ProGEO NEWS

No.2 http://www.progeo.se 2003

Early Jatulian basalts. Suna River. Photo: Vladimir Makarikhin

ProGEO WG3 Meeting and excursion

Petrozavodsk in Russian Karelia

WG3 had its meeting and excursions in the Russian Karelia in the late may 2003. Drs Vladimir Makarikhin, Pavel Medvedev and Dmitrij Rychanchik and their team had organized an exclusive excursion on Lake Onega and its islands for one part of the group and an easier version by bus for the rest. The research vessel used, is owned by RAS. Most outcrops were visited with the whole party (17 persons). Field lunch was started with a hot soup; witch was highly appreciated as the temperature had fallen. We who had not Russian language in school had a simultaneous interpretation the whole week by Mr Grigorij Sokolov. The theme Geological heritage of Karelia was lighted with some of the best localities described in a 50 pages excursion guide book.

The meeting was held in Petrozavodsk at Institute of Geology at Karelian Research Centre, of Russian Academy of Sciences (RAS). The Museum of Precambrian Geology visited, has newly been reorganized.

Fig. 2. The Kivach Waterfall . Photo: Vladimir Makarikhin

Fig. 3. The route on paleovolcano is finished, it´s time to go back to the ship, Lake Onega. Photo: Vladimir Makarikhin.

The excursion started with a buss trip to the Sundozero-Pyalozero stratotype area some 80 km north of Petrozavodsk. The river Suna and Hirvas paleovolcanic area and Kivach falls (Fig. 2) as the last stop of the day made a strong start in warm weather. An other paleovolcano was seen on Cape Ratkolye (Fig. 3). Lake Onega is the second largest fresh water reservoir in Europe.

The World Heritage site of Kizhi was visited. This island has a unique collection of wooden churches and farmhouses, the oldest from VIX century. We had samples of the cultural heritage of the area all the way during the week. Already St Peterburg, celebrating its 300 anniversary, had been worth while for a longer stay on our way out to Petrozavodsk. Petrozavods is celebrating its 300 anniversary as well. Peter the Great founded the city for his canon factories.

The excursion visited the Paleoproterozoic formations. Vladimir Makarkhin is a specialist on stromatolites and we had a very good show of the best varieties of carbonate rocks with stromatolites. Although the rocks are old, there are remarkably well preserved primary structures. Shungite is a Karelian speciality. It contains fine grained carbon in the form of fullerites and can be used as active carbon or it can be used as fuel. It has been, and is still mined (Figs. 4 and 5).

The last excursion stops were in the Sariolian formations lying on the Archaean basement with conglomerates, tillites (Fig. 6) sandstones, arkoses and siltstones (Fig. 13). The excursion ended on the shore of the strongly regulated Lake Segozero with a stratotype on an island we could not visit, only see at a distance of some 300 m (it is under water at normal water level), but the impressive parastratotype on the shore nearby has a set of large clean outcrops with primary sedimentary structures (Fig. 14). The parastratotype is easily accessible.

We got an illustrated list of Karelian geological Nature, with a map showing the 79 sites (By V.V. Makarikhin and D.V. Ryachanchik). Our Latvian col-

Fig. 4. Alex Barnard (UK) and Veli Suominen in Maksovo shungite deposit. Photo: Vladimir Makarikhin

leagues presented a site list and map with 206 sites and good illustrations (Geological and Geomorphological Nature monuments of Latvia, compiled by M. Stinkulis). A list for the whole WG3 area still is under development even if we already have a half of the area covered. The IUGS Geosites project and a framework list, in the way WG1 has done, was discussed and it was agreed WG3 will do a similar attempt.

Veli Suominen

Fig. 5. The mouth of shungite gallery at the Town of Shunga, Uldis Nulle from Latvia as scale.

Photo: Vladimir Makarikhin

Fig. 6.. Sariolian (Early Proterozoic) tillites. Luzhma River.

Photo: Vladimir Makarikhin

Portuguese Natural Parks project

A project to inventory and characterize the geological heritage in two natural parks of NE Portugal is in progress and will run until 2004. Geologists making up a multidisciplinary team for the project, are drawn from the Earth Sciences Department of the University of Minho and from the Portuguese Geological Survey (several of these are also ProGEO members!). The Portuguese Foundation for Science and Technology and the Nature Conservation Institute are sponsoring the work, which some will remember was presented at the Dublin conference, last September.

The project's main aims are: (i) improvement of geological knowledge in the Montesinho Natural Park and International Douro Natural Park; (ii) creation of scientific instruments to support the sustainable management of the geological resource and the land; (iii) creation of a geosite inventory, as well as their description. These three main aims will contribute to increasing public awareness of the conservation of Geoheritage.

By the end of the project, the following outcomes will be delivered: (i) Geological Maps, Geomorphological Maps and Geological Resources Maps; (ii) a Geosite Map; (iii) Geological Guidebooks; (iv) Web pages; (v) Training sessions for the staff of the two natural parks. This project has two scientific consultants well known to the ProGEO community: Bill Wimbledon and Todor Todorov. Last May, they visited the two natural parks and discussed with the team the main aspects of the geological heritage of the two parks. The working week began with a one-day workshop held in the University of Minho. During this workshop, both Wimbledon and Todorov presented lectures for a diverse audience.

The four-day field trip constituted a privileged moment to discuss strategies under development, namely on geosite selection, on the production of interpretation materials, and geosite management. As in many other countries, the initial creation of the majority of the Portuguese protected areas did not specifically consider geological entities or criteria. Therefore, this project constitutes an important step, towards recognition and enhancement of the value of geology inside protected areas.

José Brilha

The team work and the two consultants during the field-trip near one of the oldest rocks in Portugal (1079±78 Ma).

Two new Golden Pegs in Sweden

May 26 – 27, 2003 two new stratotypes were established. The Executive Committee of the ICS, the International Commission on Stratigraphy, Members of the International Commission on Ordovician Stratigraphy performed dedication ceremonies for two Ordovician GSSPs in Sweden, one in the southernmost part of the country and one in the southwestern.

The former is a section in the famous Fågelsången (Bird´s song) Natural Reserve, where the lower boundary of the upper Ordovician Series is defined in a dominantly shaly facies and mainly based on graptolites and conodonts. This event was attended by almost 50 people, one of them our photographer Esko Daniel from the Geological Survey of Sweden branch office in Lund.

The latter locality/section is Diabasbrottet (the Diabase Quarry), an abandoned quarry cutting down through a sill of diabase into the underlying Lower Ordovician shales. This is the Global Stratotype of the base of the Second Stage of the Lower Ordovician Series, and, as the former, largely based on graptolites and conodonts.

"The Golden Peg" at the Fågelsången section.

Demonstration of the type section at Fågelsången by three key persons in the centre, from the left, in blue cap, Prof. Stig M. Bergström, Ohio State Univ., Prof. Stan Finney, California State University at Long Beach, Calif., and Per Ahlberg, Geological Inst., Univ. of Lund, Sweden.

Lars Karis

Topical sitting of the Paleontological Society

Paleontological Society Meeting

concerning the paleontological heritage of Russia (Moscow, April 9, 2003)

A theme of the 49th annual meeting of the Paleontological Society, which took place in the Paleontological Institute of Russian Academy of Sciences in Moscow on April 7-11, 2003, was "Paleontology and Nature Management." One of its topical sittings, which took place April 9, was devoted to the paleontological heritage of Russia. In fact, it was the second conference on the topic there. Previous one was held in 1997, and was connected with a visit of W. Wimbledon to Russia. Only Moscow paleontologists, except W. Wimbledon and A.V.Lapo, took part in the conference then. On the contrary, about 130 paleontologists not only from the whole Russia but also from Ukraine, Belarus, Azerbaijan, Kazakhstan and Egypt gathered to the 49th meeting of the Paleontological Society, and a lot of them were present in the topical sitting mentioned above.

Fig.1. The Late Permian tetrapod site Kotel'nich.

Photo I.V. Novikov.

There were 5 oral presentations on the topical sitting. The report by A.V. Lapo (St. Petersburg) "Paleontological heritage of Russia in the network of specially protected areas" was, in fact, a keynote address. The speaker defined the paleontological heritage as a totality of more important fossil sites. Strangely enough, in Russia there are no fossil sites, which are protected, as such, on the federal level, but some of them are located in different protected areas of this level, such as nature reserves (zapovednik), national park, and nature partial reserves (zakaznik).

As to the regional level, fossil sites are protected, as such, mainly as natural monuments (as estimated 120- 150 on the whole territory of Russia), and, to a smaller degree, as paleontological partial reserves (e.g., Ul'ianovsk and Sengilei ones in Ul'ianovsk oblast'). Besides, some fossil sites located in areas of nature parks, which belong to the protected areas of regional level in Russia.

Regarding the World Heritage List sites, the speaker informed, that in Russia only one important fossil site is placed in them. He meant a world wide known series of sections in the Kozhim River from O_3 to P_2 with a wide variety of abundant fossils which was located in the Virgin Komi Forest Heritage site. The main conclusion of the speaker was that the paleontological heritage of Russia was protected unadequately to its scientific significance.

Three following reports were the regional ones. So, ProGEO member V.V.Makarikhin and his coauthors (all from Petrozavodsk) gave a presentation "Paleontological monuments of Karelia." They pointed out that in Karelia more than 70 Early Proterozoic fossil sites were fixed, and Late Yatulian stromatolites were most know from them, especially in the Sundozero section and in the S.Oleny Island (Onega Lake). Nontheless, only a few of Precambrian fossil sites are protected in Karelia now.
The report "Paleontological monuments of Far North-East of European Russia" by S.K.Pukhonto (Moscow) presented the overview of more important Permian fossil sites of a huge territory. One of them was the Talbei section with abundant fossil plants (lycopods, pteridosperms, peltasperms, cordaites, etc.) and animals (bivalves, brachiopods, etc.). In outcrops on the northern part of the Kos'yu-Rogov depression there are numerous accumulations of fossil plants, such as ferns, pteridosperms, Zamiopteris and others.

The Vorkuta natural monument represents a continuous section of Permian strata with rythmic interbedding of continental and marine layers with abundant fossils. The speaker also outlined other out-

standing fossil sites of this region.

S.M.Sinitsa (Chita) presented her ideas on organizing geological parks and nature reserves in Transbaikalia. According to her proposition, two geological parks (Udokan, Georgievka) and six geological nature reserves (Argolei, Gazimur Kulindy, Badonovo-Undurga, Unda, Ust'-Karsk, Nozhy) should be organized there. Plentiful fossils from the Early Proterozoic to the Pleistocene age characterize all these sites.

The last report of this sitting, "The unique Late Permian and Early Triassic tetrapod localities of European Russia: their significance, legal status and protection" by ProGEO member I.V.Novikov (Moscow) was basically topical rather them regional. He spoke about the actual situation with a protection of four land tetrapod sites. They are represented by two Late Permian fossil sites, namely Mezen' (Arkhangl'esk oblast') and Kotel'nich (Kirov oblast') **(Fig.1)**, and two Early Triassic sites, such as Tikhviskoye (Yaroslavl' oblast') and Bolshoe Bogdo (Astrakhan' oblast').

Being a deputy director of the Paleontological Institute, the speaker related about public activities of the Institute directed to preserve this part of the paleontological heritage of Russia. I.V.Novikov underlined a great importance to collaboration of scientists with local authorities and regional Museums of Natural History, as well as to cultural and educative activity with inhabitants.

In addition to an oral topical sitting, two papers concerning the paleontological heritage were presented on the meeting as posters. So, A.O.Ivanov (St. Petersburg) and his coauthors (Syktyvkar and Riga, Latvia) showed the Andoma Hill **(Fig.2)** on the eastern shore of the Onega Lake as a unique geological and paleontological monument. It corresponds to the series of Devonian outcrops.

The numerous and diverse vertebrates were found in that site together with rare invertebrate and plant fossils. The agnathans and various fishes frequently occur as almost complete skeletons there. They could by preserved in different developmental stages discovered in one stratigraphic level.

The second poster by P.P.Skutchas (St. Petersburg) was devoted to the last results of investigations of the unique Early Cretaceous vertebrate locality Krasny Yar in Transbaikalia. In 2002 numer-

Fig.2. The Devonian fossil site Andoma Hill

Photo: A.O.Ivanov.

ous fossils were collected there including teeth of archaic shark, bones and scales of different fishes (chondrostean, holostean and teleostean), bones of frogs and various reptilian taxa, such as turtles, a choristoderan, carnivorous and herbivorous dinosaurs (theropods, sauropods and ceratopsian). In the locality for the first time sharks were discovered in the Early Cretaceous of Transbaikalia, and anuran amphibians - in the Mesozoic of the whole Russia.

It is pertinent to note that all papers, both oral and poster, provoked a great interest and lively discussion. Abstracts of the whole meeting of the Paleontological Society have been published but, unfortunately, only in Russian without English summaries.

Andrei Lapo

Geologic trails in Slovenia

Geologic trails in SloveniaIn Slovenia there exist several longer or shorter geologic trails, interesting to individuals and also for school excursions. Some visitors prefer shorter trails with detailed informations, and others longer that give insight into geology of wider areas. In Slovenia several of the trails are well designed, other are too long and not very successful, and some are not sufficiently well protected.

The most ambitious project was the so-called Slovenian geologic trail. For the first part through the Karavanke Mountains it is published a guide-book. The second part through the Julian Alps is well marked to the middle of Slovenia, but without any guide-book. The project of the trail was prepared by the Society of friends of minerals and fossils in Tržič with assistance of several geologists. The trail should be maintained by the Geological Survey of Slovenia. However, owing to reorganizations and other reasons the promises seems largely to be forgotten.

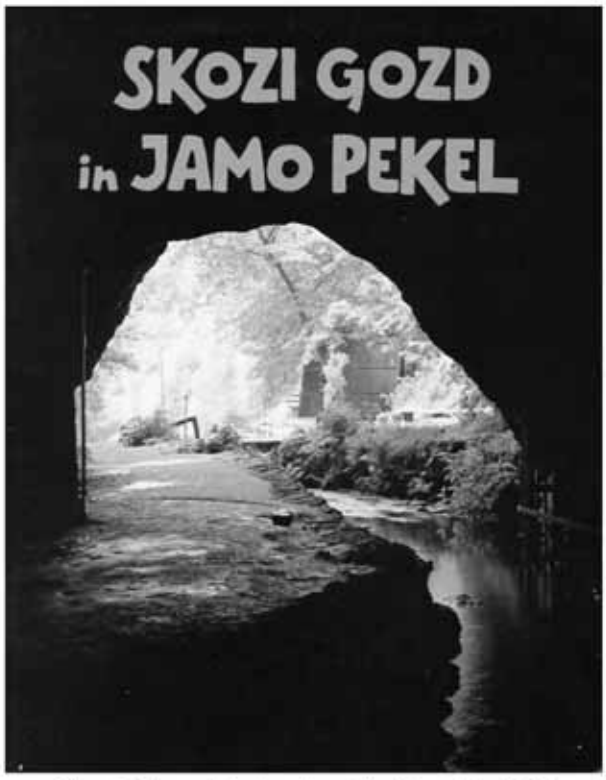
Some other geologic trails in Slovenia were combined with other elements, for instance the combination the forestry and geology in Savinja valley. Some other trails are combined with historical, cultural and other points of view. Based on our experiences, the following conclusions could be made. The geologic trails are very useful for increasing the knowledge and arouse interest for geology in general. In Slovenia this is very important because of insufficient geologic education offered by our schools. The value and attraction of the trails are increased by including of various features, either of natural science or historic, artistic and other character.

The inauguration of a trail must be furnished with clearly marked stops and with a printed guide-book. Second, the shorter geologic trails are more interesting as the long trails across larger part of region. A great danger to the geologic trails is represented by collectors robbing and destroying the fossil and mineral localities. The only help is education and incessant drawing attention to the importance of natural heritage. Neither regulations nor loosely written laws could prevent the negative aspects of amateur collecting.

Reference

Pavlovec, R. 202: Reflections about the geologic trails in Slovenia. – Geologija, 45/2, 475-478, Ljubljana.

Rajko Pavlovec



The trail "through the forest and the Cave Pekel (=inferno)", Slovenia.

4th European Geoparks Network Meeting

Anogia, Crete, Greece, 2-5 October 2003

The European Geoparks Network was established in June 2000 in the context of the European LEADER IIC program by four Leader-II zones:

- Reserve Geologique de Haute-Provence, France
- Natural History Museum of Lesvos Petrified Forest (Island of Lesvos), Greece
- Geopark Gerolstein/Vulkaneifel, Germany
- Maestrazgo Cultural Park, Spain.

Main objective of the cooperation was protection of geological heritage and promotion of sustainable development of their territories in Europe.

The above listed Geoparks signed a convention on Lesvos Island, Greece in June 2000 declaring the creation of the European Geoparks Network. The purpose of this general designation was to share information and expertise, as well as definition of common tools.

All members agreed to the necessity of improvement and enlargement of this network to other European areas. The Network owns the "European Geopark" trademark registered within all countries in the European Community. In April 2001 the Network signed with UNESCO (Division of Earth Sciences) an official agreement of collaboration placing the Network under the auspices of the organization.

At present the Network is built by 15 Geoparks from seven E.U. countries. New partners of the network are:

- Psiloritis Natural Park, Greece
- Astroblème Rochechouart Chassenon, France
- Marble Arch Caves & Cuilcagh Mountain Park, N. Ireland (UK)
- Copper Coast Geopark, Ireland
- Parco Culturale Rocca di Cerere, Italy
- Madonie Geopark, Italy
- Parque Natural Cabo de gata Nijar; Spain
- Naturpark Steierische Eisenwurzen, Austria
- Kulturpark Kamptal, Austria
- Geo.Naturpark Terra Vita, Germany
- Naturpark BergstraBe-Odenwald, Germany.

After the 1st European Geoparks Network Meeting held in Molinos Maestrazgo, Spain, in November 2000, two more also successful congresses were held, in Lesvos isl. Greece, in 2001 and in Kamptal Austria, in 2002. During those meetings the first steps of geotourism development, as well as future collaboration with other countries and institutions and expansion of the Network were reported.

We invite European areas including a particular geological heritage, as well as professionals and institutions to attend and participate in the 4th European Geoparks Meeting which will be held in Anogia, Crete, Greece, from 2 to 5 October 2003.

The aim of this meeting is to discuss the present state of knowledge and management of the European geological heritage, as well as, the role of tourist industry and local initiatives in supporting a sustainable development strategy. During the meeting new members will be officially welcomed, new candidatures will be presented and the future development of the European Geoparks Network will be discussed.

The meeting is organized by the Psiloritis Natural Park – European Geopark, AKKOM – PSILORITIS SA, NATURAL HISTORY MUSEUM Univ. of CRETE under the auspices of the GEOLOGICAL SOCIETY of GREECE.

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