## A Dedication to the Seventieth Anniversary of Prof. Khorloogiin Munkhbayar

## Badamdorj Bayartogtokh

Department of Zoology, National University of Mongolia, Ulaanbaatar 210646, Mongolia, e-mail: bayartogtokh@num.edu.mn



Khorloogiin Munkhbayar, one of the outstanding and senior biologists in the field of zoology and ecology in Mongolia is reaching the 70th year of his life. He is one of the scientists who made major contribution to the development of modern biological sciences in Mongolia through his research and teaching activities. His activities are limited not only to investigate the fauna of Mongolia, but also he is one of the enormous teachers to educate young generations of biologists in the country.

Kh. Munkhbayar was born in 1940 in Gashuuny Gol area of the Matad district of Dornod province, eastern Mongolia in the family of a nomadic herdsman. Having completed the primary and secondary school courses in the center of Dornod province, in 1959 he entered the Mongolian State University (currently National University of Mongolia), the Faculty of Natural Sciences.

Being a first-year student, Kh. Munkhbayar became interested in study of unique fauna of Mongolia, especially vertebrate animals, such as reptiles, amphibians, birds etc. Actually his fascination with the wild animals was started earlier, even when he was very young, and his sighting of various wildlife species and their enormous populations in the vast plain steppe of eastern Mongolia. During his student period, he attended several large expeditions together his supervisors, and as herpetofauna of Mongolia was almost unexplored at that time, he chose amphibians and reptiles as the fields of his future research.

In 1963 Kh. Munkhbayar graduated from the university majoring in biology-zoology, and as his academic competence was very good, he appointed immediately as a lecturer at the State Pedagogical University (currently Mongolian State University of Education), where he spent his whole teaching and research career, which is continuing almost a half century.

While teaching at the university, he started to investigate the amphibians and reptiles of Mongolia, and intensively explored the fauna during several expeditions to different regions of Mongolia together with his supervisors and coworkers, namely Prof. O. Shagdarsuren, A. Dashdorj, A. Tsendsuren, V. E. Sokolov, P. D. Gunin, V. F. Orlova, N. B. Ananieva, L. Ya. Borkin, N. L. Orlov, D. V. Semenov, S. L. Kuzmin, A. Bold, A. Dulmaa, S. Dulamtseren etc., and of course, many of his students. Upon his return from the field survey, Kh. Mnkhbayar made an analysis of the data on taxonomy, ecology, distributional patterns and population structure of different species of amphibians and reptiles, which became the foundation of his dissertation research.

Since 1970 he studied at the Tashkent State University as a postgraduate student, where his scientific advisors were Prof. T. Z. Zahidov and Prof. O. Shagdarsuren. As their student, Munkhbayar always highly esteems and gratitude for them, and for his university teachers, Prof. O. Shagdarsuren, A. Dashdorj and A. Tsendsuren, who drew his attention to herpetology. In 1973 he defended his thesis



Figure 1. The pictures show different activities of Prof. Kh. Munkhbayar who has conducted numerous field research, laboratory investigation and attended scientific conferences and meetings. A – During his post-graduate study at the Tashkent State University in 1973; B – In the office of Corresponding member of RAS, Dr. Yu. Yu. Dgebuadze, the vice director of the Institute of Ecology and Evolution, RAS, in Moscow, 2007; C – During field survey in Trans-Altai Gobi, 2009; D – In the Uush Mankhan Gobi together with Dr. L. Ya. Borkin, Dr. M. Munkhbaatar, and a student P. Zoljargal; E – While receiving an award from academician A. S. Pavlov, director of the Institute of Ecology and Evolution, RAS, in Ulaanbaatar, 2010; F – During the herpetological investigation in the Gobi desert of Mongolia, 2008.

entitled "Amphibians and Reptiles of Mongolia", becoming first scientist of Mongolia in the field of herpetology.

Since 1971 Kh. Munkhbayar started to attend the Joint Russian-Mongolian Complex Biological Expeditions, and spent many field seasons in different regions of Mongolia, where he studied the biology and ecology of reptiles and amphibians, their habitats as well as their conservation issues. He is a co-author of the monographs "Amphibians and Reptiles of Mongolia" published in 1988 and 1997 in Moscow.

When the course of time the subject of study in the group became wider, Prof. Munkhbayar maintained investigations of ecology and conservation of birds of prey. During 2004-2005 he worked on the research project, which aimed to support the population growth of sacker falcon, one of the endangered raptor species in Mongolia due to rough disturbance by human. Together with his coworkers and students, Prof. Munkhbayar constructed the artificial nests for breeding of sacker falcon, and settled them in the steppe habitats of Galshar district, Khentii province in eastern Mongolia.

During last two years Prof. Munkhbayar worked on a project, "Ecology and distributional patterns of edge populations of the amphibian and reptile species in Mongolia" as a principal investigator. The contributions made by him to the knowledge of amphibians and reptiles of the country by his own research and his influence by educating young generations of herpetologists and personal contacts are large. In the course of his exploration of herpetofauna of Mongolia, he recorded two species and two subspecies for the first time in the fauna of Mongolia, and discovered a new subspecies — *Eremias multiocellata tsaganbogdensis* Munkhbayar et Borkin, 2010 as new to science.

He published more than 30 books, including several monographs and textbooks for university and secondary school students, more than 100 articles, attended scientific conferences and gave seminars with more than 30 presentations (e.g. Munkhbayar, 1966, 1976, 1977, 1985; Munkhbayar *et al.*, 1997a, b; 2010; Borkin *et al.*, 1988; Darevsky *et al.*, 1988; Sokolov *et al.*, 1996; Munkhbayar & Terbish, 1997; Terbish *et al.*, 2006a, b; Munkhbayar & Borkin, 2010). He is a co-author of "*Encyclopedia of Mongolia*",

published in 2000, 2005; "National Atlas of Mongolia", published in 1996; "Red Data Book of Mongolia", published in 1988, 1998, and "Encyclopedia for Children of Mongolia". He is initiator and chairman of the organizing committee of the international conference – "Biodiversity of wetlands in Eurasia", which was held in 2004.

Prof. Kh. Munkhbayar acted as scientific advisor for more than 20 graduate students that successfully defended their theses. He is highly valued by his foreign colleagues as the renowned scientist as well as founder of herpetological school in Mongolia. Also, he is well-rounded person whose talents included public speaking and writing. As he is well-known publicist with broad audience, the popular works written by him were mainly published in the magazines "Science and Life", "Nature and Life" and others public press.

Besides of his scientific and teaching activities, Prof. Munkhbayar served as head of department, scientific secretary and vice president of the Mongolian State University of Education. In 1981 he received the title of associate professor, and 1991 became a professor by the decision of the Supreme Attestation Commission at the Ministry of Education of Mongolia.

He is a fellow of the Mongolian Academy of Education, member of the National Academy of Sciences, Mongolia, and working as an acting member of the scientific councils of the Institute of Biology, Mongolian Academy of Sciences, and Hustai National Park. In 1997, the president of Mongolia awarded him with the title of "Honorary Teacher of Mongolia" for his contributions to the development of science in and long-term effort in educating young generations of biologists. He also received several other government awards, such as "Leading Personnel of Nature and Environment" and "Leading Personnel of Science" etc.

His enormous career and influential works have always inspired the generations of biologists in Mongolia. I feel myself honored to make a brief summary of his pioneering works on herpetological research in Mongolia, as well as teaching, organizational and other activities by him. I wish him a long, enjoyable and productive life in the years to come.

## **Selected Bibliography**

Borkin, L. Ya., Darevsky, I. S., Munkhbayar *et al.* 1988. *Vertebrate Animals of Mongolia:* 

- Amphibians. Nauka Press, Moscow. (in Russian)
- Darevsky, I. S., Orlova, V.F., Orlov, N. L., Munkhbayar et al. 1988. Vertebrate Animals of Mongolia: Reptiles. Russian Academy of Sciences Press, Moscow. (in Russian)
- Munkhbayar, Kh. 1966. *Reptiles*. Published by the Mongolian Society for the Development of Science, Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh. 1976. *Reptiles and Amphibians of Mongolia*. Ministry of Education Press, Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh. 1977. Yangihissar gecko, Gymnodactylus elongates – a new species for Mongolia. Herpetological Bulletin, Proceedings of the Zoological Institute of Academy of Sciences, USSR, 74: 73-74. (in Russian)
- Munkhbayar, Kh. 1985. *Snakes*. Ministry of Education Press, Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh. & Terbish, Kh. 1997. *Identification Keys to Amphibians and Reptiles of Mongolia*. Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh., Danzan, G., Dariimaa, Sh., Munkhbaatar, M., Terbish, Kh., Tamir, J. & Khongorzul, Ts. 1997. *Fundamentals of Ecology*. Ulaanbaatar. (in Mongolian)

- Munkhbayar, Kh. & Munkhbaatar, M. 2006. Simplified Ecology. Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh., Munkhbaatar, M., Terbish, Kh., 2010. *Amphibians and Reptiles of Mongolia*. Munkhiin Useg Printing, Ulaanbaatar. (in Mongolian)
- Munkhbayar, Kh., Borkin, L. J. 2010. A new subspecies of the lizard, *Eremias multiocellata tsaganbogdensis* subsp. nov. (Lacertidae) from southern Mongolia. *Izvestiya Samarskogo Nauchnogo Tsentra Rossiiskoi Akademii Nauk*, 12(1): 112-124. (in Russian)
- Sokolov, V. E., Dulmaa, A., Semenov, D. V., Bold, A. & Munkhbayar, Kh. 1996. *Rare Animals of Mongolia*. Russian Academy of Sciences Press, Moscow. (in Russian)
- Terbish, Kh., Munkhbayar, Kh. & Munkhbaatar, M. 2006. *A Guide to the Amphibians and Reptiles of Mongolia*. Munkhiin Useg Printing, Ulaanbaatar. (in English and Mongolian)
- Terbish, Kh., Munkhbayar, Kh., Clark, E. L., Munkhbat, J. & Monke, E. M. 2006. *Mongolian Red List of Amphibians and Reptiles*. Regional Red List Series. Zoological Society of London. (in English and Mongolian)