

A Dedication to the 70th Anniversary of Late Prof. Dmitrii A. Krivolutsky

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Abstract

This work is dedicated to the 70th birthday of late professor and corresponding member of the Russian Academy of Sciences, D. A. Krivolutsky, a man of exceptional abilities and experiences, and one of the leading acarologists and soil zoologists in Russia. He was one of the scientists who led to the development of modern acarology and soil zoology in Russia and some other countries through his scientific, teaching and organizational activities. He has dedicated his scientific career to discovering and describing biological diversity of Russia and other countries of the former Soviet Union.



A scientific conference dedicated to the birthday of D.A. Krivolutsky. On 28-30 September 2009, the second scientific conference, “*Soil Biogeography*” was held at the Moscow State University, Russia, which was dedicated to the 70th birthday of late Prof. Dmitrii Alexandrovich Krivolutsky, an eminent soil zoologist and ecologist of Russia. The Department of Biogeography, Moscow State University in cooperation with the Insti-

tute of Ecology and Evolution, Russian Academy of Sciences (RAS) organized this conference, as D. A. Krivolutsky worked for more than 40 years through his scientific and teaching activities at both institutions. Two of his former students, Drs. A. S. Zaitsev and K. B. Gongalsky were responsible for all organizing and social activities during the conference, and many students, scientists and close colleagues, as well as relatives of Prof. D. A. Krivolutsky who arrived from different regions of Russia and from abroad participated.

More than 40 speeches have been discussed at the conference with addition of about 50 poster presentations, which were sectioned into six different sessions as Plenary session, Geographical factors affecting the distribution of soil organisms, Soil biota and its role in the dynamics of biogeocoenosis, Biological methods for diagnostics of soils, Biogeography of oribatid mites and Poster session. The proceedings of the conference were published by the Moscow State University Press, which contained abstracts of all presented works, written mainly in Russian (Gongalsky *et al.*, 2009).

Participants of the conference discussed various aspects of biogeography of soil biota, as well as about the scientific heritages of Prof. D. A. Krivolutsky. Two of the plenary session speakers, N. V. Lebedeva (2009a) and B. Bayartogtokh (2009) dedicated their speeches to discuss about the ideas developed by D. A. Krivolutsky on dispersal of soil oribatid mites with plumage of birds in the Arctic, and his contributions to the knowledge of soil mites of the world, respectively.

Scientific and teaching careers. D. A. Krivolutsky was born on 4 October 1939 in Moscow in the family of young geographers, who were graduated from the Geography Faculty of the Moscow State University. In 1962, D. A. Krivolutsky graduated from the Biology and Soil Science Faculty of the same university as a zoologist. Just upon the graduation of the university he got position as a research assistant at the Institute of Ecology and Evolution, RAS, where he spent his scientific career.

The main subject of his research was soil mites, especially oribatid mites, and he studied taxonomy, systematics, ecology and biogeography of soil animals, as well as bioindicator systems of soil biota. The first two publications by D. A. Krivolutsky appeared in 1962, when he enrolled at the university as a student.

The first work was dedicated to the systematics of oribatid mites of the genus *Cultroribula*, one of the systematically difficult and small-bodied groups among soil mites. In this work he studied whole genus at the global level, and provided data on taxonomic composition and diagnostics of all species, described two new species, recording some species for the first time in the former USSR territory, and synonymized some invalid species (Krivolutsky, 1962a). Although the paper is relatively little in size it is a very informative and thoroughly elaborated work.

Another paper was published roughly at the same time in the journal *Pedobiologia*, which dedicated to the study of the oribatid mite communities in the Streletsk part of the Central Chernozem National Park (Kursk region, Russia). The material for this work was collected by him in 1960, when he performed the student field course at this national park. This paper is rather large in size, and it covers such aspects as faunistics, habitat distribution, morphological-ecological types, vertical dispersal in the soil horizons and seasonal dynamics of soil mites. He also studied the relations between the precipitation amount and population density of soil mites, as well as diversity and contents of soil humus. In this work he discussed the concept of morpho-ecological division of oribatid mites, based on the characteristics of the main groups, such as the form and size of their body, degree of the sclerotization and pigmentation of integument, as well as their dispersal between soil profiles (Krivolutsky, 1962b).

Furthermore, he studied morphological and

ecological characteristics of oribatid mites in detail, and developed the principle for division of these mites into several morpho-ecological types and life forms (Krivolutsky, 1965, 1967, 1968). Thus, one of his first two publications was dedicated to systematics, and the other to ecology of soil mites.

Later on D. A. Krivolutsky worked throughout the former Soviet Union, collected a large amount of materials, and described several new genera as *Ghilarovus*, *Simkinia*, *Hypovortex*, *Umbellozetes*, *Sellnickochthonius*, *Birsteinus* etc., discovered or recorded hundreds of species, and revealed main patterns of distribution and formation of soil mite communities in USSR. Besides of vast area of the former USSR, he traveled to many areas of the Palaearctic region, discovering many new and little known species, and published a large number of scientific works (e. g. Ghilarov & Krivolutsky, 1975; Krivolutsky *et al.*, 1985, 1990; Krivolutsky, 1995; Krivolutsky & Lebedeva, 2003).

During his scientific career, D. A. Krivolutsky has published more than 600 scientific articles, catalogues and books on systematics, ecology and biogeography, and the large majority of these contributions relate to taxonomy, systematics and ecology of both recent and fossil oribatid mites (see Gongalsky *et al.*, 2006 for reference). While his background and focus are mostly on soil dwelling mites, D. A. Krivolutsky has contributed much to the fascinating study of mites associated with bird nests, and extended his work to arboreal and aquatic habitats. The impact of any scientist is measured not simply by the number of titles, but how he or she has affected the work of their contemporaries, and of others who follow. By any such measure, D. A. Krivolutsky excels, and most soil zoologists and acarologists in the world are frequently citing his works.

He has described and named 16 genera and more than 80 species of oribatid mites, and his studies on biological diversity of mites have spanned the vast areas of the former Soviet Union and some other countries. Furthermore, his important major compilations – particularly identification keys, checklists and catalogues of oribatid mites of the Northern Palaearctic Region are always at fingertips of oribatid systematists and biogeographers around the world.

Colleagues and students often name their newly discovered taxa after the Prof. Krivolutsky (e.g.

Krivolutskiella Gordeeva, 1980, *Africogalumna krivolutskyi* Starý, 2005, *Birsteinus krivolutskyi* Rjabinin, 1979, *Caucaseremaeus krivolutskyi* Shtanchaeva et Subías, 2006, *Ghilarovus krivolutskyi* Bayartogtokh et Smelyansky, 2007, *Maerkelotritia krivolutskyi* Märkel, 1968, *Membranoppia krivoluzkyi* Hammer, 1968, *Metrioppia krivolutskyi* Bayartogtokh, 2000, *Ramusella krivolutskyi* (Kulijev, 1966), *Subiasella krivolutskyi* (Poltavskaja, 1994), *Oribatella krivolutskyi* Karppinen et Shtanchaeva, 1987).

His activities were limited not only to research, but also he was one of the most talented teachers to educate young generations of soil zoologists, acarologists and biogeographers. Prof. D. A. Krivolutsky supervised the dissertation studies of more than 20 graduates. As he has worked as a professor and head of the Department of Biogeography, Moscow State University, he played an important role in educating young generations of biogeographers in Russia, and published several textbooks for the university level students (e. g. Lebedeva *et al.*, 1999, 2004; Voronov *et al.*, 1999; see also Lebedeva, 2009b).

Prof. D. A. Krivolutsky was one of the talented organizers of scientific activities. In 1981 he founded a new Laboratory of Bioindication at the Institute of Ecology and Evolution, RAS, where he worked until the end of his life. Between 2002 and 2004 he served as a director of the Institute of Parasitology, RAS. His distinguished career and influential works have always inspired the generations of soil zoologists and acarologists.

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