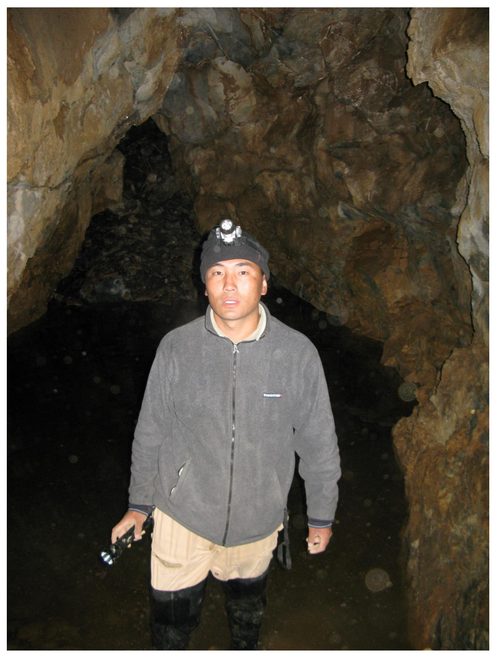
Cave bat species in Mongolia

Ariunbold Jargalsaikhan
Department of Biology, School of Mathematic and Natural Science,
Mongolian National University of Education.
ariunbold@msue.edu.mn
+976 99192925

Ognev's long-eared bat

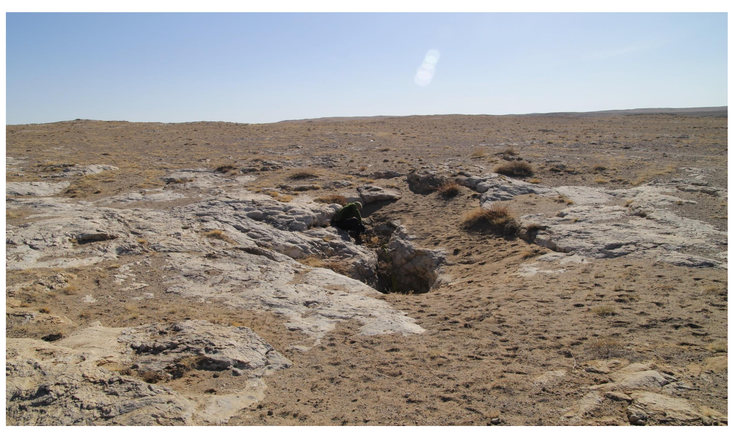


Introduction

Total of 19 bat species were recorded in Mongolia and most of them are resident species. A few them are migrant bat species, but never studied before migration of the bat species. There are about 1000 caves in Mongolia and 200 of them considered larger caves in size. Our recent study was determined hibernating places of migrant bat species. In Mongolia, there is almost no studies have been reported about biology of caves; however, Germany researcher M.Stubbe is recorded and ringed an Eastern water bat from cave Havtsal near Chono Kharaikh river in 1977. Our recent studies are recorded 10 species of bats from 14 caves.

Conditions of Khevtee bosoo cave

Hibernating and habitat conditions of bats, environment of Khuit cave



Hibernating and habitat conditions of Steppe whiskered bat, environment of Shar khanan cave

Methods

In winter time, we have been searched for bats in gaps of walls, clump and ceiling of caves with flash light, and in summer time, just walk in cave and searched for bats and also closing the cave entrance and captured with mist net. All morphometrics of bats were measured and released after ringed the bats.

Gobi big brown bat from Tsagaandel cave

Ussuri whiskered bat's hibernated inside Khuit cave

Alaschanian pipistrelle from Gurvantsenkher cave

Steppe whiskered bat from Shar khanan cave

Results and Conclusion

The bat species were hibernated Dayandeerkhi, Khuit and Soogt in northern region, and also Tsagaandel, Shar khanan, Taliin agui in the southern region of Mongolia. Soogt cave is 72 m deep vertical shaped (Avirmed, 2008) and Ognev's long-eared bat (*Plecotus ognevi*) hibernates there. Khuit cave is created by limestone and the cave structure is vertical, length is 190.1 m and deep of the cave is 38.5 m. Total of 65 individuals of the 4 species including a Northern bat (*Eptesicus nilssonii*), 11 Ognev's long-eared bats (*Plecotus ognevi*), 48 Ussuri whiskered bats (*Myotis gracilis*) and 5 Eastern water bats (*Myotis petax*) were detected in the Khuit cave during survey of April 20, 2016. Air temperature was 0°C, and humidity was 75% in the cave.

An Ussuri whiskered bat hibernated in Dayandeerkhi cave, Easthern water bat in Khavstal cave, Gobi big brown bat (*Eptesicus gobiensis*) and Steppe whiskered bat (*Myotis aurascens*) in Tsagaandel cave, and Steppe whiskered bat in the Shar khanan and Taliin agui cave.

Eastern water bat in Mongolia is occupying stably for a habitat, does not migrate, and ages for over 28 years in natural condition (Stubbe & Shar, 2012). In Siberia, 41 years old Ussuri whiskered bat was found, and this is the oldest small mammal known for world (Podlutsky et al., 2005).

The bats were sheltered in Bayandulaan, Tsagaan, Gurvanzeerd, Khoid Tsenkher, Zorgolkhairkhan, Lovonchombo, Zaluusiin and Khevtee bosoo caves during the summer and they might be hibernated in those caves.

Also, we observed Easthern water bat in Zaluus, *Plecotus sp.* in Nogoon dov and Khevtee bosoo, *Plecotus ognevi* in Buural, Steppe whiskered bat in Gurvanzeerd and Lovonchombo caves, and Kozlov's long-eared bat (*Plecotus kozlovi*) in Tsagaan, Steppe whiskered bat and Alashanian pipistrelle (*Hypsugo alaschanicus*), Particoloured bat (*Vespertilio murinus*), Gobi big brown bat and Kozlov's long-eared bat in Gurvantsenkher caves during summer.

We detected *Myotis gracilis, Myotis petax, Myotis ikonnikovi, Eptesicus nilssonii, Eptesicus gobiensis, Myotis aurascens* and *Plecotus ognevi* in the caves while hibernating, and *Hypsugo alaschanicus, Vespertilio murinus* and *Plecotus kozlovi* are detected in summer.

Rare species of bats, such as *Myotis bombinus, M.blythii, M.frater, Murina hilgendorfi* are possible to be found from a cave and many caves are not studied thus, future investigation is needed. The cave studies is important for detecting hibernating places of bats and provide valuable in formation for developing conservation of Mongolian cave bats.

There are more studies necessary to determine the causes of death and population sizes of bats, which hibernate in caves.

Kozlov's long-eared bat from Tsagaan cave

Table: **IUCN conservation status for species of bats in cave**

№	Species name	Global status (2014)	Regional status (2006)
1	Myotis petax Hollister, 1912	NE	LC
2	Myotis gracilis Ognevi, 1927	NE	DD
3	Myotis aurascens Kuzyakin, 1935	LC	LC
4	Myotis ikonnikovi Ognev, 1912	LC	DD
5	Plecotus ognevi Kishida, 1927	LC	LC
6	Plecotus kozlovi Bobrynskoy, 1926	NE	DD
7	Eptesicus nilssonii (Keyserling et Blasius, 1839)	LC	LC
8	Eptesicus gobiensis Bobrynskoy, 1926	LC	LC
9	Vespertilio murinus Linnaeus, 1758	LC	LC
10	Hypsugo alaschanicus (Bobrynskoy, 1926)	NE	DD

***LC**- Least concern; **DD**- Data deficient; **NT**-Near threatened; **NE**- Not evaluated*

ISSM 2016
2016 국제과학관심포지엄
International Symposium of Science Museums 2016