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# Vasiliy Petrovich Nekhoroshev (1893–1977) and Alexandra Ivanovna Nikiforova (1894–1939)

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## 1. Introduction

The names of Vasiliy Petrovich Nekhoroshev and Alexandra Ivanovna Nikiforova are well known to the Russian and many foreign paleontologists who study Paleozoic bryozoans. In the USSR,<sup>1</sup> they were the first to propose the microscopic method of studying Paleozoic bryozoans in oriented thin sections. Having started their studies of bryozoans in 1922, Nekhoroshev and Nikiforova several years later proved that this group of invertebrates was of great importance for the stratigraphy and correlation of Paleozoic deposits, similar to the value in this respect of brachiopods and trilobites.

In studying the Paleozoic bryozoans of the USSR, Nekhoroshev and Nikiforova not only produced a great deal of very detailed taxonomic work,<sup>2</sup> but also tried to provide more generalised overviews and conclusions based on numerous collections. Their monographs and articles on Paleozoic bryozoans provide good reference material for all bryozoologists studying bryozoans of this age.



*Figure 1. A.I. Nikiforova and V.P. Nekhoroshev as young people.*

Vasily Petrovich Nekhoroshev and Alexandra Ivanovna Nikiforova got married in 1921 (Figure 1) and devoted their lives to science and to their family. They were a happy couple, and had two children, a son Georgyi (1927–1999), and a daughter Lyudmila. Both of them followed the career path of their parents and became geologists.<sup>3</sup>

## **2. Biographies**

### ***Alexandra Ivanovna Nikiforova***

Alexandra Ivanovna Nikiforova was born on 12th May 1894 at a small farmstead in the Orenburg Region, Southern Urals (Figure 2). She received her secondary education at a high school in the city of Orenburg and started working at the age of 14 as a tutor. After finishing at the high school, she worked there for three years as a junior schoolteacher and dreamed of receiving higher education. In 1917, she went to the city of Tomsk in Siberia and entered the Natural Science Department of the Higher Women's Courses. In 1919, she continued her education at the Timiryazev Academy of Agricultural Sciences in Moscow where she majored in soil science. In 1920, Nikiforova became acquainted with



*Figure 2. A.I. Nikiforova (1894–1939).*

Vasiliy Petrovich Nekhoroshev, and in 1921 went to St Petersburg,<sup>4</sup> where they married. Having changed her speciality from soil science to paleontology, she embarked on the study of Paleozoic bryozoans of the USSR. Together with her husband she worked at the Geological Committee until 1934. During the last five years of her life, she worked as a paleontologist-bryozoologist at the Petroleum Institute in Leningrad (which in 1924 St Petersburg had been renamed).

Nikiforova's scientific work focused on Paleozoic bryozoans of the USSR. In the course of her short life she wrote a large monograph and fifteen other papers, four of which were published after her death (see Appendix 2). Her monograph was compiled after a detailed re-investigation of the original specimens of the Upper Paleozoic bryozoan genera and species from the European part of Russia from the collections of E. Eichwald and A.A. Schtuckenberg, among others, housed in the geological museums of St Petersburg. For this monograph, Nikiforova received the Degree of the Candidate of Geological and Mineralogy.

Alexandra Ivanovna Nikiforova died from an acute stroke at the young age of 45, in the prime of her creative life. She was a very friendly and kind-hearted person and was greatly respected by her friends and colleagues. For Nekhoroshev she was not only a wife, but also a faithful friend and companion in bryozoan studies.

### *Vasiliy Petrovich Nekhoroshev*

Vasiliy Petrovich Nekhoroshev was born on 14th October 1893 in the city of Orenburg, Southern Urals. He spent his childhood and finished secondary school there. In those years, not only geography, but also geology was taught to senior school students. Therefore, he became acquainted with the basics of geology at school and acquired the skills of using a compass and of collecting minerals and fossils. He was taught geography and geology by a talented teacher, A.F. Ivchenko, who cultivated an interest in natural science and love for nature among his pupils. Lessons in these subjects were accompanied by interesting excursions to the environs of Orenburg. While still at school Nekhoroshev showed great interest in geography and geology and firmly resolved to become a geologist.

In 1912, having finished school, he went to St Petersburg and entered the Geological Exploration Department of the Institute of Mines. In his memoirs he gave a detailed description of his life as a student and recalled the atmosphere of the then Institute of Mines; he referred cordially and with great respect to all the teachers and professors of the Institute.<sup>5</sup>

In 1914 and the following two years, during the summer practical training, Nekhoroshev worked as a collector on the geological expeditions to the Urals and southern Russia. Using the results of this work, Nekhoroshev, under the supervision of Professor N.N.Yakovlev, wrote and published in 1916 the first of two articles, one of which was considered as his degree work.<sup>6</sup>

The interests of Nekhoroshev were not confined to geology only. While young he acquired an extensive and deep knowledge of history, geography and biology. Systematic reading of popular scientific literature allowed him to develop an awareness of the latest achievements and discoveries. He shared this knowledge generously with his colleagues, friends and relatives, and was jokingly called a 'live encyclopaedia'.

From his student years he was fond of theatre and classical music. Going to the concerts, at which music by Beethoven, Tchaikovsky, Rakhmaninov and Glinka was performed, was the best relaxation for him.

Vasiliy Petrovich Nekhoroshev had an amazing capacity for work, and his creative mind was never tired and was always in search of answers to the questions, in which he was deeply interested. He died on 17th January 1977 from severe pneumonia. He was a very kind and sympathetic person, and was always ready to help his friends, colleagues, relatives and mere acquaintances in word and deed.

### **3. Scientific career of V.P. Nekhoroshev**

In the years 1917–1918, Nekhoroshev worked as a geologist in the Altai and Siberia. In 1919, he became member of Geolcom and started regular studies of the geology of Altai, his future creative life being closely related with this region and with Geolcom-VSEGEL.<sup>7</sup> In 1937, he was awarded the Academic Degree of the Doctor of Geology and

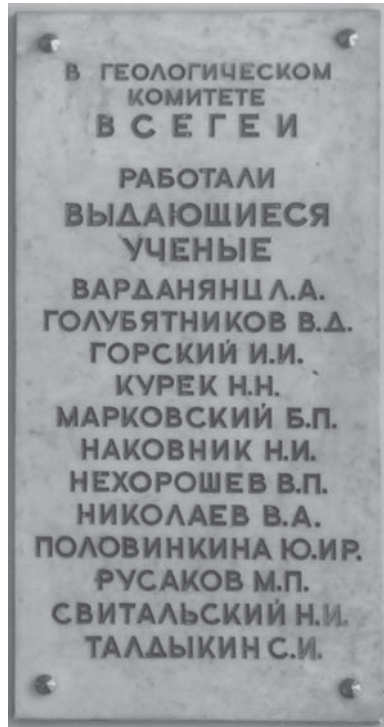


*Figure 3. Portrait of V.P. Nekhoroshev in the picture gallery next to the Conference Hall of the Academic Board of VSEGEI.*

Mineralogy, and in 1950 he received the academic rank of a Professor. He was a permanent member of the Academic Board of VSEGEI (Figure 3) and Academic Board of the Geological Museum (CNIGR Museum) (Figure 4) which is located in the upper floor of VSEGEI (Figure 5). All the bryozoan collections studied by Nekhoroshev and Nikiforova are kept there.

In the course of his scientific and practical activities Nekhoroshev was primarily concerned with the geology and mineral resources of the Altai and its western surroundings. In particular, he studied the stratigraphy and tectonics of the Altai, examined the distribution pattern of mineral deposits. At the same time, he was interested in geomorphology and neotectonics of the Altai, and its modern and ancient glaciations. He also devoted a lot of energy and time to the study of fuel sources in the region. Along with his studies of the geology of the Altai region, Nekhoroshev also worked on general issues of paleontology, stratigraphy, paleogeography, global tectonics amongst other topics. His monographs on Altai geology and tectonics as well as the geological maps of this region compiled by him remain significant today and serve as a reliable guide for future generations of geologists studying the Altai.





*Figure 4. Name of V.P. Nekhoroshev on one of memorial plaques to commemorate the outstanding scientists of the Geological Committee – VSEGEI*



*Figure 5. Building of VSEGEI. Two windows at the corner of the 2nd floor open from the room in which A.I. Nikiforova and V.P. Nekhoroshev worked.*

#### 4. Work of V.P. Nekhoroshev in the Paleontological Society of Russia

The paleontological activity of Nekhoroshev was from the very beginning connected with the Paleontological Society of Russia. In 1921, he became a full member of this Society and always took a keen interest in its activities. From 1933 to 1935, he served as the Secretary of the Society, and from 1954 to 1977, he was a permanent Chairman of the Auditing Commission of the Society.

Beginning in 1955 the Paleontological Society of Russia has held annual sessions. Nekhoroshev almost always attended these meetings where he took an active part in discussions and where he also presented papers. These papers were published in the Proceedings of the Sessions of the Paleontological Society (see Bibliography below).

#### 5. Bryozoan research of V.P. Nekhoroshev

##### *Early studies on fenestellids*

In his versatile scientific activities Nekhoroshev placed major emphasis on the study of Paleozoic bryozoans. Soon after they began working on Devonian, Carboniferous and

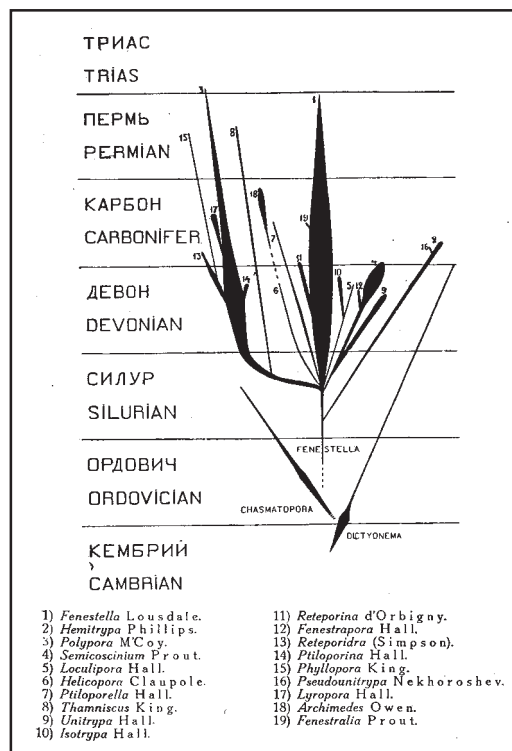


Figure 6. Evolution diagram of the family Fenestellidae.



Permian bryozoans Nekhoroshev together with Nikiforova came to the conclusion that there was a great diversity of fenestrate bryozoans within the family Fenestellidae. Having produced a generalized account of the taxa within this family, in 1928 Nekhoroshev suggested how they evolved during the Paleozoic, a scheme which he illustrated diagrammatically (Figure 6).<sup>8</sup> After nearly fifty years of further study on the group he published a significantly changed and supplemented diagram in his last monograph which appeared in 1977.<sup>9</sup>

### *A trip abroad*

In 1927 Nekhoroshev examined a small collection of the Devonian bryozoans from Germany. The bryozoans had been collected by Professor D.V. Nalivkin during a geological field trip to the environs of Herolstein, and provided Nekhoroshev the first opportunity to study bryozoans from outside of the USSR.

At the end of the following year 1928, he travelled abroad, and remained away until the beginning of 1929. During this period he visited the museums of Berlin, Munich, Paris, London, and Prague where he examined collections of Paleozoic bryozoans. In 1929, his detailed report on this trip abroad was published,<sup>10</sup> and in 1930 a small article by Nekhoroshev on some bryozoans from the British Museum of Natural History appeared in the London journal *The Geological Magazine*.<sup>11</sup> While staying in Berlin, Nekhoroshev received an offer to study the Lower Carboniferous bryozoans of Germany. He agreed and examined the collection that was sent to him; the results of his studies were subsequently published in Berlin.<sup>12</sup> After this publication appeared, he received a request from Austria to determine the Carboniferous bryozoans from the Carnian Alps. It should be noted that the collectors of this material had no doubts as to the Early Carboniferous age of the rocks from the Carnian Alps from which the material had been collected. They were interested in receiving from Nekhoroshev only the list of bryozoans present. Nevertheless he studied the collection in detail and proved that the age of the rocks enclosing the bryozoans could not be younger than the Middle or Late Ordovician.<sup>13</sup>

### *Subsequent work on bryozoans*

In the early 1930s Nekhoroshev published a major and important work on bryozoans. A Russian edition of Karl von Zittel's *Basics of Paleontology, Part 1. Invertebrates* was published in 1934, and the section dealing with bryozoans was revised and edited by Nekhoroshev. In this he focused on the characteristics of the main taxa of this group (orders, families and genera). He was sure that a clear understanding of the systematics of bryozoans was the keystone of success not only when defining bryozoans, but also for their monographic studies. Nikiforova in many respects assisted in the revision of this part of Zittel's book, and this was acknowledged by her husband. There is an inscription in the copy of the book which he presented to her: 'I devote to You, my assistant, my modest work'.

Between 1958 and 1964, in the USSR a series of volumes *Basics of Paleontology* was published. In the volume on bryozoans, Nekhoroshev gave an account of the family Fenestellidae and the taxa that it contained. He also published on bryozoans in the volumes of *Stratigraphy of the USSR* in which he describing the diagnostic taxa of the Silurian, Devonian and Permian systems. Jointly with E.A. Modzalevskaya, Nekhoroshev compiled data on the characteristic bryozoan assemblages for field atlases of the Ordovician and Silurian fauna of the Siberian Platform and the Silurian, Devonian and Early Carboniferous fauna of the Far East. Nekhoroshev also wrote several critical articles on various disputed issues of Paleozoic bryozoan systematics.

In total Nekhoroshev published 226 publications, the first appearing in 1916; more than a quarter of them described Paleozoic bryozoans. Several days before his death he made corrections to the manuscripts of his two last monographs on bryozoans.

## 6. Acknowledgements

In preparing this article, its author has made use of the essay written in co-authorship with D.P. Avrov and E.A. Modzalevskaya.<sup>14</sup> I am very grateful to T.I. Vassilyeva for translating my manuscript into English. I thank P.V. Stepanov, who made copies of old photographs. I express my sincere gratitude to Patrick Wyse Jackson and Mary Spencer Jones – editors of *Annals of Bryozoology 2* for the invitation to contribute this paper to the volume.

## Appendix 1.

### Genera and species of Paleozoic bryozoans named in honour of V.P.Nekhoroshev and A.I.Nikiforova (in chronological order)

- 1931. *Lioclema nekhoroshevi* Schulga-Nesterenko – Lower Permian, Russia, Urals.
- 1935. *Isotrypa nekhoroshevi* Krasnopeeveva – Upper Devonian, Russia, Altai.
- 1936. *Fenestella nikiforovae* Schulga-Nesterenko – Lower Permian, Russia, Urals.
- 1944. *Archimedes nikiforovae* Condra & Elias – Lower Permian, Russia, Urals.
- 1944. *Rhombotrypella nikiforovae* Condra & Elias – Upper Carboniferous, USA.
- 1948. *Nikiforovella* Nekhoroshev – Lower Carboniferous, Russia, Altai.
- 1948. *Dyscritella nikiforovae* (Trizna) – Lower Permian, Russia, Urals.
- 1948. *Fenestella rudis* subsp. *nekhoroshevi* Bolkhovitinova – Lower Carboniferous, Kazakhstan.
- 1952. *Pseudounitrypa nekhoroshevi* Schulga-Nesterenko – Lower Permian, Russia, Urals.
- 1952. *Bashkirella nikiforovae* Schulga-Nesterenko – Lower Permian, Russia, Bashkiria.
- 1953. *Nekhorosheviella* Modzalevskaya – Middle Ordovician, Estonia.

1955. *Nikiforovella aleksandrae* Schulga-Nesterenko – Middle Carboniferous, Russia.  
 1955. *Streblortypa nikiforovae* Morozova – Middle Carboniferous, Russia.  
 1958. *Phylloporina nekhoroshevi* Mannil – Middle Ordovician, Estonia.  
 1958. *Tabulipora nekhoroshevi* Trizna – Lower Carboniferous, Russia, Siberia.  
 1960. *Rhombopora nikiforovae* Baranova – Lower Permian, Russia.  
 1964. *Nikiforopora* Dunaeva – Lower Carboniferous, Ukraine, Donbass.  
 1955. *Ensipora nekhoroshevi* Astrova – Lower Silurian, Russia, Siberia.  
 1966. *Timanodictya nikiforovae* Morozova – Upper Permian, Russia.  
 1968. *Eridotrypa nekhoroshevi* Jaroshinskaja – Lower Devonian, Russia, Altai.  
 1973. *Cyclotrypa nekhoroshevi* Kieपुरa – Middle Devonian, Poland.  
 1974. *Kysylschinipora nekhoroshevi* Volkova – Middle Devonian, Russia, Altai.  
 1986. *Wjatella nekhoroshevi* Kiseleva – Upper Permian, Russia, Far-East.  
 1992. *Hemitrypella nekhoroshevi* Ariunchimeg – Middle Devonian, Mongolia.  
 2000. *Ulrichotrypa nekhoroshevi* Popeko – Lower Carboniferous, Russia, Transbaikalian

## Appendix 2.

### Bibliography of bryozoan monographs and papers by V.P.Nekhoroshev and A.I.Nikiforova

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2. V.P. Nekhoroshev. “Lower Carboniferous Bryozoa from Kazakhstan”. *Trudy VSEGEI* (1953), 234 p. (in Russian).
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## Notes

- 1 1929, it has been called the All-Russian Geological Research Institute (VSEGEI).
- 2 USSR - now Russia, the CIS and Baltic states.
- 3 During the first years of studying bryozoans V.P. Nekhoroshev and A.I. Nikiforova prepared all the thin sections themselves. Later, they had a laboratory assistant - O.F. Lazutkina who not only prepared thin sections, but also made excellent drawings of thin sections of bryozoans.
- 4 Georgyi graduated from Leningrad Institute of Mines and worked at VESGEI for about 50 years performing geological surveying and prospecting of rare metal deposits. In the last years of his life, he accomplished a major work on editing metallogenic maps. Lyudmila graduated from the Geology Department of Leningrad University and specializes in stratigraphy and bryozoans of the Lower and Middle Paleozoic of different regions of Russia, mainly the Arctic. Her scientific activity is related with the Institute VNIIOkeangeologia.
- 5 From 1924 to 1992 the city of St Petersburg was called Leningrad.
- 6 V.P.Nekhoroshev. Memoirs of a former student. In “Geologists of the Leningrad Mining Institute”. *Contributions to the History of Geological Sciences*, v. 17 (Moscow, 1974), 164-189 (in Russian).
- 7 V.P.Nekhoroshev. Funnels and caves of Aleksandrovskaia Dacha in the Urals and the related phenomena. *Trudy Gornogo Instituta*, V. 6, issue 1 (Petrograd, 1916), 84-88.
- 8 Geological Committee (Geolcom) was founded in Russia in 1882. From V.Nekhoroshev. Über die Entdeckung der Gattung *Semicoscinium* Prout in den Mitteldevonischen Ablagerungen der Eifel und über die Bedeutung dieses Fundes. *Centralblatt f. Min. etc. Abt. B. Stuttgart Jahrg.*, No 8 (1928), 476-478.
- 9 V.P. Nekhoroshev “Order Cryptostomata of Paleozoic Bryozoa (Analysis some families and genera)”. *Trudy VSEGEI*, vol. 228 (1977), 111 p. (in Russian), see p. 30.
- 10 V. Nekhoroshev. Resultats de l’etude des collections de bryozoaires paleozoiques dans quelques musees de l’Europe Occidentale. *Bull du Comite Geologique*, tome 48, No 6 (Leningrad, 1929), 863-883 (in Russian and French).
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- 12 V. Nekhoroshev. Die Bryozoen des deutschen Unterkarbons. *Abh. Preuss. Geol. Landesanstalt Heft* 141 (Berlin, 1932), 4-74.
- 13 V. Nekhoroshev. Einige untersilurische Bryozoen aus den Karnischen Alpen. *Transactions of the Central Geological and Prospecting Institute*, No 61 (Leningrad-Moscow, 1936), 5-22 (in Russian and German).
- 14 D.P. Avrov, E.A. Modzalevskaya, L.V. Nekhorosheva. Vasiliy Petrovich Nekhoroshev (1893-1977). In: *Outstanding Scientists of the Geological Committee - VSEGEI*. (Leningrad, 1984), 206-231 (in Russian).