located in the WKO. One exception was the observation of some structures which could be interpreted as old marmot burrows along a road near Kenashi village at the source of





the Olenty River. Mounds of earth with sizes (height and diameter) larger than would be expected for ground squirrels were discovered on the south slopes of the Poduralskoye Plateau. All were covered by indigenous vegetation (white wormwood, mainly) suggested the burrows had been unoccupied an extended period of time.

Some observations was made near Mount Bolshaya Ichka ($51^{\circ}12,200\text{N}$; $50^{\circ}15.300\text{E}$) in the beginning of June (5.06.2007). Burrow complexes (“butan”) were localized along the base of the mount and in adjacent ravines. The diameter of the occupied butans varied from 17 to 22 m with two to six holes connected by tracks. The surface of the butans were covered by weed vegetation, including austrian wormwood, peppergrass, mortuk, henbane, military grass, and agropyron with a low projecting cover. The distance between butans varied from 50 to 220 m. Nine butans were observed and seven adult marmots (usually one to three per butan) were counted. Observations were made in the middle of the day, which probably resulted in underestimation of the number of adult marmots present. Of nine butans, two were uninhabited and without any sign of marmots being present. In the evening, west of the Bolshaya Ichka mountain 13 marmots, including two young-of-year were observed within an area of about 25 ha. From these observations, we estimated the mean number of bobaks in the area to be 0.5 individuals per ha. It should be noted also that marmot burrows were also observed in ploughed areas.

On 7.06.2007 on an 8 km long road in Ichka-Taskala three butans with three adult bobaks were counted. On the same day, along the road from Taskala to Mereke (former Chizha2) marmots were discovered near Aktay village ($51^{\circ}01,143\text{N}$; $50^{\circ}09.679\text{E}$) and near Mereke. Near Aktay on a classic butan with the diameter 20 m, two adult marmots were observed and near Mereke ($50^{\circ}50,201\text{N}$; $49^{\circ}37.340\text{E}$) on a small butan of 5x5 m one adult and two juveniles were observed. On 8.06.2018 near Ermolchevo village one adult plus one young marmot was observed at $50^{\circ}56,540\text{N}$; $49^{\circ}06,609\text{E}$.

In 2010, we conducted surveys to the east of those made in 2007. On 1.06.2010, near Pervosovetsk village three bobaks (one adult plus two juveniles) were observed in a butan. Next day two marmots were observed northeast of Cyganovo village at $51^{\circ}18,298\text{N}$; $50^{\circ}31.625\text{E}$.

All observed butans are reflected on the map (Figure 1). Most bobak colonies located in northwestern Kazakhstan were situated in the dry steppe habitat of WKO in the south part of the Obshchy Syrt Plateau. They bordered with the bobak colonies in the Ozinskiy region of the Saratov oblast’ of Russia. This colony represents about 80% of all bobaks dwelling in Trans-Volga Region of Saratov oblast’ and numbers about 3000 individuals (Kondratenkov et al., 1999.). We did not have enough data to estimate the total population of bobaks in Kazakhstan, but we note that Russian and Kazakhstania bobak colonies are linked and form an undivided transboundary population.

The data on unusual migration of the bobak published earlier stand independently (Bidashko et al., 2009; Demjashev, 1964). A dispersing female was found dead on the road from Uralsk to Atyrau more than 100 km from the main population. We were unable to find a marmot colony near the point where the dead female was found, so it remains unknown whether she was a disperser or member of an undocumented local colony. During the writing of this paper we have received information about a marmot colony located more to the south of the main population. This information was confirmed on 27.06.2018. The new colony was discovered not far from the Khankol location at $50^{\circ}50.258\text{N}$; $50^{\circ}41.996\text{E}$.

Seven bobaks including two juveniles were found. There were no clear butans, but burrows were observed. Local people said that the colony appeared three to four years ago. It is possible that the movement of bobak to the south is the result of successful reproduction, local population growth, and subsequent migration.

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