



Andrei Sher and Quaternary science

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ARTICLE INFO

Article history:

Received 28 April 2011

Received in revised form

18 May 2011

Accepted 19 May 2011

Available online 7 July 2011

Keywords:

Biography

Beringia

Quaternary

Fossils

International cooperation

ABSTRACT

Andrei Sher (1939–2008) was a key individual in Beringian studies who made substantial and original contributions, but also, importantly, built bridges between western and eastern Beringian scientists spanning some five decades of research. He is perhaps best known as a Quaternary palaeontologist, specializing in large mammals, and mammoths in particular, but his field of his scientific research was much broader, encompassing Quaternary geology, stratigraphy, geocryology, and paleoenvironmental reconstructions. He worked mainly in Siberia, in the Kolyma and Indigirka lowlands, and Chukotka, but also completed fieldwork in Alaska and Yukon through joint projects with American and Canadian scientists. Andrei was an active scientist until the last days of his life. He was involved in many different research projects ranging from mammoth evolution, fossil insects and environmental changes and ancient DNA. Without Andrei's connections between researchers, many unique discoveries would likely be unknown.

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1. Biography

Andrei Vladimirovich Sher was born on October 28th, 1939 in Moscow. His father, Vladimir Sher (1906–1986), was a highly skilled radio engineer; his mother, Natalia Sher (1911–2007, maiden name Ridiger), was a local government employee.

Andrei studied at high school in Moscow. Beyond regular schoolwork, he studied English from an early age. His parents hired an English tutor, and later he graduated from a Moscow State evening course in foreign languages. He was an excellent speaker of English, an unusual accomplishment for Russian scientists educated in communist times, and this benefitted him immensely as he was uniquely placed to communicate with foreign colleagues over the course of his career. Andrei's interests in natural science began in high school. In 1954 he joined the young scientists' group at the Kievsky district of Moscow Young Pioneer House, and in 1955 became chief of the young researchers' group 'Meshcherskaya Expedition'. So began a long career as a researcher and leader that lasted from the age of 15 until the end of his life.

The Meshcherskaya Expedition was a unique research community of about 80 teenagers and one adult leader, Boris Bekleshov of

the Soviet Academy of Science. Teaching was his additional, partly voluntary job; he sought to involve high school children in real research tasks. The Expedition worked in the agricultural landscapes of the Klyazma River floodplain studying the impact of human activity and incorporating a range of disciplines, including geography, geology, and botany, into their work. Being the elected chairman of the Expedition, Andrei was second-in-charge after the adult leader. Sadly, Boris Bekleshov died at the age of 37; this extraordinary man and his student community have been described by L. Kabo in her book *The story of Boris Bekleshov*. This includes probably the first published mention of Andrei Sher. Fifty years on, the Expedition members still enjoy group meetings. Of his time with the Meshcherskaya Expedition Andrei wrote in his diary: "What a wonderful life! How glad I am that I found this way, and such friends!" Fig. 1A.

From 1957 to 1962 Andrei studied at the Geography Department of Moscow State University and specialized in geomorphology. This choice was influenced by his Meshcherskaya Expedition experiences and his revered teacher Boris Bekleshov. Without these influences Andrei might well have chosen another career, because he always had vision problems. To take the geography course he had to sign a paper indicating that the fieldwork was at his own risk—it had been explained to him that lifting a heavy load might in his case lead to blindness. Andrei decided he must be a real field worker—sink or swim—so he ignored the risk. As it was, he ended

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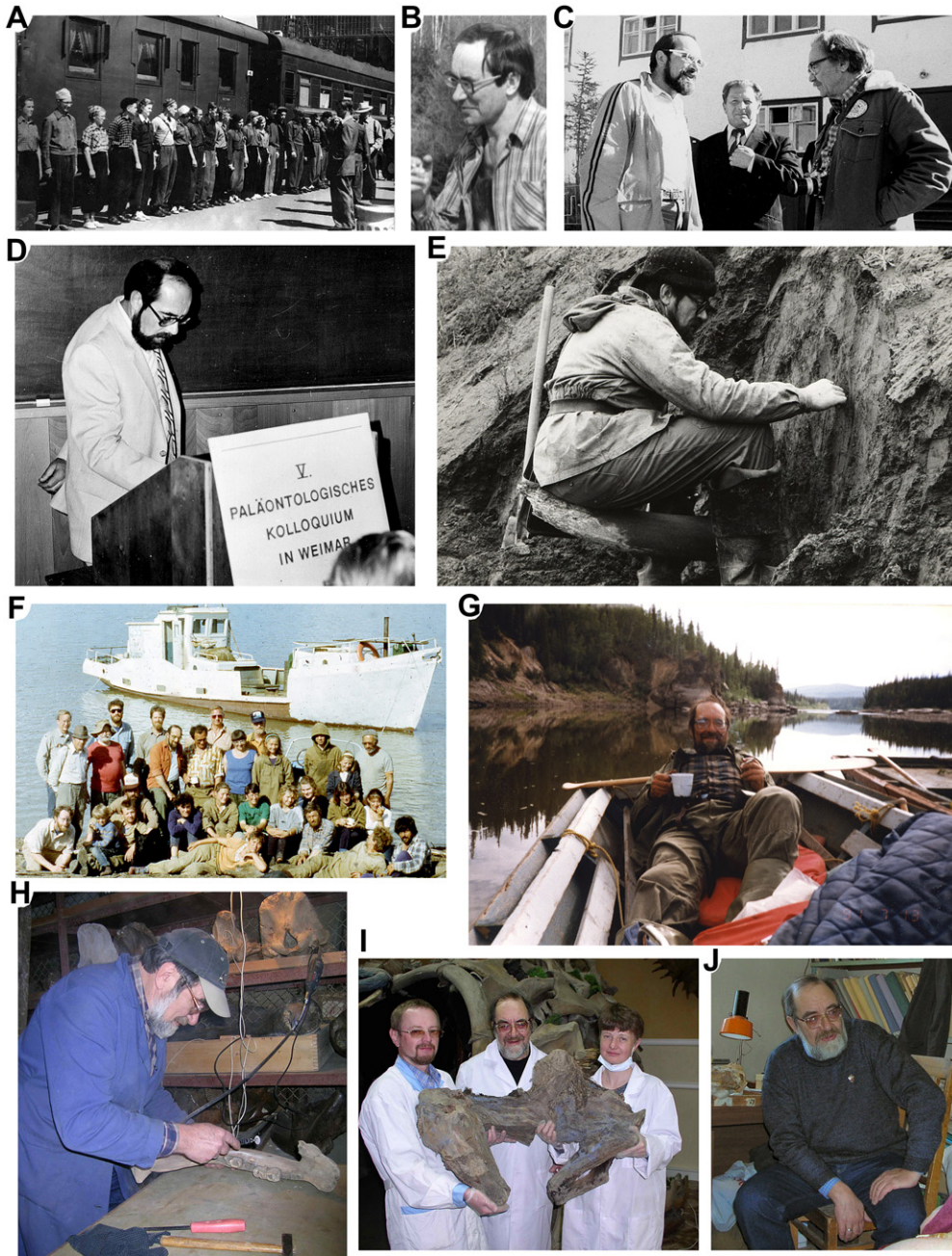


Fig. 1. Andrei Sher and his activity in different years. A – Meshcherskaya Expedition 1955, at Moscow railway station. The second from the left is Andrei. B – Andrei Sher in 1976. C – Field trip 1978, Chersky, Lower Kolyma River. Andrei with David Hopkins (and a local authority in background). D – Weimar (Germany) Palaeontological Colloquium, 1985 E – Keremesit, Northern Siberia, 1984: Andrei describe the section sitting on a mammoth tusk. F – Lower Kolyma international expedition 1990: first line (lying): (?), Segrei Zimov; second line (sitting): (?), 2 children, (?), Tatyana Kuznetsova, (?), Mary Edwards, (?), (?), Viktor Sorokovikov, (?), (?), David Gilichinsky; third line (staying): Paul Matheus, Ralf-Dietrich Kahlke, Imre ?, Mike ?, Chris ? (three American persons from permafrost microbe team), Andrei Sher, Alexander Druk, Dick Harrington, Anna Leirikh (Andrei wife), Dale Guthrie, Lisa (a cook), (?), (?), Robert (a field assistant) G – Old Crow boat trip 1991. H – Andrei picks up DNA samples from fossil bones in Geological Institute basement, Moscow (about 2006). I – Ice Age museum, Moscow, 2007, Andrei with colleagues (S. Seleznev and N. Spasskaya) hold a mummified fossil horse from Bilibino, Chukotka J – Andrei in Geological Institute, Moscow, 2006.

up carrying 50-kg loads on field expeditions and, happily, his eyesight remained intact.

At university Andrei gained excellent results; but he was ever a free spirit, and incidents in his early career reflect the clash of his strong personality with the Soviet system. For example, with friends he founded a grass-roots literary journal. Because creative activity that did not conform to the official communist line was prohibited, the journal was closed by University officials and Andrei, as main editor and poet, got into trouble. The problems did

not end there. A system known as government “distribution” operated, meaning that each graduating student was assigned a first job by the University. It was the University that determined who would take a PhD, who would work in the Academy of Science, and who would get a position in a distant region far from Moscow. So it was that the top student in Geography of 1962, one Andrei Sher, was sent to the far Northeast as a geologist with the Chukotka Hydrogeology Expedition. The office was actually in Moscow, but all snow-free time was spent in the field. Andrei worked in this

position mapping the Chukchi Peninsula from 1962 to 1965. The abundance of fossil bones along the river banks in Chukotka amazed him; he became an enthusiastic collector and decided to become a palaeontologist.

In 1966 Andrei returned to academic work, obtaining a post-graduate position in the Geological Institute of the Academy of Sciences. His first articles, in 1967, were *Early Quaternary mammals of the extreme north-east of the USSR and the problem of the continental connections of Asia and America*, and *Fossil saiga in north-eastern Siberia and Alaska* (see bibliography). In 1969 he finished his dissertation in Palaeontology and Stratigraphy, *Fossil mammal remains and their importance for stratigraphy and correlation of the Pleistocene deposits of the Far Northeast USSR and North America*. Thus, the problem of trans-Beringian mammalian relations took center stage from the start of Andrei's research career. Published in 1971 in Russian, his dissertation was awarded the Prize of the Moscow Society of Naturalists for the best scientific monograph in 1972. Subsequently the book was translated to English as *Pleistocene mammals and stratigraphy of the Far Northeast USSR and North America*.

After completing his dissertation Andrei gained a museum position in the Paleontological Institute of the Academy of Sciences, Moscow, where he worked from 1969 to 1983 Fig. 1B. Andrei's office was in the old Palaeontology Museum, not far from the center of Moscow. The 700 m² building was too small for the extensive paleontological collections, especially since it was shared with the mineralogical collection, and a new museum was being built on the south-east edge of Moscow. The plan included spacious exhibitions, laboratories and collection storage facilities. Andrei was young, energetic and a good networker, and he became a prime mover of the idea of a completely new museum display. In 1971 he brought together a group of young enthusiasts (they called themselves a 'confederation of young officers'), including Vladimir Zhegallo, Alexander Ponomarenko, Margaret Borisoglebskaya, and Nikolay Kalandadze. All except the entomologist Ponomarenko were vertebrate palaeontologists. Ponomarenko had suggested creating an ecological exhibit, following ecosystem development through Earth history—in the 1970s a highly original idea. The group members lacked museum experience, however, so Andrei visited a number of museums and studied their activities and exhibits. Based on his findings he wrote a detailed report: *Some features of natural history museum organization (with examples from East Germany and Poland)*.

Andrei was head of the "Museum Interior Group" from 1972 to 1975, and continued to work within it even after stepping down as chairman. Besides exhibition work, Andrei was, at this time, also curator of the sculpture studio, being responsible for the supply of materials and having oversight of the mammal reconstructions. Unfortunately, by the early 1980s the management of the museum was in turmoil. New managers from outside were drafted into position when the greatly anticipated new exhibition was almost ready, and Andrei was moved from exhibition work to the historical group. Vladimir Zhegallo remembers: 'Andrei took all the museum's problems hard. He used to have a great picture of the new museum building on his book shelf. Once when I visited him in 1982 he was clearly upset. He showed me the now empty place on the book shelf, remarking that he had been "pushed out" of museum work. Instead, he was required to write essays about former institute directors and other famous persons. He declared "I am still young enough to make my own history", and left the Paleontological Institute.'

During his time at the Paleontological Institute, Andrei established a successful field group and also began to make contact with scientists from abroad. Carrying out fieldwork in the Kolyma Lowland, he purchased a cabin in the town of Zeleny Mys close to

Chersky that became the base for many expeditions. The expeditions were collaborative, team members being drawn from the Geography Department of Moscow University (Alexey Arkhangelov, Josef Plakht, Sergey Kolesnikov, Elena Virina, Sergey Kiselev), the Geological Institute, Moscow (Vladimir Zazhigin), PNIIS, Moscow (a industrial and research institute for construction engineering) (Tatyana Kaplina), and the Soil Institute, Pushino (David Gilichinsky, Stas Gubin). The field team stayed in Andrei's cabin and in the nearby cabin belonging to Sergei Zimov's group from Vladivostok, the groups forming a friendly and informal scientific community.

Andrei's long-time friend and colleague, Anatoly Lozhkin, worked with Andrei on many stratigraphic problems, and together they organized further geological expeditions to Northeast Siberia. Some of the earliest, in the early 1970s, focussed on the Yana-Indigirka-Kolyma lowland: the Adycha River, Uchuguy-Allaikha, and the lower Kolyma. The teams studied yedoma deposits and the rich fauna known as the 'mammoth complex', the prime motive being to understand the palaeoenvironments of the region. One of the most important outcomes was Andrei's *Unification of the Regional Stratigraphic Scheme of Quaternary Deposits of the Yana-Kolyma Lowland and Surrounding Mountains*, published in 1987. One particular area that intrigued Andrei was Bolshoy Khomus Yuryakh (a narrow lowland between the Kolyma and Indigirka rivers). In 1972 Lozhkin visited the area and collected teeth from an unknown species of horse, which he gave to Andrei for his expert analysis. Andrei named this ancient horse *Plesippus verae*, and it became known as the "Vera horse". These fossils continued to fascinate Andrei and for years he dreamed of going to Bolshoy Khomus Yuryakh. However, the area is remote and transportation exceedingly difficult. About 30 years later, Andrei was finally able to organize an expedition to this locality.

On another occasion Andrei had screened sediment at the Chukochya River outcrop for small mammals and had found numerous fossil insect remains. He knew there was a researcher in Canada, John Matthews, who specialized in Quaternary entomology, and Andrei sent the fossils to him. This was the start of a long-lasting cooperation between Russian and Canadian Quaternary entomologists. Andrei understood the potential of insect studies and decided to encourage the development of a "home-grown" expert. Thus one of the expedition workers, Sergey Kiselev, who had begun to study Andrei's field collections, was invited to take up a PhD position in the Paleontological Institute and train in palaeoentomology. Later, beginning in 1984, a second Quaternary entomologist specializing in Western Beringia, Svetlana Kuzmina, was trained by Andrei and Sergey. Thus, Andrei played a fundamental role in the development of Quaternary entomology in Russia.

In May 1973 Andrei participated in the All-Union symposium *The Bering Land Bridge and its role for the History of Holarctic Floras and Faunas in the Late Cenozoic*, in Khabarovsk. It began life as a Soviet meeting, but many foreign scientists became involved. Andrei was one of organizers; he created the list of foreign participants and arranged simultaneous translation. The meeting received papers from D. Hopkins, O. Petrov, A. Lozhkin, B. Yurstev, H.-D. Kahlke and R. D. Guthrie. The resulting 600-page book *Beringia in the Cenozoic* was published in 1976 with Andrei as one of the editors. The book was unique at that time because it included not only the full text of all the presentations in Russian but also short English abstracts.

The next meeting of Beringian scientists in Russia was planned in 1979 as part of a major event: the XIV Pacific Science Congress in Khabarovsk. The meeting involved 2000 scientists from 46 countries; there were 14 committees relating to different aspects of problems in the Pacific region, among them one covering aspects of "The solid sphere of the Earth" under the direction of N. Shilo. While bearing a somewhat unpromising title, this committee developed a new research program entitled *Late Pleistocene*

Vegetation Change in Beringia and its Role in the Extinction of the Mammoth Fauna jointly led by N. Shilo, D. Hopkins, J. Matthews and A. Lozhkin. Andrei prepared the field excursion and wrote with colleagues a guide book in Russian and English. Many foreign colleagues hoped to be on this excursion, but because the region (Kolyma Lowland) was “a closed zone” to outsiders, only a few were able to overcome the bureaucratic obstacles and gain the necessary permission. The English guide book remains a valuable resource for the increasing number of foreign scientists now able to visit the lower Kolyma Fig. 1C.

In 1983 Andrei moved to the A. N. Severtsov Institute of Ecology and Evolution, taking his extensive fossil collection with him. This needed a large space, so the Institute rented the basement of a residential house for him. It was an excellent set-up; visitors could stay there (one PhD student lived in the basement for a couple of years); there was a photographic studio, good storage and an antique chair. But Andrei enjoyed his lovely chair for only a short time: the house was sold so Andrei had to move to another basement, less comfortable, then again and again until at last he had no place to work. This was the negative side of the changes taking place in Russian life at that time—there was a great decline in the resources available to scientists. Ironically, the final loss of his working space happened in 1995 when Andrei was in London as visiting professor—the positive result of change was freedom to travel and opportunities to work in the “West”. Two of Andrei’s students, Tatyana Kuznetsova and Pavel Nikolskiy, saved the collection, which was removed to storage in the Paleontological Institute. This result at least ensured the long-term future of the collection, as it became the property of Paleontological Institute, and Andrei was able to continue to work on it there. But the main Severtsov Institute building had so little room for employees that many of them, including Andrei, worked mainly at home. By that time Andrei had married Anna Leirikh. The couple lived in a small, one-bedroom flat that became Andrei’s working place for many years. Anna Leirikh is also a scientist and also has to work at home, so during their time together the small flat was somehow transformed into two offices as well as a living space; numerous meetings with visiting colleagues took place in its very small kitchen.

In 1984 Andrei spent two months in the field in the far north; the first site was Alazea River (Kolyma Lowland), the second Keremesit River (Yana-Indigirka Lowland) Fig. 1E. Svetlana Kuzmina recalls that Andrei, as expedition leader, had many talents beyond science: he did all the carpentry jobs in camp, as well as fishing, cooking, and driving the boat, quite apart from his geological work. Scientifically, he was interested not only in bones, but also in sedimentology, permafrost features and geomorphology. His unusual vision meant that he was able to see the detail of small rodent teeth by eye, taking off his glasses and looking at the sediment from 2 cm away. He had well-developed intuition for a good site; if he chose a place for screening one could be sure the sample would be rich. That year, the team spent an extra two weeks in the field because helicopter fuel in the nearest town ran out—all expeditions were marooned in the tundra. Out in wild country with no radio connection, and with snow covering the camp, the food supply came to an end, so the team stopped work at the section and began to think about survival. The main food became the fish that Andrei caught each day; and they used eelpout liver for oil. They feared the logistics co-ordinator in the town had forgotten about them completely, so when a helicopter finally appeared in the sky, they needed to get noticed. Unfortunately they had bullets for a flare pistol but no pistol, but Andrei improvised equipment from a few planks and nails and managed to launch a signal. The helicopter came for them the next day.

From the beginning of the 1990s Andrei’s scientific career became steadily more international. In 1989, he made his first trip

to Britain and experienced a strong emotional reaction on arriving in London, a city he had longed to see all his life. During that visit he acquired his first computer, describing it as ‘my beloved Amstrad’, and declaring ‘My life has changed totally’.

In 1990, taking advantage of the new atmosphere of “perestroika”, Andrei decided to organize an international field trip to the Kolyma Lowland Fig. 1F. Relaxation of the strict rules about foreign visitors allowed him to invite people from the USA and Canada to compare Quaternary sites of West and East Beringia. Dale Guthrie, Dick Harington, Mary Edwards, Paul Matheus and Matt Huston were among the team that traveled to Siberia. On the Russian side were Andrei’s long-time colleagues Stas Gubin, David Gilichinsky and Vladimir Zazhigin, and younger colleagues Sasha Druk, Tatyana Kuznetsova and Pavel Nikolskiy. The joint expedition worked on the Krestovka and Omolon exposures on the lower Kolyma and visited other sites of the Kolyma Lowland. The Americans were impressed with the way the Russians dealt with the challenging field conditions on *yedoma* sections. Much of the success of the expedition was due to Andrei’s diplomacy in dealing with local officials and his long-time connection with Sergei Zimov at the Cherskiy science station, all of which, behind the scenes, smoothed the way for foreigners to come to this previously highly restricted area. Mary Edwards recalls that at Krestovka, the expedition was visited by a helicopter from which emerged a group of high officials of the Sakhar regional government. They voiced their suspicion that the group were illegal ivory hunters, but Andrei explained that they were not interested in ivory but in ecology and evolution. There was evident disbelief amongst the officials until Andrei felt in his pocket and produced several minute lemming teeth—he talked enthusiastically about their scientific importance and was evidently convincing; the officials relented and flew off. This trip in many ways signaled in a sea-change in Russian-American field collaboration, as scientists on both sides of the Bering Strait seized the opportunity offered by *perestroika* to strengthen their working relationships.

The following year Andrei was invited to Fairbanks, Alaska, to take up a six-month residency as the Alaska Quaternary Center’s Distinguished Visiting Professor. Andrei was one of the first Soviet scientists to visit Fairbanks (his first visit was in 1988) and in the summer of 1991 six of his colleagues joined him (Elena Virina, Pavel Nikolskiy, David Gilichinsky, Stas Gubin, Vladimir Zazhigin, Sasha Druk). They worked together with US and Canadian scientists on the iconic Gold Hill loess section near Fairbanks, first described by Troy Pewe, and a workshop for Beringian scientists was held at the University of Alaska. A volume on current Beringian research resulted, edited by M. Edwards, A. Sher and R. Guthrie: *Terrestrial Paleoenvironmental Studies in Beringia: Proceedings of a Joint Russian-American Workshop, Fairbanks, Alaska, 1991*. By this time, international relations were changing rapidly; during the Russians visit many contacts were made and several long-lasting international collaborations were set-up.

His sociable nature made Andrei many friends among North American colleagues. After his stay in Fairbanks Andrei became a regular visitor to Canada and the USA for meetings and lectures. In 1991 Andrei, with group of Russian and Canadian scientists, visited the Old Crow River Fig. 1G and Banks Island. John Matthews recalls: “I went to Leningrad with several others to negotiate a joint research program, and while I was there Andrei came up from Moscow. I believe it was at that meeting that we discovered we had been born in the same year only days apart - he called me his “brother”. As part of that agreement the Russians were to host us in the field and we would reciprocate. The Canadian trip started at Tuktoyaktuk; Andrei was there, and they did manage to get to some of the famous bone bars. But the real objectives (sample the Tertiary deposits at a bluff in the Old Crow Canyon and then go to

Location 47, far up the river) were thwarted by low water. Alice Telka recalls: “Participants on the 1991 trip included Tom Ager, Michael Kunk, Ted Evans, Yuchun Wang (an Asian student), Steve Morison, Charlie Schweger, Andrei Sher and John and I. Tom Ager took a video of the ‘death march’ as we dragged the large boats by ropes (in the water) through the very shallow Old Crow River. What I remember about Andrei is his long hours of back-bending sieving even after we had all retired for the night.” After the meeting in Fairbanks Andrei, Charlie Schweger and John Matthews drove from Fairbanks to Whitehorse via Lost Chicken where Andrei was excited to see remains of *Equus verae*.

Following the discovery of the Wrangel Island mammoths, Andrei became a consultant for the BBC documentary *The Last Mammoth*, and he accompanied the filmmakers to the field in the Kolyma Lowland and Wrangel Island in 1994. In 1995 Andrei held a 6-month Visiting Professorship at University College London, continuing his collaboration on mammoth evolution with Adrian Lister. From then until his last visit in December 2006, Andrei spent between 3 and 7 weeks in London almost every year, funded largely by the Royal Society. As well as the scientific work, Andrei, accompanied on several of the trips by Anna, took full advantage of living in the metropolis, developing an encyclopaedic knowledge of its geography and transport links.

The mammoth research had developed from a major theme of Andrei’s thinking Fig. 1D, namely the significance of the Beringian region as the area where many northern-adapted species of the Quaternary arose, before later spreading to lower latitudes in both Eurasia and North America. Andrei coined the term ‘Beringida’ for this region, to emphasize its status as a vast land in its own right, not just a ‘land bridge’. Moreover, while ‘Beringia’ formally reached only as far west as the Kolyma, Andrei’s ‘Beringida’ extended to the Lena, so as to include the Yana-Indigirka region and beyond.

An important early contribution on this perspective was written in 1976 and is available in both Russian and English, *The role of Beringian land in the development of Holarctic mammalian fauna in the Late Cenozoic*. Andrei had established the Olyorian Land Mammal Age of northeastern Siberia, and the most important of his collections were from these Early to early-Middle Pleistocene horizons. The mammoths provided an ideal testing-ground for his ideas: a comparison of Andrei’s superb collection of Olyorian fossils and those from Europe studied by Lister resulted in a model for the Siberian origin of the woolly mammoth, which was published in *Science* in 2001. A subsequent tranche of Royal Society funding allowed them to move on to study Andrei’s musk-ox collection; this work was still in progress at the time of his death.

As well as his work on the evolutionary origins of the northern biota, Andrei also made seminal contributions to the question of Late Quaternary megafaunal extinction, his ideas on a ‘retreat to the North’ of the megafauna, driven by climate change, reaching an English-speaking audience especially through his contribution to a NATO workshop in Scotland 1995 (published 1997). Over many years Andrei made available hundreds of Siberian mammal-bone samples for radiocarbon dating, by collaboration especially with Leopold Sulerzhitsky at the GIN radiocarbon laboratory in Moscow Fig. 1J, and the Oxford radiocarbon laboratory in collaboration with Adrian Lister and Tony Stuart.

In America Andrei had met Heidi Kassens from GEOMAR at Kiel, Germany, and she invited him to join a new project on the Arctic “Laptev Sea System”. Andrei became involved with the terrestrial group at the Alfred Wegener Institute, Potsdam. He intended to participate in the first field trip, to Bykovsky Peninsula near the Lena River Delta, but fate intervened. During his 1998 stay in London, Andrei became ill; doctors in London discovered a serious heart condition and an operation for an aortal valve replacement was performed. With his artificial valve Andrei again had a choice

to make: play it safe, which would mean not going to the field, or continue as normal. Predictably, he chose the latter, and in 1999 he returned to fieldwork in the Arctic. After the operation he worked in Alaska, Chukotka, the Kolyma Lowland, and twice in the Bykovsky Peninsula. His last field expedition was in 2007, a year before his death.

Around this time Andrei found a new scientific interest in the growing field of ancient DNA research Fig. 1H. As the holder of a major fossil bone collection from the Siberian permafrost, and as the obvious conduit between western researchers and other Russian collections, Andrei found himself in great demand as a collaborator in ancient DNA projects in Denmark, the USA, England and elsewhere. Balancing these collaborations sometimes required considerable ‘political’ as well as scientific expertise, but they resulted in Andrei’s co-authoring a series of high-profile papers, a process that is continues today as projects for which he provided samples come to fruition. He also originated the idea of fossil insect DNA research, which was taken up in Copenhagen and elsewhere.

Andrei had little free time for hobbies. His sport was downhill skiing; he was a member of the Moscow downhill club that skied in hills near Paramonovo village. Before the season Andrei and other club members had to spend several days on ski slope maintenance, but he was so busy with scientific work that he hardly found time for skiing itself—maybe one week per year. Another strenuous activity, but one that he enjoyed, was maintaining the grounds of his small *dacha* outside Moscow.

Andrei did, however, greatly enjoy a range of cultural pursuits. Ever since high school, he had a fondness for puppet shows. He was involved in the amateur theater of the Paleontological Institute and showed puppets during numerous parties and meetings there.

Most of all, he loved the English language and American musical culture, particularly jazz. Andrei translated many jazz classics and even an opera into Russian, for his friends. On a visit to Pat Anderson’s home in Seattle, he was delighted to find an Aretha Franklin album in her collection: Aretha, he professed, was his all-time favorite. Colleagues in Fairbanks found that Andrei often had a greater knowledge about western music than anyone else present, prompting Andrei to ask “Who is the American here?” Andrei was a good poet and an engaging singer, having a resonant baritone voice. When birthdays occurred in the field, he would typically write celebratory poems, and he would translate Russian poetry and songs to English for his English-speaking colleagues. John Matthews remembers a trip to the Old Crow area: ‘Andrei made that trip memorable for the laughter and talk and songs around the campfire at night. It was on that trip that he introduced me to the Russian song about bush pilots marooned by a storm in a small Siberian cabin, singing and telling stories about “southern girls” while they waited for the weather to clear¹. That song typified Andrei’s outlook on life: when things are bleak, tell stories and sing, but don’t miss the opportunity to get out and get going again’.

For several years before his death Andrei held a part time position at the Ice Age Museum in Moscow. He introduced a high level of scientific rigor to this partly private museum. As a result, many unique finds became available for scientific research, such as the partial horse carcass from Bilibino, Chukotka Fig. 1I. His final year was rich in overseas trips. The last of all was a mammal meeting in Slovakia. Probably his first small heart attack happened there, as he suddenly felt ill during the field trip. In July to early August 2008 Andrei was busy working on a proposal for a two year position at the London Natural History Museum with his long-time colleague and friend Adrian Lister. Usually Andrei worked quickly and easily on such tasks, being a gifted writer and English speaker.

¹ It was Alexander Gorodnitsky song “leather coats”.

But now, with his health failing, everything was becoming a struggle; on August 11, 2008, he suffered a fatal heart attack.

Andrei will be remembered by many as a good friend. His friendship was instantaneous and lasting, no matter how many years passed between meetings. He combined strong scientific integrity with deep personal commitment to his colleagues; he could agree to disagree, but also pushed others to think beyond their assumptions and preconceptions. He was an innovator, and was quick to recognize the promise of new methods and concepts. It is a mark of Andrei's breadth and depth of interests that he has made important contributions to so many branches of Quaternary science: stratigraphy, palaeoenvironmental studies, fossil vertebrates, fossil insects, and most recently ancient DNA studies.

Andrei is survived by his wife Anna Leirikh, his younger sister Marina, his son Vladimir Sher and three grandchildren: Alexander, Arseny and Artem. Vladimir Sher maintains a web site <http://av-sher.narod.ru/> where information, photos, and articles can be found.

Acknowledgments

We thank all colleagues, friends and relatives who help to collect information and photos about Andrei Sher. Special thanks to Anna Leirikh, Vladimir Sher, and many colleagues who were also friends: Oleg Amitrov, Marina Sotnikova, Vladimir Zhegallo, Viktor Dmitriev, Pavel Nikolsky, Alexy Tesakov, Elionora Vangeigeim, Alice Telka, John Matthews, Charlie Schweger, Dale Guthrie, Pat Anderson, Tolya Lozhkin, Sasha Druk.

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