



*Weathering and erosion sandstone landscape at Belogradchik.
Photo: Carl E. Johansson*



ProGEO '98 was arranged June 6 - 13 in western Bulgaria (see the final report from the event inside this issue of ProGEO NEWS).

We were 67 participants from almost all European countries and met many new friends. We had a good exchange of views in the meetings, symposia, workshops, excursions and discussions and felt very well at home in Bulgaria with its great natural and cultural diversity, especially its fascinating geodiversity.

Bulgaria has gone far in its work to select and protect Geosites. Our Bulgarian friends executed a well-planned programme which in addition to the conference meetings included several interesting excursions.

The excursions in NW Bulgaria were guided by Tzanko Tzankov, his colleagues and their geological guidebook.

June 7: Excursion Sofia - Belogradchik along the deep Iskar river valley from the Sofia basin through the W Balkan mountains. We saw magnificent sites revealing for instance Carboniferous sections, tectonic relations, karst phenomena including springs, Triassic sections with clastic (Buntsandstein) as well as carbonate sediments, Jurassic and Cretaceous limestones. We visited the Vratsa gorge in the Vratsa mountain with its folded, faulted,



thrust and deeply eroded Mesozoic bedrock, the Pastrinata pericline, and a panoramic evening view of Belogradchik.

June 8: Excursion in the touristic Belogradchik area with its spectacular weathering and erosion forms in post-Variscan conglomerates and sandstones that have been sculptured into pyramids and statues, mainly by fluvial erosion. The historic Kaletto fortress is situated on a hill above Belogradchik. The town of Belogradchik hosted a museum visit, a poetry performance and a good dinner in the evening with a first-class entertainment by a folk music and dance group.

June 9: The symposium participants were welcomed by the mayor of Belogradchik. A great many good contributions were given under the headings: *General Topics, SE Europe Geosites and their conservation, Bulgarian geosites and their conservation*. The Bulgarian presentations gave good information about the great geodiversity in Bulgaria. The excursion from Belogradchik via the Petrohan gap in the Balkan mountains back to Sofia gave good insight into Triassic - Jurassic stratigraphy and tectonics, and scenic views of varied landscapes.

The excursions in SW Bulgaria were guided by Ivan Zagorchev's Geological guidebook.

June 11: Sofia - Petrich along the Strouma valley, the Rila Mountains, the Pirin Massif.

We studied the Kroupnic neotectonic fault in the Strouma fault zone at the Simitli graben. Here the strongest known earthquake on the Balkan Peninsula took place in 1904. It hit the fault zone dividing the Simitli graben from the Pirin horst. Here we experienced a kind of post-quaking, too. The Kresna gorge cuts through the Kresna granitoid horst. We also studied neotectonics of the Sandanski graben and folded marble at Ilindentsi marble quarry with serious environmental problems. We enjoyed a panorama of the Sandanski graben and Pirin horst. Interaction Palaeozoic - Mesozoic sedimentation and tectonic events were demonstrated, as well as Mesozoic bedrock genesis and Alpine - recent tectonic movements.

June 12: Very panoramic views were displayed of the fascinating rock and valley landscape between Rozhen and Melnik with the beautiful Rozhen Monastery, with ruin-like weathering and erosion forms cut into Tertiary sandstones in the Melnik Pyramids Reserve. They resemble destructed fortresses and castles with turrets, capped earth pillars, etc. The small town of Melnic has a rich historical and cultural heritage. The high biodiversity of the remarkable Roupite site depends much on the geodiversity with the volcano Kouzhohu, hydrothermal springs and sediments influenced hydrothermally.

June 13: From Petrich along the Strouma valley and back to Sofia, we saw scenic tectonic and fluvial landforms of the Rila Mountains with glacial remnants in its upper parts. The famous, touristic Rila Monastery was

visited. The Stobski Piramidi near Stob village are erosion remnants with diverse forms in young sandstones.

Our Bulgarian friends performed ProGEO '98 successfully. The programme was very ambitious and performed in an excellent manner. It had very rich contents. In general the presentations were given within the time frames. The discussions were constructive and instructive. The excursions and meals took much time because of appetising ingredients. We found many new friends in Bulgaria. Todor and Vanya Todorov with their colleagues made it - quite a strong job.

The remarkably high geodiversity in Bulgaria, its natural and cultural attractions give the country excellent prerequisites to develop geotourism. There is a need to develop infrastructure and service in order to give tourists and the opportunity to visit this beautiful and friendly country.

Carl Erik Johansson & Kristina Fredriksson

ProGEO NEWS 1 98 has been delayed considerably.



This regrettable fact is due to lack of funding. The editor has not been able to guarantee to pay the bills, and therefore he had no alternatives than to stop the production of ProGEO NEWS until the situation changed.

Since spring two important elements has indeed changed. ProGEO itself has paid DM 1000 for the issuing of ProGEO NEWS for 1997 and the same amount for 1998. Moreover the editor has changed the production to be cheaper.

This will be seen as a not so professional look in technical editing, and -for the editor- a lot of (if not blood, so at least) sweat and tears before use of new editing programs are established in his fingers. He will therefore ask you all for excuse for all troubles that may be seen in the product before you.

The good thing is that it is created a platform that should secure ProGEO NEWS for the future, at least for the time that the editor (or new editors) are willing to put a considerable amount of free time into the production.

Therefore all friends: write to ProGEO NEWS, send in comments, articles and pictures and help the editor to create ProGEO NEWS as we want it to be!

Lars Erikstad
editor



Albania

On December 16th 1997 the Request of an Initiative group of 11 specialists of Geological Sciences for the foundation of the society: "Albanian Union of Geologists for the Geological Sciences Heritage" (A.U.G. G.S.H) as a non-governmental organisation, it was accepted by the Tribunal of Tirana (Decision NR. 6307, Act Nr. 7741).

The Union of Albanian Geologists is founded on a voluntary base and it is National Society of specialists of geological fields (see the resolution below).

The main aims of the Albanian Union of Geologists are collection and preservation of the geological heritage in Albania by:

- Increasing knowledge, collection and preservation of all geological works studies and other data compiled in the past by foreign naturalists and geologists and by foreign research expeditions on geology of Albania.
- Collection and preservation of works of the Geological Survey of Albania since its foundation (August 25th 1952).
- Increasing knowledge, presentation and publication of achievements of Albanian geologists in Albania and in international meetings.
- Increasing knowledge, inventory and protection of geological sites of Albania.

- Carry through studies on Environmental Geology and on geotopes of local, national and regional importance in Albania.
- Support popularisation from geologists and other scientists of natural sciences for education of the young generation to strengthen the geological tradition in our country.

Albanian Union of Geologists for the Geological science Heritage is interested to establish regular relations with the International Union of Geological sciences (IUGS) and the International Union of History and Philosophy of Geological Sciences (IUGS, Ph Gs). Albanian Union of Geologists intends to establish contacts of mutual interest with the European Association for the Conservation of the Geological Heritage (ProGEO), with Albanian and foreign non-governmental societies and organisations, with Albanian Academy of sciences, Museum Centre and with the Forum of Non-government organisation of Albania.

In the first Meeting of the Initiative Group on November 4th, 1997 Academic TEKİ BİCOKU was elected chairman of the Albanian Union of Geologists for Geological science Heritage, Prof. Dr. AFAT SERJANI was elected vice/ chairman and the young engineer MIRELA PINARI (SARACI) was elected general secretary.

Chairmanship of the Albanian union of Geologists for Geological science Heritage is situated in the Geological Research Institute in Tirana.

Afat Serjani & Teki Bicoku

Resolution of The Initiative Group for Foundation of the Non-governement Society:

"ALBANIAN UNION OF GEOLOGISTS FOR THE GEOLOGICAL SCIENCES HERITAGE"

Albanian Union of Geologists for the Geological Sciences Heritage (A.U.G.G.S.H) is founded on the voluntary base and it is a Non-government Organisation of geological Sciences (geologists, hydrogeologists, mineralogists, paleontologists, geophysicists, topographers, drillers, etc.)

Our main aims are to collect, protect and conserve geological values for coming generations:

Many foreign and Albanian geologists have contributed in deciphering Albanias geological heritage. Many of them have spent all their lives and some of them lost their lives during their geological work. We must always remember their memory!

Many books, reports, publications and studies are compiled on the geology of Albania, creating our tradition in this field. We want to

take care of this heritage so this tradition can continue.

Many ore deposits have been discovered in our territory by the Geological survey of Albania together with many different types of magmatic, metamorphic and sedimentary rocks and many rare geological phenomena. All these discoveries must be known and protected in the future!

Many aspects of the geology of Albania are presented with dignity in national and international meetings, in postgraduate thesis in different Universities of Europe and World and in publications in foreign languages. Young generations of geologists must work with patience and passion for advancing these achievements of Albanian geology and for going forward in appropriation of new specialities!

In the territory of Albania we have many rare geological phenomena of unique character, many typical sections and outcrops of scientific and didactic value, geomorphologic landscape of outstanding beauty, sites of historic importance in geology, etc. All these and other features must be known, described and protected by laws and traditions!

Some of the above mentioned phenomena are in danger by human activity and their deterioration represents a destruction of the geological history of regions, countries or our planet. They can not be renewed! By protecting them we protect ourselves!

Somebody has compiled a report, a project, or has published a book, a paper, or has brought to the museum a nice sample. Everybody has his copyright and we will protect it!

The Initiative Group with its best intentions, has done this first step. We will do our best to discover new imaginations, preserve the geological heritage in the good tradition of the past and to support new achievements for coming generations. We believe that young generations will do the same attempts for new discoveries and presentations of the geology of Albania all over the world.

Afat Serjani, Teki Bicoku, Vehap Bezhani, Skender Dede, Feti Arkaxhi, Mirela Pinari (Saraci), Nevila Jozja, Mehmet Spaho, Halil Hallaci, Theodor Zoto, Skender Myftari.



Foraminifera

WORLD RECORDS AMONG FORAMINIFERA

Among foraminifers there are some very giant specimens. Besides, the enormous nummulites from the Crete island have been known for quite some time. The data about a diameter of 12 cm or even 14 cm can be found in the literature. In the year 1986 we researched the ground south from Knosos together with our Greek colleagues. Close to the onetime mill in the Kalo Horio village south from Knosos there are Middle Eocene limestones containing very big nummulites. The Greek geologist Apostolos Alexopoulos found nummulite shells in the size of 19 cm in a little ex-quarry (Pavlovec, 1987). As far as we know, this should be the biggest known foraminifera. It has been supposed that the actual size of the shell is somewhat greater, because the section most probably did not go exactly through the centre. Regretfully there was only an axial section that is not sufficient to define the species. Professor Hans Schaub (1981) agrees that it is not clear whether the large nummulites from Knosos belong to the species *Nummulites maximus* D'Archiac or to the species *Nummulites dufrenoyi* D'Archiac & Haime.

It would be definitely useful to protect at least one of the localities of the large nummulites as an important geotope. As there are numerous nummulites south from Knosos there is no fear of eventual fossil collectors who could entirely devastate the protected part.

In the Middle and North Istria which is located partly in Slovenia and partly in Croatia there are great operculinas in the layers from the Lower Lutetian. According to the newest suggestions the operculinas should be classified to assilinas. The "*Assilina*" (*Operculina*) *maxima* Pavlovec (1969) with the microspherical form of the shell and the diameter of more than 4 cm has already been described. It is the largest known "*operculina*" respectively.

The "*Assilina*" (*Operculina*) *monacensis* Pavlovec (1993), named after Munich is slightly smaller than the above mentioned one. It can be found in many localities. One of them is located near Dragonja river close to the Slovenian - Croatian border. Consequently, the access to the eventual protected locality is not quite suitable. The locality of the holotype close to the main road Koper - Pula with dense traffic is again unsuitable to be protected. There are many other localities in the Croatian Istria. It would be very useful to protect one of them as an actual geotope.

The above mentioned Lower Lutetian foraminiferas are interesting from the following points of view: one is their size, the other being their evolution. In the borehole near Drnica in South Slovenia the oldest specimen is "*Assilina*"

praespira (Douville) with the smallest shell, "*Assilina*" *monacensis* is a little younger and "*Assilina*" *maxima* is the youngest and the biggest one. All three species lived together later in the Lower Lutetian.

Rajko Pavlovec

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Baltic clint

Excellent photo exhibition of the North-Estonian Baltic Clint

Tõnis Saadre, renowned sedimentologist and photographer at the Geological Survey of Estonia has collected a set of magnificent photographs of the North-Estonian Clint. Now he has shown them them in exhibitions in Estonia, Lithuania and Finland.

I had the opportunity to see his collection in the Geological Survey of Finland. Saadre's images cover most parts and aspects of the glint, from the peninsula of Pakri to the "dead waterfall" at Narva, from recent shores to inland waterfalls. The winter aspects are especially fascinating, for instance the 'ice-palace' of the Jägala waterfall (that we visited in the ProGEO '97 excursion). At the high Valaste waterfall (also an excursion site) the stratigraphy is revealed.

The geological connection with Finland can be seen from swarms of granite boulders in the shore plane at Utria coastal cliff.

I hope that Tõnis Saadre can show his collection in more countries and places.



George Black

Our first president was remembered with the following words in the Geological Society of London's yearly proceedings obituaries, the place where the 'great and the good' of British geology are remembered. The text was authored by Prof Donald Duff, who was at school with George, and ProGEO's executive secretary.



George Purves Black

Photo: Ulrike Pistotnik

George Black died on 22 August 1997. He was born in Edinburgh on 19 July 1929, the son of a headmaster. Educated at the Royal High School, and a medal winning best student, his aptitude for science and mathematics was already much in evidence: however, his handwriting was a matter for comment even then! He entered the University of Edinburgh in 1945; and though an able chemist, graduated in Geology with 1st Class Honours, with the medal in economic geology. Too young to register for a PhD, he travelled in the USA for a year, starting his research career (PhD - "Some aspects of the petrology of the Isle of Rhum") back in Edinburgh in 1950, funded by the Falconer Memorial Fellowship. After only a year, in 1951, he secured a post as lecturer in igneous petrology at the Grant Institute of Geology, University of Edinburgh.

Up to 1960 George, along with a string of research students, made important contributions to some of the controversial aspects of the Tertiary igneous geology of Scotland. His work on Rhum is well known, but much later work on Ardnamurchan was never published. A study of talc pneumoconiosis was done with A.D. Bain at the Edinburgh Royal Infirmary. Throughout his time at the Grant Institute, George was an enthusiast for extra-mural studies, and was acknowledged as an amusing, informative and stimulating promoter of geology. His valuable and much used book "Arthur's Seat" (1966) is a gem.

In 1960 George Black made a major career move, taking up the post of geologist with the Nature Conservancy, later NCC. For 24 years he was to be the official guide and leader of geoconservation in Britain. For many years he dominated the proceedings of the Society's Conservation Committee. Perhaps his greatest achievement in putting geology on the conservation agenda, was the Geological Conservation Review, a project which mobilised major sections of the geological community. It had the aim of systematically compiling and documenting in print a national inventory of key geosites - a unique undertaking worldwide. This work is the justification of all present-day SSSIs. His promotion with the Geological Curators Group of second-tier site recording in Britain, the natural corollary of the GCR, founder for lack of NCC funding. George's resignation from NCC in 1984 meant that he was not able to see the GCR to completion (though he still contributed much data, and later authored one of the first-published GCR volumes). The public debate triggered by his resignation rumbled on through the 80s and is still with us: some of the issues raised have yet to be addressed. George had another conservation persona, in cave conservation, and from the 1960s until his death he was the president of the Pengelly Cave Trust. He was one of the founders of the British Institute for Geological Conservation in 1987. The same year also saw the launch by Dutch colleagues of ProGEO - the European Association for the Conservation of the Geological Heritage, now made up of prominent geologists and geoconservationists from many agencies in Europe, as well as individuals. George was a founder member, and as the doyen of geoconservation in Europe automatically became ProGEO's first president, presiding at a succession of conferences across Europe, including the highly successful First International Symposium on the Conservation of the Geological Heritage, at Digne, France in 1991.

George leaves an enormous legacy in Tertiary igneous studies and in conservation: the former's loss in 1960 was the latter's gain. He touched the lives of many - and many organisations, especially the Society, ProGEO and the Pengelly, benefited enormously from his knowledge and wisdom. He leaves a son and a daughter, Alistair and Ca-triona, from his first marriage to Ann Holland: and two sons, Iain and Angus, by his marriage to Lesley Palmer.

W.A.P. Wimbledon & P.M.D. Duff



ProGEO'98 participants at Belogradchik.

Photo: Carl E. Johansson



PROGEO'98 in Bulgaria: Final report from the meeting

The ProGEO'98 Meeting was organised by an Organising Committee and a Scientific Committee formed by the Bulgarian National Group for ProGEO with representation of all important governmental and non-governmental geological and environmental organisations and institutions of this country. The organisation has been supported by many Bulgarian and foreign organisations and institutions (Ministry of Environment and Waters, the Bulgarian Academy of Sciences, Sofia University, the Mining and Geology University, the town of Belogradchik, the National Science Found and some other Bulgarian institutes and companies, British Council in Bulgaria, the Netherlands« Embassy in Sofia, the Open Society Foundation in Sofia, the Worldbank, Hellenic Mining Company, the Swedish Envi-

ronmental Protection Agency and UNESCO, ES Division and World Heritage Centre, Paris).

The ProGEO'98 Meeting took place, as planned, from June 7th to June 13th, 1998. The participants were accommodated at Hotels in Sofia, Belogradchik and Petrich on full board basis for the entire period of their stay in Bulgaria. A special bag for the sessions and the field trips with Abstract volume (in total 59 abstracts), two Guidebooks and some souvenirs was prepared for every participant. The Ice-break Party took place after registration on June 6 in the restaurant of the hotel in Sofia.

Participants

The Meeting and the Excursions were attended by representatives of the following 16 countries: Albania (1), Austria (1), Byelorussia (1), Belgium (1), Bulgaria (15), Croatia (1), Czech Republic (1), Estonia (2), Finland (1), Germany (1), Greece (7), Italy (4), Kazakhstan (2), Lithuania (2), The Netherlands (1), Poland (1), Romania (2), Russia (1), Slovene (1), Spain (2), Sweden (5), Turkey (1), Ukraine (1), UK (4), UNESCO (1) and Yugoslavia (1) - in

total 61 persons (46 foreign participants and 15 Bulgarians).

The Programme of the Meeting consisted of Scientific Session (Belogradchik, June 9-10, 1998) and two Field Trips to NW Bulgaria (June 7-8 and 10, 1998) and SW Bulgaria (June 11-13, 1998).

For the first day of Scientific Session the selected, by Scientific Committee presentations, covered the following topics: regional discussion on the SE Europe, mainly geomorphologic geosites inventory; general topics (geology-geological heritage-society; geodiversity in the United Europe; the establishment of computerised databases).

The 44 presentations were oral (29) and presented as posters (15). A special Workshop "Towards a practical framework for Geosites and World Heritage selection in Europe" was organised and realised by Dr. Bill Wimbledon (Chairman of the IUGS Geosites Working Group) and the new UNESCO initiatives on geosites and geoparks were presented as well by Mss. Margarete Patzak (Representative of the Earth Sciences Division of UNESCO) during the second day of the Session.

The Organising Committee has the intention to publish the full texts of all the presentations in the Special Proceeding Volume by the end of 1998 (deadline for sending of the manuscripts is September 30, 1998).

The Field Trips gave the possibilities to see the most important geological and geomorphological sites in the Western Bulgaria (Iskar Gorge, Belogradchik Rocks geological park, Melnik ans Stob Pyramids, Struma Gorge, Pirin National Park etc. as well as some of the famous representatives of the Historical Heritage (Rozhen and Rila monastery etc.). It was concluded that many important geological sites of aesthetic significance and special scientific interests with national, subregional and world importance were visited and considered. There were a lot of possibilities for discussions on some general topics concerning the geological and tectonic structures of the Western Bulgaria as well as on the significance of the visited sites.

One ProGEO Working Group No. 1 meeting, two ProGEO Executive Committee meetings and one ProGEO Council meeting took place during the ProGEO'98 Meeting. Discussed were topics such as: the financial situation, the future of ProGEO Newsletter, the ProGEO Homepage, the members' activity, the future meetings, etc. Decisions were taken on all the topics.

Apart from the strictly professional part of the Meeting the participants had the chance to visit some important cultural places in Sofia and in the other towns where they stayed (Belogradchik, Petrich and Melnik). Rozhen and Rila monasteries were two additional sites with cultural significance included in the Programme. A special folklore programme was presented to them by the Vidin state folk-

lore group. Poetical reading was organised for the guests with the participation of the famous Bulgarian poet and translator Valery Petrov at the Belogradchik Observatory. A special exhibition of national embroidery as well as of pictures dedicated to the Belogradchik rocks was opened especially for the ProGEO'98 Meeting.

As a conclusion I would like to summarize briefly the most important results of ProGEO'98 Meeting in Bulgaria:

- there were open discussions on many problems of geological heritage conservation (methodology, achievements and problems of geoconservation and geodiversity; criteria for selection and classification of geosites; geosites databases; geosites inventory and global, European, regional and national lists of geosites; status and management of geosites; new aspects of geological heritage conservation; integration of geoheritage, biodiversity, cultural and historic heritage and ethnographic features in modern society; activation and popularization of the geoconservation works; geoconservation and geotourism, etc.);
- many important from aesthetic and scientific, educational and touristic point of view geosites were visited in Western Bulgaria; a part of them is planned to be proposed for inclusion in the Global and Subregional list of geosites; special attention was given to the geosites with special scientific significance but not well studied in the country; meetings of the ProGEO Working Group No 1 and of the bodies of the Association (Executive Committee, Council) with extensive discussion on the different problems of their past activity and future priorities were organised;

In general: the goals of the Meeting - to bring together the specialists from almost European countries for discussion on the geological heritage conservation problems in general and those in the SE Europe, in particular, as well as on the geosites and the world heritage selection in Europe, were completely realised. We have exchanged information and ideas about the important geosites under protection in the Balkan Peninsula and many of the rest European countries and about the national policy in each



Belogradchik's Mayor, Todor Todorov and Ivan Zagorchev opening ProGEO'98 Symposium.

Photo: Kristina Fredriksson



country in the domain of nature conservation, and the place of the sites of geological interest in this policy. We made the next steps towards a wide-scale collaboration and co-operation of the Earth scientists and experts of the SE Europe and Europe as a whole in this respect. Many of countries have already selected their representatives which will be the subject for future documentation and discussions with aim to be prepared for including in the national, subregional (Balkan etc.) and Global geosite (geoheritage) lists.

Did the ProGEO'98 meeting succeed?

The given, by the Organising Committee, answer to this question is entirely positive. We have completely fulfilled the Programme of the Meeting; the organisation was good and efficient.

This opinion is not only expressed by the Organising Committee. Such an evaluation was given by many of the foreign participants in the end of the Meeting. Some of them sent us e-mail and fax messages also. Here is one of them in which briefly all is said: "Thanks for everything, the good time spent together, the good organisation, the nice excursions, the friendliness of Bulgarian and everything else I'm forgetting" (Jo De Waele, Sardinia, Italy).

I would really like to believe that ProGEO'98 Meeting in Bulgaria was successful and the impressions of Bulgaria that many of the foreigners took with them to their countries will be vivid and lasting. All of us made our best to achieve that.

As ProGEO President and Chairman of the Organising Committee I would like to thank very much to all the members of the Organising and Scientific Committees and to the Bulgarian National Group for ProGEO for their unreserved help. Many thanks also to the whole team of our sponsors and co-organisers who supported the Meeting and by that played an essential role for its perfect organisation. The full success of the ProGEO'98 Meeting is general and addressed to Bulgaria.

The mankind have received precious natural and cultural heritage. It is our duty to protect and preserve this heritage for future generations.

The geological heritage is a non-recoverable resource that we must protect. It is more important when Man really has grown into a substantial geological force. The sentence that the Man "with one hand creates and with the other unreasonably and blindly destroys and threatens Nature", said by an ancient Greek Philosopher 2000 years ago, is still valid and should never be forgotten.

(Almost full text of the ProGEO'98 Meeting Final Report is published in the Episodes Issue 21.3 for 1998. The latest, as well as the published two other papers for the Meeting in this Issue, are the reason here only the short variant of the Report to be presented).

Prof. Todor Todorov, Chairman of the Organising Com-



Russia

mittee and ProGEO President

Study and Protection of the Geological Heritage

The workshop was timed to the visit of the chairman of the Global Geosites Workshop Group, Bill Wimbleton to Russia. The workshop was supported by the Russian National Committee of Geologists. It was held at VSEGEI (St. Petersburg) and at Paleontological Institute (Moscow). Andrei Lapo (VSEGEI) was chairman. About 40 persons took part in the workshop, which was very useful and successful.

Bill Wimbleton informed on Geosites - an international collaborative geoconservation initiative from IUGS. He told about criteria for selection of geosites, about Global Geosite Database. He called Russian geologists to take active part in the GEOSITES project. Andrei Lapo analysed the current state of the problem of the study and protection of the geological heritage in Russia. Results of long-standing studies of geosites in some areas of NW Russia were presented, reports, concerning of the geological heritage of the Urals and the Novaya Zemlya Archipelago were made as well. The latter made by Ludmila Povysheva (Institute of Ocean Geology, St. Petersburg) was illustrated with a map of natural and cultural heritage in the Archipelago (scale 1:1000000) with plotted geosites, the first map of such kind in Russia.

Astroblemes and caves were characterised as geosites. Problems of protection of fossil plant localities were discussed as well.

Two reported were devoted to results of the study of geosites carried out around the country. Alexander Sokolov (CNIRG Museum, St. Petersburg) reported on the long-standing inventory of geological monuments, carried out at the F.N. Chernyshev Central Research Geological Museum. Marina Vdovets and Andrei Lapo (VSEGEI) informed about creation of the Russian geosites database.

At the Paleontological Institute in Moscow all reports were made only on paleontological geosites; on localities of fossil plants, insects, vertebrates.

The workshop "The Problem of the Study and Protection of the Geological Heritage" was the first meeting of such kind in Russia. It will be of great importance for establishing scientific contacts of Russian specialists with their foreign colleagues and, as a consequence, for further work on the study of the geological heritage in Russia in compliance with international standards.

Andrej Lapo



Central Europe

REPORT from Central Europe Working Group 2 of ProGEO

The workshop of Central Europe Working Group 2 of ProGEO entitled "Draft Candidate List of Geosites Representative of Central Europe" was held in Cracow on 14-17 October 1997. The workshop was organised by the Institute of Nature Conservation of the Polish Academy of Sciences in collaboration with the Carpathian Branch of the Polish Geological Institute. Executive Committee of European Association ProGEO was represented by Prof. Dr. Todor Todorov - ProGEO president, Dr. Carl E. Johanson - past president, and Dr. William Wimbledon - executive secretary and co-ordinator of IUGS-GEOSITES Programme. The chairwoman of the workshop was Prof. Dr. Zofia Alexandrowicz, and secretaries were: Mrs. Janina Oteska-Budzyn and Mr. Jan Urban - all from the Institute of Nature Conservation of the Pol. Ac. Sci. The workshop was sponsored by the Programme of Geodiversity Conservation in Poland, co-ordinated by Prof. Dr. Stefan Kozłowski of the Polish Geological Institute, and financially supported by the National Fund of Environmental Protection. The workshop was also sponsored by the Salt Mine "Wieliczka".

The workshop was attended by 35 participants from various research centres: Lithuania (2 persons), Belarus (2), Ukraine (4), Slovakia (2), the Czech Republic (1), Austria (1), Poland (23).

The workshop aimed at presenting primary selected, important geosites as candidates for European List of GEOSITES. A further work has to concentrate on a detail elaboration and verification of particular domestic lists to come out finally with the best geosites that most adequately represent particular geological regions. The above task requires a close collaboration between these countries where the analysed regions extend behind state boundaries. Following the assumptions outlined above, the two-day meeting comprised five thematic sessions. The first one dealt with geoconservation programmes while the remaining four sessions - with the draft lists of geosites in the following regions: the Carpathians, Sudetes (Bohemian Massif), Central European Uplands and Central European Lowlands. Seventeen papers were presented during the workshop while the abstracts were issued as the "Brochure of Abstracts". The total of 140 individual geosites and site-sets, protected under different categories or proposed to protection, were discussed. Some, presented geosites that are located in geological regions occurring exclusively in the area of Poland, confirm to the principles of the European List of GEOSITES. This applies to the geosites situated in the Holy Cross Mts. and in the belt of Central Poland Uplands. Other geosites which have been proposed from the terrain near the

state boundaries require comparative re-selection, drawing upon collaboration between neighbouring countries.

During the two-day field trip the workshop participants had been acquainted with problems and achievements in the field of an inanimate nature protection in Cracow and nearby Cracow. There were presented sites and areas proposed for the GEOSITES list - natural and artificial exposures of Jurassic and Cretaceous sequences, typical karst forms, planation surfaces with limestone tors. Educational importance and adjustment of certain sites to serve didactic purposes were emphasised to the participants. In the Wieliczka Salt Mine there were presented 40 documentary sites that had been approved recently. These sites illustrate geological sitting of crystal caves. Here, the Institute of Nature Conservation of the Pol. Ac. Sci. monitors thermal-moisture conditions to record changes in halite crystals and to supervise conservation practices in the caves.

The workshop resulted in merit and organisational conclusions. The most important are as follows:

- The proposed candidates for the GEOSITES list have to be well documented regarding their scientific value and their network has to adequately represent geodiversity of a given region.
- The proposals referring to the areas have to be thoroughly substantiated; fundamental features of a given area should be regarded as well as individual important sites should be singled out of similar sites within a given region and between the regions.
- Some of the presented networks of important geosites in particular regions should be supplemented with exposures, stratotypes, reference sections, tectonic and sedimentary structures, deposits rich in fossils, etc.
- A subdivision of the Working Group into regional subgroups has been adopted for a further collaboration and organisation of the meetings.

The subdivision into working subgroups has been based on co-operation between the institutes of the Pol. Ac. Sci., various universities and the geological surveys. Northern Europe co-ordinated by Dr. Steen Andersen (now Dr Jonas Satkunas - ed. mark);

The subgroup leader is Dr. A. Ber (Polish Geological Institute in Warsaw). The subgroups are:

- Working Subgroup of the Sudetes (Bohemian Massif) which has to be led by the Lower Silesian Branch of the Polish Geological Institute in collaboration with the Czech Geological Survey;
- Working Subgroup of the Carpathians and Fore-Carpathian Depression which consists of the representative of the Institute of Nature Conservation of the Pol. Ac. Sci. (the main co-ordinator), Carpathian Branch of the Pol. Geol. Inst., Academy of Mining and Metallurgy, Geological Survey of Slovakia and Geological Survey of the Czech Republic; in the future the entire Carpathians should be comprised by one programme, may be under supervision



of the Carpathian-Balkan Geological Association or another international organisation, as the area incorporated into the Pan-European Ecological Network (PEEN).

-Working Subgroup of the Lublin-Lvov Upland has been co-operating until now due to collaboration between the Institute of Nature Conservation of the Pol. Ac. Sci., Geological Institute of Ukrainian Ac. Sci. and University of Lvov. In this autumn Polish Geological Society will be holding its meeting during which field trips on both sides of the state boundary are planned. It is expected that the research results to be presented there, will facilitate evaluation of the sites - prospective candidates for the European List, especially in the case of geosites from Roztochya Upland being much more extensive in the Polish territory than in Ukraine.

-Working Subgroup of the Malopolska Uplands comprises the regions situated entirely in the Polish territory. The proposed list of the geosites requires slight improvements within the collaboration between the Institute of Nature Conservation of the Pol. Ac. Sci., Holy Cross Mts Branch of the Pol. Geol. Inst., Academy of Mining and Metallurgy - Chair of Stratigraphy and Regional Geology, Department of Geology of University of Warsaw and Polish Geological Institute in Warsaw.

During the workshop a resolution about placing the Crystal Caves Reserve and documentary sites from the Wieliczka Salt Mine on the World List of Geological Heritage was presented. Materials for preparing a monograph about Crystal Caves have been collected. Devising an international convention on geodiversity protection has also been postulated. The adequate document should be based, among others, on the results of specific research programmes (i.a. Programme of Geodiversity Conservation in Poland as mentioned above). The proposed convention is expected to be important in promoting and improvement of geological heritage conservation in the domestic and international scales.

The documented preliminary lists of the geosites from Central Europe, presented during the workshop, as well as subject papers will be published in *Przegląd Geologiczny* (Geological Review), issue no 9 (September). The majority of the papers have already been approved by the publisher. Unfortunately, the speakers from Slovakia and the Czech Republic have not mailed any materials despite numerous inquiries.

To disseminate ideas of the workshop of the Working Group 2 of Central Europe, a volume entitled *Let Us Protect the Indigenous Nature of Our Homeland* devoted to the problems of geoconservation in Poland in relation to the priority tasks of geological heritage conservation has been issued.

Zofia Alexandrowicz, Co-ordinator of Working Group 2 of ProGEO



Slovenia

The book about Karst

Slovenia is a classical country of karst formations. Karst (in Slovene language - Kras - is a landscape in the south-western part of Slovenia extending from Trieste to the valley of Vipava. Some speleothems have been named after terms from Karst (dolina, polje and also Karst, carso...). It is one of the scarce examples of relief types and subterranean formations, that have been called after a regional landscape.

Karst formations in that country were known already two thousand years ago. Posidonius (135-50 B.C.) wondered if the river that percolated in the caves of _kocjan, came up as Timav in Italy. The Vilenica cave, not far from Slovenian-Italian border is supposed to be the first tourist cave in the world. Preserved data from the first half of the 17th century give evidence about the visitors. The first painting of the cave formations was made in Vilenica. In the year 1821 Venetian painter Peter Fendi was awarded a golden medal for the oil painting of Vilenica.

From the ancient times the country has been well known because numerous ways and roads were leading through it. The railway line Vienna - Trieste cut Karst in the middle of 19th century. We consider Karst the central country and a cradle of the knowledge about karst formations. In the next years we will carry out ProGEO meeting, dedicated to the protection of karst formations. The caves of _kocjan are the only one of Slovenian natural treasures being protected by UNESCO. However, the protection of the entire countryside has been planned.

Recently an extensive large-sized book with the title "Kras - Slovene Classical Karst" has been published in English by Karst Research Institute ZRC SAZU (Titov trg 2, SI-6230 Postojna). There are geographic descriptions, historical data, geological structure, cave formations, hydrology with the problems of water pollution, descriptions about the strong northern wind, called "burja", data about caves, ground and vegetation, flora, protection of nature, colonisations in Paleolithic and later. Further chapters speak about the people living in Karst, cultivation, wine growing, stonemasonry, stockbreeding, ethnographic specialities and architecture with stone as a basic building material in the past.

The book about Karst, that was issued with the support of the Slovene National Committee of UNESCO and the Ministry of Science and Technology, is a universal and exhaustive description of the landscape and at the same time a useful preparation for its protection.



Historic Kaleto Fortress on a sandstone hill at Belogradchik.

Photo: Carl E. Johansson

research, to label outstanding geosites and terrains. In this context, Geosites may be geological heritage sites of restricted size and Geoparks may be larger managed areas which can also include other assets as for example: archaeological, ecological, historical or cultural values and can trigger economic development.

Countries put forward proposals for sites or areas. After an obligatory evaluation by an independent board the title UNESCO/IUGS Geosite or UNESCO/IUGS Geopark may be attributed. This seal of excellence shall facilitate and promote world wide the preservation of the geological heritage, increase public awareness and support local and regional development.

The concept was well presented by Margarete Patzak, Division of Earth Sciences, UNESCO, and was received with positive comments and a constructive discussion.

According to the abstract of the presentation a Geosite or Geopark shall meet as many as possible of the following criteria, according to the nature or site or area. It should:

-include a single object or a mosaic of geological systems of special geological significance, representative of an area and its geological history, events or processes,

- contribute to the conservation of significant geological features which provide information in various geoscientific disciplines,
- provide means of exploring and demonstrating approaches to sustainable socio-economic development on a local or regional scale,
- provide an opportunity for broad environmental education.

Comment: I premise that Geosites and Geoparks will be selected and delimited in connection with the IUGS-UNESCO programme GEOSITES, in Europe within ProGEO's frameworks and work for Geosites. The constructive concept of Geoparks and Geosites should not be bungled with weakly based, non-scientific selection procedures.



Spain 99

SPAIN: GOOD NEWS FOR EUROPEAN GEOCONSERVATION

I can report several interesting developments in recent months in Spain. Firstly it is important to note the significant growth of our contacts in that country and the enthusiasm that exists in Spain for more collaboration with ProGEO colleagues in other countries. Below I report on the recent meeting of the Commission on Geological Heritage (June 29-1 July), our contact organisation in Spain, and on plans for enhancing and promoting efforts in Iberia and the mediterranean generally.

Those who take an interest in the literature will remember the excellent publication "El patrimonio geológico" which appeared in 1996 published by the Spanish Commission and the government. Spain has made some progress in recent years on geoconservation, and the commitment of colleagues there to international efforts has been enunciated clearly in print, with a distinct emphasis on following and adapting to trends in Europe, and that means ProGEO. The 1996 publication included in its recommendations and conclusions a statement that links should be established and maintained with ProGEO, at the institutional as well as the individual level. This has been achieved.

In June, I attended the fourth national meeting of the Spanish Commission on the Geological Heritage at Miraflores, in the mountains just north of Madrid, as the willing and grateful guest of the national commission. It was an excellent meeting, with an extensive poster display on a wide range of topics. Another aspect of the meeting was the election of a new committee. My host Prof. Alfredo Perez Gonzalez was stepping down, and the elections resulted in a new president - Dr Daniel Baretino Fraile, of ITGE, the geological survey of Spain. Dr Ernesto Gallego Valcarce became the new secretary. Colleagues will recognise him as the author of a string of valuable contributions to the geoconservation literature.

I went to Madrid to have discussions on several topics, and these talks were extremely useful for the future of ProGEO in Iberia. One of the primary reasons for my visit, besides forging links with colleagues, was to discuss the outstanding invitation of Spanish friends to hold a full ProGEO meeting there. The proposal was made to convert this invitation, for one of the annual meetings of the association, into a full-blown international conference, on the lines of Digne and Rome. This proposal was supported by relevant government departments and ITGE. This open international conference in Spain in 1999 will be an ambitious exercise. I take this chance to thank Dr Baretino Fraile, and his predecessor Prof Perez Gonzalez, for their fortitude in suggesting and undertaking this enormous

task. I have volunteered the support and help of our executive committee and council in the on-going work of preparation and planning.

Their plan is to combine a geoconservation meeting with the large celebrations which will take place late in 1999 for the 150th anniversary of ITGE, the Spanish Geological Survey. The plans for the symposium have been studied and agreed by the executive committee, and the Council of ProGEO informed - therefore there will be a Symposium in November 1999 in Madrid, sponsored by ProGEO, the Spanish Geoconservation Commission, ITGE, government departments and IUGS. This is not a ProGEO annual council event (next council meeting 2000), but all council members (and any member) are of course encouraged to participate, as indeed is anyone interested in furthering the aims of the Spanish Commission and ProGEO. News of costs will be circulated as soon as possible. The organisers will in due course investigate provision of funds to cover travel and other costs for vital participants.

REMINDER: please put the following key dates in November 1999 in your diary.

Saturday 20 - Monday 22: Madrid - Pre-Symposium field trip (arrival back to Madrid in the evening 22) in the La Rioja-Soria-Atapuerca areas
Tuesday 23 - Thursday 25: Third International Symposium on the Conservation of the Geological heritage, Madrid (Closure at lunch time)
Thursday 25 - Saturday 27: Post-Symposium field trip in Aragon region (arrival at Madrid on the evening 27th)
Sunday 28 Departure day

Topics which have been suggested and are under consideration for workshops at the symposium are:

Planning and management in relation to geoconservation
Geological Heritage in the framework of the integral management of natural values in protected areas
Inventory and cataloguing of Geological Heritage.
SW European experiences in geoconservation
Educational and interpretive activities
Geological Heritage and tourism
Legislation and International Conventions : the integration of Geological Heritage in nature conservation policy
IUGS/UNESCO Geosites Inventory project: experiences and progress.

Finally, Dr Baretino, Dr Gallego and other colleagues in Spain have in recent months been having discussions with the committee of ProGEO Italia over the formation of a southern European regional working group. So I can report not only progress in Iberia and that there is a vibrant and functional body furthering the conservation cause in Spain, including the promotion of an open international meeting in 1999, but also that there is a movement towards wider collaboration in the mediterranean under the ProGEO banner.

W.A.P Wimbledon Executive Secretary



Joining ProGEO

To join ProGEO, write to or e-mail to the Executive Secretary (address below). All that is required is a simple letter applying to join and some details (name and title, position, address, phone and fax) and, particularly, an e-mail address. (The Secretary will inform ProGEO's newsletter editor and Treasurer of your status as a new member). It is ProGEO's aim to form a working network of members and contacts in each country. If you have colleagues who you wish to join, please have them contact the secretary at the address below or by e-mail.

INFORMATION SOURCES

ProGEO NEWS (Editor Lars Erikstad, e-mail to: lars.erikstad@ninaosl.ninaniku.no)

ProGEO Web Homepage (www.sgu.se/progeo).

Please make the maximum use of these to spread news and information, to announce your activities under the ProGEO umbrella and to invite participation. They are intended to be used to inform ProGEO members and others of geoconservation activity in the countries, as well to spread news of cross-border collaboration.

FEES

There are two possible forms of membership of ProGEO: you may either pay membership as an ordinary member (fee 50DM), or as an institutional member (fee 300DM). If you represent a country committee, an official organisation or an institution as their delegate to ProGEO, so to speak, then it is expected that you will pay the full institutional membership.

(Members from former Soviet countries are currently exempted from payment, but may pay full or part subscriptions if they wish)

BANK DETAILS

Pay your membership fees to : Bank: Deutsche Bank Hamburg Bank code: 200 700 00 Account: 63 14 918

(Enquiries concerning the bank account should be directed to the Treasurer, Dr Alf Grube - e-mail to: grube@tu-harburg.de)

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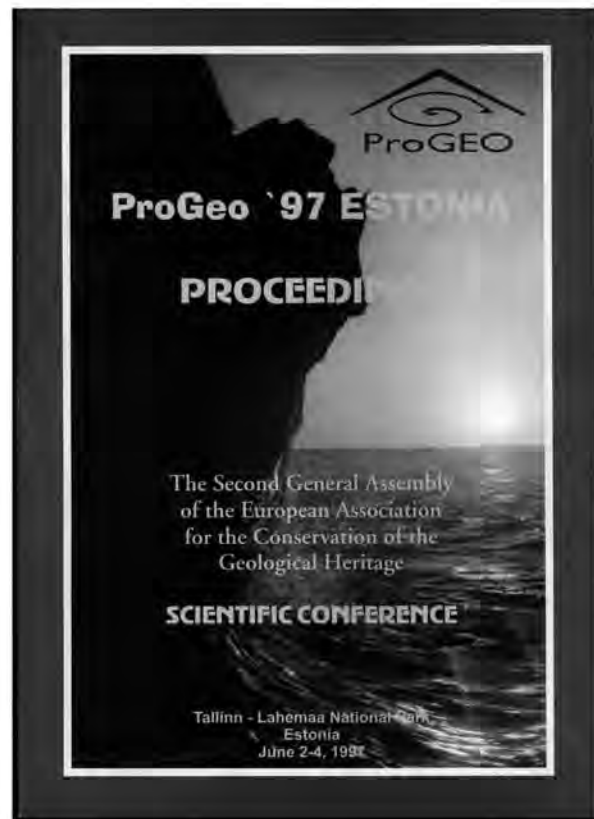
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Estonia 97

ProGEO '97 - Proceedings and evaluation

On ProGEO '98 in Bulgaria, Rein Raudsep was able to present Proceedings volume for ProGEO '97. The publication gives a good impression. An inquiry on ProGEO '97 resulted in very high marks - "very good" or "excellent" as answers to most questions. It can be concluded that ProGEO '97 was successful and conveyed know-how to arrange conferences of this kind and to present papers.



NW Europe

Jonas Satkunas of Lithuania has been elected the new chairman for the NW Europe group of ProGEO.

The workshop planned in Lithuania this autumn will instead take place there in spring 1999.

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ProGEO: European Association for the Conservation of the Geological Heritage. **Bank-account:** Deutsche Bank Hamburg - bank code number: 200 700 00, account number: 63 14 918. **Membership subscription:** personal: 50 DM/yr., institutional: 300DM/yr. **President:** Dr. T. Todorov, Geological Institute of Bulgarian Academy of Sciences, George Borchov St. 24, Sofia 1113, Bulgaria. **Executive Secretary:** W.A.P. Wimbledon, Postgraduate Research Institute for Sedimentology University of Reading, Whiteknights, READING RG6 6AB, United Kingdom.

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