

IGCP Project 469: Variscan Terrestrial Biotas and Palaeoenvironments

NEWSLETTER NO. 3



Sofia Meeting, April 2004

The first full working meeting of IGCP 469 was held at the Geological Institute, Sofia, on the 21st-24th April 2004. Twelve delegates attended from Bulgaria, the Czech Republic, Poland, Romania, and the UK. The meeting consisted of four parts.

Workshops

On the first day (Wednesday 21st April), we held a series of informal workshops and discussion groups. One group dealt with the macrofloras of Dobrudzha Coalfield, which is the area in Bulgaria most relevant to IGCP 469. Prof. Yanaki Tenchov made available his extensive collection of plant fossils from here. Particular interest was shown in the cordaites, lycophytes and ferns, and several collaborative research projects were initiated on the taxonomy of these groups. Importantly, relevant specialists had the opportunity to take samples from these macrofloras for cuticle and palynological analysis.

Discussions were also held on the potential of diversity analysis of the macrofloral record. Preliminary studies in Central Bohemia, Upper Silesia, and Britain were reported on, and the problems of analysing such data and the different influences that can affect diversity curves discussed. Nevertheless, it was agreed that such work is of value and that it should be incorporated into IGCP 469.

The Palynological Workshop covered the methods and aims of the palynological analysis within IGCP 469. Dr Tatiana Dimitrova briefly summarised her work in Dobrudzha and southern Britain, in particular how she is attempting to translate the data into vegetational changes, using the evidence of *in situ* pollen and spores being discovered by colleagues such as Dr Jiří Bek. So far, the work in Dobrudzha has concentrated on the Makedonka and Krupen Formations (Bolsovia and lower Westphalian D), but will now be extended into the Gurkovo Formation (upper Westphalian D and Cantabrian). Dr Jana Drabkova reported that she planned to undertake similar work in Central Bohemia, based on the extensive palynological data already available from there.

Dr Cleal briefly talked about the importance of targeting particular palynological taxa for biostratigraphical analysis. As we now have a considerable understanding of which pollen/spores were produced by which plants, we can now try and integrate the biostratigraphical patterns observed in the palynological and macrofloral record. An example is the pollen *Vesicaspora*, which is known to have been produced by the callistophyte pteridosperm *Dicksonites*. This pollen is rarely abundant in the fossil record, but its first appearance can be correlated with the base of the important *D. plueckenetii* Biozone in the macrofloras.

On the Saturday morning, a Sedimentology Workshop discussed how to present the data in a coherent way in the different areas. It was agreed that it is impossible to present a complete sedimentological picture for all areas in the same way, due in particular to the differences in the types of data available (borehole, mine and surface-outcrop data). Nevertheless, there is a baseline set of critical data which should be capable of being presented uniformly. This would include basic lithostratigraphical data (also bio- and chronostratigraphical), basic facies-types, subsidence curves and coal petrography. Macrofloral diversity curves and pollen spectra could also be included. After some discussion, a standard form for collating these data was drafted-out, details of which are given later in this Newsletter.

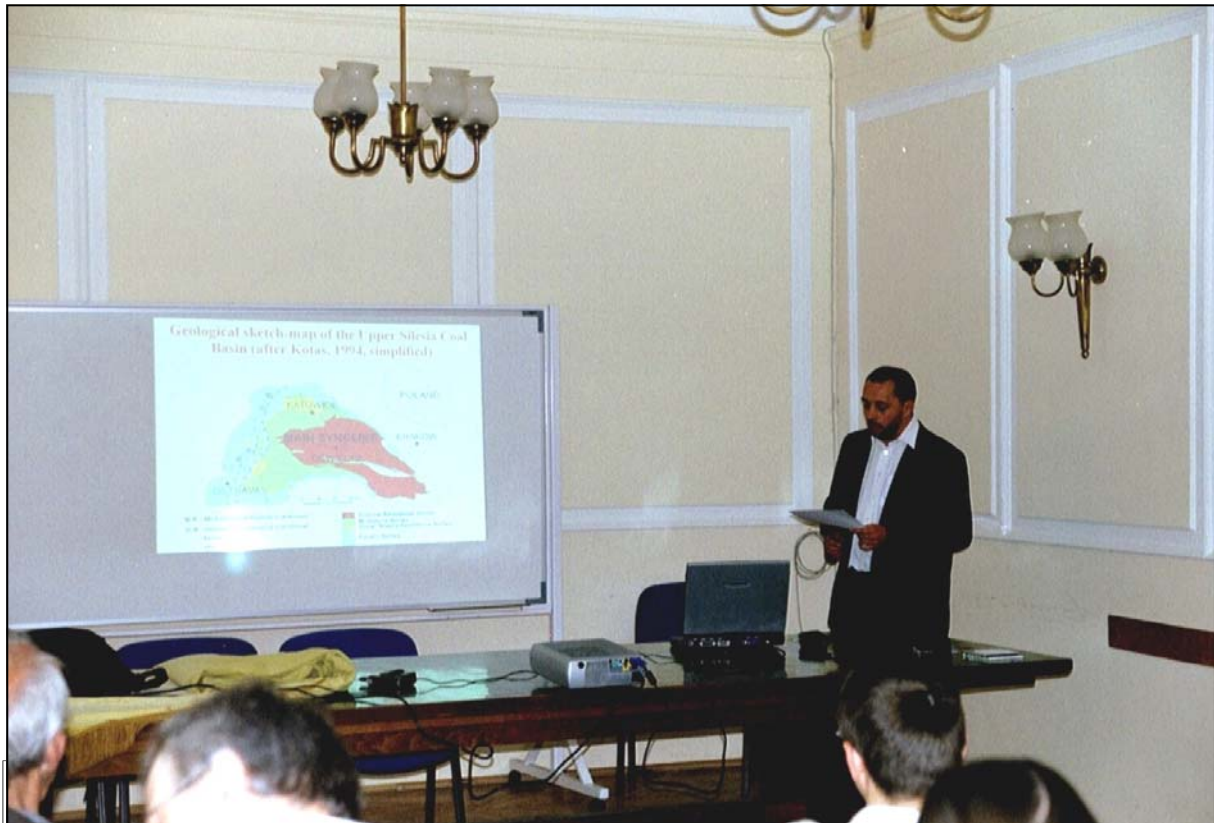
Excursion



‘Svoqe’ .. Delegates of the IGCP 469 Meeting, Sofia, examining *in situ* logs in sandstones, Svoqe Coalfield.

On the Thursday, we were taken on an excursion to view sites in the Balkan Mountains to the north of Sofia. This gave us the opportunity to examine the geology of the intramontane Svoqe basin, the upper parts of whose sequence is Bolsovian in age and so relates directly to IGCP 469. We also examined other aspects of the geology of the Stara Planina (Balkan) Mountains exposed along the Ishtar Gorge. The excursion was led by Dr Radoslav Nakov and Prof. Yanaki Tenchov of the Geological Institute, Bulgarian Academy of Sciences.

Presentations



Artur Kędzior giving his presentation at the IGCP 469 Meeting, Sofia (April 2004).
(Photo. J. Pšenička).

Friday was the day for presentations, reporting mainly on work on the late Variscan biotas and palaeoenvironments of eastern Europe (notably Bulgaria and Romania), but also including reports on activities in central Europe and Great Britain. Eleven presentations were given on the 23rd April:

- C. Cleal, 'IGCP 469: Introduction and progress report'
- Y. G. Tenchov, 'Dobrudzha Carboniferous Coal Field - sedimentation milieu and climatic factors'
- C. J. Cleal, 'Review of the late Westphalian – early Stephanian macrofloras of the Dobrudzha Coalfield, Bulgaria'
- T. Kh. Dimitrova, 'Microfloral biostratigraphy and vegetation change of the late Westphalian in the Dobrudzha Basin, NE Bulgaria'
- S. Opluštil, 'Tectono-sedimentary evolution of basins and floristic changes; how are they related?'
- M. Popa, 'The Late Carboniferous Coalfields of Romania'
- B. A. Thomas, 'The lycophytes of the Dobrudzha Coalfield'
- B. G. Evans, 'An introduction to the South Wales Pennant Formation'
- Z. Šimůnek, 'The Upper Westphalian flora of the Bohemian Massif (pteridosperms, cordaites and extrabasinal elements)'

M. Doktor & A. Kędzior, 'Distinguishing of lithofacies in sedimentological analysis of the coal-bearing deposits of the Upper Silesia Coal Basin'

E. Jarzembowski, 'Animal assemblages in the Late Westphalian coal swamps of southern England'

The text of these papers will be given in a special volume of the journal *Geologica Balcanica*, which should be published by the end of 2004. At the time of writing, the manuscripts of this paper are with the journal's editors.

Freiberg Meeting, October 2004

The arrangements for this meeting, which are being handled by Dr Olaf Elicki in Freiberg are now well in hand. All IGCP 469 members who are going to attend should by now have registered, and titles and abstracts of talks and posters should have been sent to Olaf. So far the following presentations have been offered for the IGCP part of the meeting.

J. Bek, 'Carboniferous sphenophyllalean spores and their parent plants'

C. J. Cleal, 'Species diversity in the Westphalian-aged macrofloras of the Central Pennines Basin, UK'

M. Doktor & A. Kędzior, 'Sedimentary environments and changes of peat-forming conditions during deposition of the Kraków Sandstone Series, Upper Silesia Coal Basin, Poland'

B. G. Evans, 'South Wales Coalfield Geopark'

E. Jarzembowski, 'Animal/animal interaction in the Late Carboniferous'

D. McLean, 'A review of late Westphalian palynological datasets from northwestern European basins'

M. Libertin, 'Autecology of *Calamites* preserved in tuff (Czech Republic, Bolsovian)'

M. Oliwkiewicz-Miklašinska, 'Record of plant communities in peat and surrounding areas on the base of palynological analysis (examples from coal-bearing succession in Upper Silesia Coal Basin)'

S. Opluštil, 'Lycophytes of the Late Palaeozoic continental basins of the Czech Republic'

M. Popa, 'Palaeozoic floras of the South Carpathians'

J. Pšenicka, 'Carboniferous ferns from the tuff horizon, Kladno Formation (Bolsovian), Czech Republic'

Z. Šimunek, 'Palaeobotanical Research in the Carboniferous and Permian horizons of the Boskovice Basin'

Y. Tenchov, 'The Mogilishte Formation of Dobrudzha Coal Field (Namurian C - Westphalian B, northeastern Bulgaria)'

B. A. Thomas, 'A re-examination of some Upper Carboniferous herbaceous lycophytes from Zwickau, Germany and the need for a new subgenus of *Selaginella*'

In addition, the following posters will be shown.

G. Cassinis, 'Westphalian sedimentary deposits between the Maggiore and Como lakes, Southern Alps: An overview'

T. Kh. Dimitrova & C. J. Cleal, 'Late Westphalian - early Stephanian palynofloras of South Wales, UK'

J. Drábková, 'The non peat forming palynological assemblages from some localities of the Westphalian D of the Bohemian Massiv'

Further details of the meeting can be found on its web site:

(<http://www.geo.tu-freiberg.de/palaeo/workshop/index.html>).

South Wales Meeting, April 2005

It was agreed in Sofia that the first meeting for 2005 should be held in South Wales, offering an opportunity to examine the wonderful exposures of late Westphalian – early Stephanian coal-bearing sequences. The meeting will be held on the 12th-16th April 2005, at the National Museums & Galleries of Wales in Cardiff. It is to be held in tandem with a meeting on *Welsh Geological Heritage*, being sponsored by the British Institute for Geological Conservation, National Museums & Galleries of Wales, Institute of Welsh Affairs, and the Countryside Council for Wales. Geoconservation is an integral part of IGCP 469 and, as South Wales has the best exposed successions through the part of the stratigraphical column that we are dealing with, this meeting is of direct relevance.

A preliminary programme for the meeting is as follows.

12th Meeting on the *Welsh Geological Heritage*.

13th Excursion, which will include visits to Westphalian sites, as well as a Silurian site.

14th Lecture day for IGCP 469.

15th Workshop

16th Excursion (Pennant sites and Radstock).

Further details will be made available in the next Newsletter. However, in order to help with bookings, we need provisional expressions of interest. So, if you plan to come to Cardiff for the April 2005 meeting, can you please let us know at: (Helen.Fraser@nmgw.ac.uk).

Bucharest Meeting, August 2005

The Department of Geology at Bucharest University has agreed to hold this meeting in August 2005. The plan is to have at least a five-day meeting: a one day symposium with presentations in Bucharest; and four days of fieldwork (which would have to include two days of travel between Bucharest and the South Carpathians). Mihai Popa has reported that the arrangements were in hand and details would be circulated at a later date.

Czech Republic, September 2006

The possibility is being discussed of holding a meeting here at about the same time as the European Conference on Palaeobotany and Palynology, in September 2006. It has been suggested that the meeting could be split between Prague and Plsen. There could be an opening workshop at the Geological Survey in Prague, followed by travel to Plsen, visiting sites on the way. A day of presentations would then take place at Plsen Museum, followed by a return journey to Prague, with further site visits. There would finally be a workshop at the National Museum in Prague. Stanislav Opluštil and Josef Pšenička are currently putting together detailed plans for this meeting.

Stratigraphical Pro-formas

One of the difficulties with comparing stratigraphical and palaeontological changes between coal basins is that geologists in different countries often have different ways of presenting their data. This problem was discussed during the Sofia Meeting. Yanaki Tenchov reported that an approach that had been successfully used during an earlier IGCP project with which he was involved was to develop a standard set of forms on which to

present the key data. After some discussion, it was agreed to try to develop such forms for IGCP 469. It is clear that such forms cannot deliver all of the detail that we will need to investigate, to get a full picture of the changes taking place in the environment at this time. However, by targeting the critical features, such forms should enable at least the initial comparisons to be made across the study area.

Two forms are to be used: one gives overall details of change through the Upper Carboniferous in each basin; the second gives more refined detail for the upper Westphalian and lower Stephanian. Drafts of these forms are included in this Newsletter, to allow those IGCP 469 members who were not present at Sofia to comment. Eventually, copies will be made available to project members in an electronic format.

Even within the context of forms such as these, it is important that the data are prepared in the same way. In the next Newsletter, we intend to present proposals for developing a standard set of symbols and how to use them. This can then be the subject of discussion, through later editions of the Newsletter, and during the Freiberg meeting.



Delegates of the IGCP 469 Meeting, Sofia. Dinner at the end of the meeting, held at the Bulgarian Academy of Sciences Hotel. (Photo. J. Pšenička).

Coal Petrography			
Macrofloral Diversity Curve			
Palynological Spectra			
Subsidence Curve			
Principal Coals			
Lithologies			
Litho-stratigraphy			
Stages	Cantabrian	'Westphalian D'	Bolsovian

Series	Stages	Litho-stratigraphy	Lithologies	Important Horizons (e.g. marine bands, tonsteins)	Thicknesses (m)	Sedimentary Environments	Subsidence Curves	Coal Petrography
Stephanian	'Stephanian C'							
	'Stephanian B'							
	Barruelian							
	Cantabrian							
Westphalian	'Westphalian D'							
	Bolsovian							
	Duckmantian							
	Langsettian							
	Yeadonian							
	Marsdenian							
Namurian	Kinderscoutian							
	Alportian/ Chokierian							
	Arnsbergian							
	Pendleian							

Some more photographs



View across the Ishtar Gorge from near the village of Tservo. Excursion as part of IGCP 469 Meeting, Sofia.



*'Stephanian'
Delegates of the IGCP 469 Meeting, Sofia,
at a Stephanian red-bed locality near the
Ishtar Gorge. (Photo. J. Pšenička).*

*Yanaki Tenchov and Mihai Popa
at outcrop in Svoge coalfield*

