Project Update: August 2022

Aims

1.Establishment of a checklist of the important underground sites in South Kazakhstan.

2. Bat monitoring including non-invasive visual observations, capturing of individuals with mist nets, registration of the ultrasounds with bat detectors. Ectoparasite sampling for assessment of the health status of the cave-dwelling bat communities

3. Raising public awareness and bat conservation capacity building through the One Health approach.

Results

1. The equipment (bat ultrasound recorders, mist nets, bags, etc.) was ordered in April and May 2022 respectively. The project fieldwork started in July 2022. Our team was able to monitor ten underground sites: eight located in Karatau Mountain, one in Karakus Mountain (the edge of Talas Alatau range) and one in Sayram-Ugam National Park on Karzhantau range. During our research, we measured the temperature and humidity of all caves and tunnels.

№	Locality	T /°C	Rh/%
1	Stalaktitovaya cave, Karatau Mountain, Boralday ridge, Akbiik village	15.3	95
2	Shtolna-tunnel, Karatau Mountain, Boralday ridge, Akbiik village	15.6	95
3	Golubiniy proval cave, Karatau Mountain, Boralday ridge, Akbiik village	27.1	45.9
4	Tunnel near the train line, Karakus Mountain (the edge of Talas Alatau range)	29.1	29.6
5	Tunnel, Sayram-Ugam National Park, Karzhantau ridge, Badam River	20.7	81.3
6	Akmechit cave, Karatau Mountain	27.1	46.1
7	Tunnel 1 with water, Karatau Mountain, Borolday ridge	13.3	79.3
8	Tunnel 2 without water, Karatau Mountain, Borolday ridge	12.4	83.3
9	Tunnel 3 with backwater, Karatau Mountain, Borolday ridge	18.7	64.5
10	Tunnel 4 cold wind, Karatau Mountain	10.4	96.5

2. We found significant summer/breeding colonies of the lesser mouse-eared bat (*Myotis blythii*) in the tunnels of Karakus and Sayram-Ugam National Park (fig. 1). These colonies have high conservation impact for the region. In the natural caves we found only a bachelor male colony for the lesser mouse-eared bat. For instance, such site is Stalaktitovaya cave (fig. 2).

Considering that the swarming season was at the beginning, we captured sexually mature male greater horseshoe bats (*Rhinolophus ferrumequinum*) see fig. 3 and found their bachelor colonies in the tunnels.

We collected ectoparasites from nine bat species: greater horseshoe bat (*Rhinolophus ferrumequinum*), lesser mouse-eared bat (*Myotis blythii*), Geoffroy's bat (*M. emarginatus*), David's mouse-eared bat (*M. davidii*), Ognev's serotine (*Eptesicus ognevi*), Savi's pipistrelle (*Hypsugo savii*), common pipistrelle (*Pipistrellus pipistrellus*), Turkestani long-eared bat (*Otonycteris leucophaea*) and greater noctule bat (*Nyctalus lasiopterus*).

The Turkestani long-eared bat and the greater noctule bat are rare species for Central Asia. For instance, the greater noctule bat (fig. 4) was found for first time in south Kazakhstan, where this is a second record for the Turkestani long-eared bat (fig. 5). In addition, the Turkestani long-eared bat is in the Red Data Book of Kazakhstan.

We conducted ultrasound monitoring (fig. 6) in five strategical sites, three closes to the water bodies (Badan river, Bazhansau river and lake without name in Karatau Mountain) and too close to the cave entrances (Akmechit cave in Karatau Mountain and Plachushaya peshera cave in Karakus Mountain).

3. The project logo (fig. 7) was drawn by Assen Ignatov from the National Museum of Natural History, Sofia, Bulgaria. The design of the buffs was produced by Svetla Todorova from Science for Nature, Sofia, Bulgaria. Overall, 50 t-shirts, 40 buffs and 10 hand-made bat toys were prepared for the education activities in the autumn which will be provided by the team of Wild Nature NGO (fig. 8).

During our fieldwork, we were able to present our conservation activities in front of the Reneco International Wildlife Consultant LLC team working for houbara bustard monitoring and release in Kazakhstan project. They joined our activities for three nights (fig. 6 and 9) and also received buffs and t-shirts.

Ongoing work

- Ultrasound bat recording in other parts of Kazakhstan & identification.
- Ectoparasite identification.
- Paper preparation.

Wild Nature NGO team and Maria Orlova from Tyumen State Medical University. © Heliana Dundarova.

Summer colony of the Lesser mouse-eared bat. © Georgi Shakula.

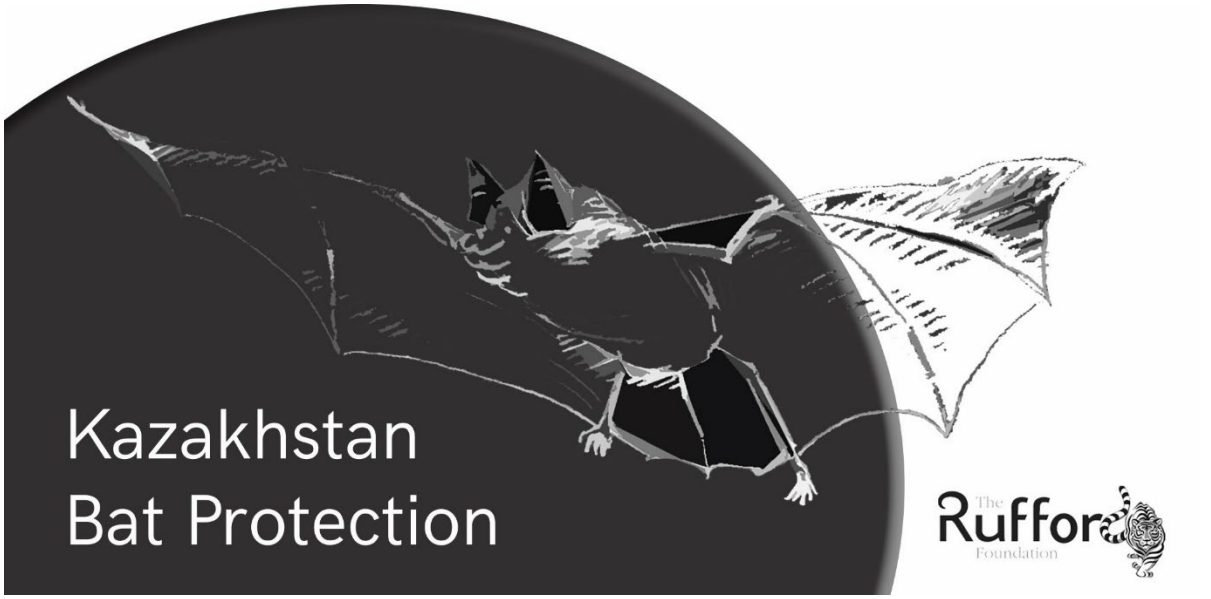
Male Lesser mouse-eared bat in Stalaktitovaya cave. © Georgi Shakula.

Male Greater horseshoe bat. © Heliana Dundarova.

Greater noctule bat. © Heliana Dundarova.

Turkestani long-eared bat. © Heliana Dundarova.

Ultrasound monitoring with Wild Nature NGO and Reneco International Wildlife Consultant LLC teams. © Fedor Shakula.



Project logo. © Assen Ignatov


Wild Nature NGO, Reneco International Wildlife Consultant LLC teams and Heliana Dundarova from the Institute of Biodiversity and Ecosystem Research, BAS.