



13th INTERNATIONAL SYMPOSIUM ON THE ORDOVICIAN SYSTEM

Novosibirsk, Russia (July 18-23, 2019)

SECOND CIRCULAR (note corrected dates)

We are delighted to announce that the **Thirteenth International Symposium on the Ordovician System** will be held from **July 18th to July 23th, 2019** in Novosibirsk (Russia). The 13th ISOS will be hosted at a most extraordinary district of Novosibirsk located about 30 km to the south of the city center on the shore of an artificial “Ob’ Sea”. Officially, it is called the Novosibirsk Scientific Center, but people call it simply Academy Town (Akademgorodok). Akademgorodok began its history in 1958 and now it is a world-renowned scientific center. At its core are buildings of Novosibirsk State University and scientific research institutes of the Siberian branch of Russian Academy of Sciences. Akademgorodok is an isolated district of Novosibirsk located in a natural forest in the outskirts of the city. Scientific sessions will be organized in the conference hall of the House of Scientists (“Dom Uchenykh”), the conference hall of the Trofimuk Institute of Petroleum Geology and Geophysics (Fig. 1) and the conference room of Novosibirsk State University as required. Hotel, conference halls, cafes, restaurants, shore of the Ob’ sea are all within a walking distance from any point of the Akademgorodok.



Fig.1. Main building of the Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences

Significant and Important Dates:

March 2018: Second Circular appears in *Ordovician News*

September 2018: Registrations for the Symposium are expected to open

15 February 2019: Deadline for submission of abstracts

March/April 2019: Third Circular appears in *Ordovician News* with final Program and Arrival Instructions

Pre-Symposium field trip 1 (Ordovician of St. Petersburg): **July 13-15, 2019**

Pre-Symposium field trip 2 (Ordovician of the Altai Mountains): **July 10-17, 2019**

Scientific sessions, Novosibirsk: **July 18-23, 2019**

Mid-Symposium field trip (Ordovician of the Salair Range): **July 20-21, 2019**

Post-Symposium field trip (Ordovician of the Siberian Platform): **July 24-31, 2019**

Organizing Committee:

NIKOLAY V. SENNIKOV, Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Novosibirsk. **Co-Chairman.**

ANDREI V. DRONOV, Geological Institute of Russian Academy of Sciences, Moscow. **Co-Chairman.**

ALEXANDR V. KANYGIN, Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Novosibirsk. **Deputy Chairman.**

TATIANA Yu. TOLMACHEVA, All-Russian Research Geological Institute (VSEGEI), St. Petersburg. **Deputy Chairman.**

SERGEI V. ROZHNOV, Boryssiak Paleontological Institute of Russian Academy of Sciences, Moscow. **Deputy Chairman.**

OLGA T. OBUT, Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Novosibirsk. **Secretary.**

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ELENA G. RAEVSKAYA, FGUNPP “Geologorazvedka”, St. Petersburg.

ELENA V. LYKOVA, Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Novosibirsk.

Supporting organizations, Universities & Institutions:

- International Subcommission on Ordovician Stratigraphy (ICS-IUGS)
- Interdepartmental Stratigraphic Committee of Russia
- Russian Academy of Sciences
- Russian Foundation for Basic Research
- Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of Russian Academy of Sciences, Novosibirsk
- Novosibirsk State University, Novosibirsk
- Geological Institute of Russian Academy of Sciences, Moscow
- Boryssiak Paleontological Institute of Russian Academy of Sciences, Moscow
- Russian Research Geological Institute (VSEGEI), St. Petersburg

Sponsorship:

- Russian Academy of Sciences (RAS)
- Russian Foundation for Basic Research
- Novosibirsk State University

Accommodation:

Accommodation for all participants will be organized in a hotel “Zolotaya Dolina” (Golden Valley) in walking distance (10 min) from the House of Scientists (“Dom Uchenykh”) and the main building of the Trofimuk Institute of Petroleum Geology and Geophysics where scientific sessions are to be held.

- Deluxe – 130-100 Euro
- Single room 35-40 Euro
- Shared room 30-35 Euro
- Meals in Akademgorodok 30-50 Euro per day
- For student rooms at the Novosibirsk State University hostel - single room 15 Euro (breakfast is not included):

Please note that costs for accommodation, excursions etc. are estimates only. They could change in the next 2 years with inflation and the general economic and political situation. If necessary, revised costs will be notified prior to opening of Registration in September 2018.

Travel:

Buses departing every half an hour (100 min, 2 Euro) provide travel from Tolmachevo Airport (Tolmachevo-Novosibirsk city-Akademgorodok). Direct taxi from the Airport (50km) is the fastest way (45 min, about 30 Euro). A special minibuss will also be organized from the Institute to meet participants of the Symposium arriving at Tolmachevo Airport.

Field Excursions:

Selection of Novosibirsk for the Symposium provides a good opportunity to learn more about the Ordovician geology of both the Siberian Platform and Altai Mountains. We also added to the program a pre-Symposium excursion to the St. Petersburg region. Therefore, participants who attend both the pre-Symposium and post-Symposium excursions on the platforms (Russian and Siberian respectively) will have a chance to compare the sea-level story, long-term lithological changes and faunal differences in the two Ordovician palaeocontinents.

Pre-Symposium field trip 1. July 13-15, 2019 (3 days). **Ordovician of St. Petersburg region.** Co-leaders: T. Yu. Tolmacheva and A.V. Dronov.

Excursion starts and ends in St. Petersburg. Participants will have an opportunity to examine classical Ordovician sections connected with the names of R. Murchison, Ch. Pander, A. Volborth and many other famous scientists. We will study Cambrian and basal Ordovician (Tremadoc) siliciclastics including traces of permafrost on the Middle/Upper Cambrian boundary. The cool-water carbonate succession (Floian –Lower Sandbian) and warm-water carbonates (Upper Sandbian –Katian) including supratidal sabkha dolomites, unusual for the other parts of the Ordovician basin of Baltoscandia, will be demonstrated and discussed. Ordovician limestones of St. Petersburg region are extremely fossiliferous. Rich fauna include trilobites, brachiopods, cephalopods, gastropods, bryozoans etc. Discussions at most stops will include summary findings from conodont, trilobite, brachiopod and graptolite biostratigraphic investigations as well as palaeoclimatic, sequence stratigraphic, facial and palaeobathimetric interpretations. Special attention will be made to trace fossils distribution and their potential for regional high-resolution correlation. Unique cool-water Middle Ordovician reefs (Hecker-type mud mounds) will be demonstrated and studied in detail. The first and second days will be devoted to the Cambrian, Lower and Middle Ordovician of the eastern part of the St. Petersburg Region. The localities to be visited during the first day include Tosna River and Sablinka River canyons, Sablino caves, “Pander’s anticline” (Popovka River canyon), Putilovo quarry and Lava River canyon. The first night participants will spend in the town of Volkhov on the Volkhov River in the eastern part of St. Petersburg Region. The localities to be visited in the second day include Volkhov River valley, Babino quarry (Fig. 2), Lynna and Says River valleys (Fig. 3). Tourist stops during the excursion include Fortress in Old Ladoga (the first capital of Russia) and Viking burial mounds on the banks of Volkhov River. At the end of the day participants return to St. Petersburg and spend a night there. The third day will be devoted to the Lower, Middle and Upper Ordovician of the western part of St. Petersburg region. Localities to be visited include Kaskovo quarry, Elizavetiono quarry, Alekseevka quarry, Suma river canyon and Pechurki quarry. We return to St. Petersburg the evening of July 15, and on July 16th participants will fly to Novosibirsk. For the flight St. Petersburg –Novosibirsk participants need to make their own arrangements. Field trip fee covers guidebook, transportation all meals and accommodation in hotels during the excursion. Registration is 300 Euro for a minimum of 8 and maximum 40 participants. In July, the day temperature in St. Petersburg region is usually between +17°C and +27°C. Occasionally there could be rain.

Fig.2 (left). Fresh exposure of Dikari Limestone (Lower Dapingian) in Babino quarry



Fig.3. Middle Ordovician (Upper Dapingian-Lower Darriwilian) outcrop on Lynna River

Pre-Symposium field trip 2. July 10-17, 2019 (8 days). **Ordovician of the Altai Mountains.**

Co-leaders: N.V. Sennikov, O.T. Obut and E.V. Lykova.

The field trip is planned to demonstrate the most important Ordovician localities of the Gorny Altai Mountains (Fig. 4 & frontispiece). Excursion starts and ends in Novosibirsk (Akademgorodok). The first and last days are mainly driving. Distance from Novosibirsk to the first field camp (tourist camping) in North-Western Altai is about 500 km. Transportation in the field will be by bus, 4WD tracks and jeeps. The Altai is usually called the Siberian Switzerland for its beauty but it is not high mountains. Altitude on the route of the excursion varies between 500 m and 1500 m above sea level. Mountains are covered by taiga forest and mountain meadows. Exposures are mainly along the river banks, road cuts, on mountain slopes and in active quarries. Participants of the excursion will have an opportunity to examine all the Ordovician succession of the Gorny Altai Mountains represented in different shallow to deep-water facies including: 1) delta front; 2) inner shelf (ramp); 3) inner slope of the carbonate platform; 4) central part and outer slope of the carbonate platform; 5) deep-water shelf; 6) continental slope; 7) open ocean deposits and sea mounts. Fossils are represented by graptolites, conodonts, chitinozoans, radiolarians, trilobites, ostracods, brachiopods, gastropods, crinoids, scolecodonts, tabulate and rugose corals, bryozoans and algae.



Fig.4. Upper Ordovician reef limestones, Gorny Altai

Tourist sites on the route include:

- 1) Kolyvan' stone factory founded in 1802 which is famous for its giant jasper vases now stored in Paris and St. Petersburg (Hermitage).
- 2) Denisova Cave which represents one of the most ancient dwelling places of humans in Siberia (more than 200 000 years B.C.).
- 3) Scyphian burial mounds (IV-II centuries B.C.).
- 4) Boat trip along Teletskoe Lake, which is known as "Altaian Baikal".

Typical temperatures for July in Gorny Altai are about +20-25°C, rarely +30°C during the day and +5-15°C at night. Occasional rain is possible. Heavy dew is typical in the mornings. It is planned to stay in four field camps (tourist campings) during the excursion with distances between camps of about 250-400 km. Participants are advised to bring field boots, warm sweaters, raincoats, umbrellas as well as caps and swimming suits. Tents, sleeping bags and other camp facilities will be provided by the organizers.

Field trip fee (800 Euro) covers guidebook, all meals, accommodation in field camps and campings and transportation during the excursion. This field trip is restricted to minimum 8 and a maximum 25 participants.

Mid-Symposium field trip. July 20-21, 2019 (2 days). **Ordovician of the Salair Range.** Co-leaders: N.V. Sennikov and O.T. Obut.

Beginning and end of the excursion is in Novosibirsk (Akademgorodok). The excursion will demonstrate Cambrian, Lower to Middle Ordovician (Floian, Dapingian, Darriwilian, Katian and Hirnantian) and Silurian (optionally Devonian) successions of the Salair Range (Gurievsk-Eltsovka and Berd' structural-facies zones) represented in shelf facies, including terrigenous and carbonate including carbonate with reef buildups. Fossils include brachiopods, trilobites, archaeocyathids, graptolites and corals. Field guide, transportation and accommodation for one night (in a hotel in Gurievsk town or Belovo/Maslyanino villages) are covered by registration fee. The weather and other natural conditions recall the pre-Symposium Altai excursion.

Post-Symposium field trip. July 24-31, 2019 (7 days). **Ordovician of the Siberian Platform: Podkamennaya Tunguska and Stolbovaya Rivers.** Co-leaders: A.V. Dronov, A.V. Timokhin and T.V. Gonta.

Excursion starts in Novosibirsk and ends in Krasnoyarsk. Late in the evening of July 23 we will take a night train Novosibirsk – Krasnoyarsk (800 km). On July 24, we will fly from Krasnoyarsk to the town of Bor (600 km) on the Yenisei River opposite the mouth of the Podkamennaya Tunguska River. The same day the flight by helicopter from Bor to the field camp (120 km) on the Stolbovaya River, tributary of Podkamennaya Tunguska will be organized. For transportation between the outcrops during the excursion, rubber boats and motorboats will be used. Accommodations are in a field camps (Fig. 5). Motorboats will arrange the way back to Bor downstream to Podkamennaya Tunguska at the end of the excursion (July 29). Organizers will provide the flight from Bor back to Krasnoyarsk (July 30) but for hotel in Krasnoyarsk participants need to make their own arrangements. Participants of the excursion will have an opportunity to visit important Ordovician localities of the Tungus Basin on the banks of Podkamennaya Tunguska and Stolbovaya Rivers. They will see the Lower Darriwilian tropical carbonates with stromatolite buildups and oolitic grainstone that represent the uppermost part of the “Great Siberian Carbonate Bank” an analogue of the Great American Carbonate Bank. The Upper Darriwilian shallow water quartz sandstones of the Baykit formation with *Skolithos*, *Kouphihnum* and giant Siberian *Rusophycus* trace fossils will be examined in several outcrops. The Lower Sandbian phosphate conglomerates of Ust’Stolbovaya formation overlying Baykit sandstone and marking the beginning of the Upper Ordovician transgression associated with upwelling of the cool-water oceanic waters into the epicontinental Tungus Basin, as well as the cool-water carbonate series (Sandbian –Katian), will be also examined in several localities. The Upper Ordovician K-bentonite layers within the cool-water tempestites of Mangazea and Dolbor formations will be traced and studied at several localities along the Podkamennaya Tunguska and Stolbovaya Rivers (Fig. 6). These deposits are also rich in body fossils, which include trilobites, brachiopods, bryozoans, crinoids, ostracods, corals and gastropods etc, as well as trace fossils including *Rhizocorallium*, *Halopoa*, and *Balanoglossites* etc. At some of the outcrops, contact with the Lower Silurian deposits will be seen. Discussions at most stops will include summary on biostratigraphic investigations as well as palaeoclimatic, facial and palaeobathymetric interpretations. Sea-level changes and sequence stratigraphy will be discussed as well.

Fig.5 (left). Field camp. Tributary of Podkamennaya Tunguska River



Fig.6 (right). Upper Ordovician cool-water carbonates with K-bentonite beds. Stolbovaya River

In July, the day temperature in this part of Siberia is usually between +17°C and +25°C. Occasionally could be rain. Participants are advised to bring field boots, warm sweaters, raincoats, umbrellas as well as caps and swimming suits. The tents, sleeping bags and other camp facilities including repellents against mosquitos will be provided by the organizers. Field trip fee (1500 Euro) covers guidebook, all meals, accommodation in field camps and transportation during the excursion. This field trip is restricted to minimum 10 and maximum 20 participants.

Social and Cultural Highlights:

For accompanying persons during the Symposium a boat trip on the Ob' River could be recommended. The other tourist attractions are listed in the outlines of the field trips.

Publication:

A Proceedings volume of the Symposium and additional materials on the Ordovician Geology of Russia will be published in a monographic series of the Trofimuk Institute of Petroleum Geology and Geophysics, Russian Academy of Sciences. After the meeting, all the materials will be freely accessible through the web page.

Costing:

Registration fee covers costs of publication, conference bag, coffee breaks, symposium excursion (full accommodation and meals) and social activities.

- General participants: 350 Euro
- Student participants: 200 Euro

Conference Dinner: 50 Euro

Pre-Symposium field trip 1. Ordovician of St. Petersburg region (3 days); 300 Euro (covers field guide, transportation, all meals and accommodation).

Pre-Symposium field trip 2. Ordovician of Gorny Altai (8 days); 800 Euro (covers field guide, transportation, all meals and 6 nights' accommodation).

Mid-Symposium field trip. Ordovician of Salair Range (2 days); included in the registration fee; 150 Euro for accompanying persons.

Post-Symposium field trip. Ordovician of the Siberian Platform: Podkamennaya Tunguska and Stolbovaya Rivers (8 days); 1500 Euro (covers field guide, transportation, all meals and accommodation).

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