



## 2012 Meeting Report Form Re: UNESCO-IUGS Contract and IUGS Supplementary Contribution

*IGCP 575: Pennsylvanian terrestrial habitats and biotas of  
southeastern Euramerica*

Send to IUGS  
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by 31/12/2010

### MEETING:

Date: 18th-20th September 2012

Place: Lugansk, Ukraine

Itinerary: Upper Pennsylvanian sites in the eastern Donets Basin, in the vicinity of the Lugan River.

### SCOPE AND RESULTS OF MEETING:

#### Scope of Meeting

This was the third annual meeting of IGCP 575 and was intended to examine the Middle and Upper Pennsylvanian sequences in the Donets Basin. This basin is the easternmost area covered in this project, and has a rather different, paralic succession with alternating marine limestones and coal-bearing terrestrial deposits. There are many natural outcrops in the deep ravines formed by the spring melt waters (all dry during the summer and autumn months) and these allowed the sequences to be studied and samples collected. In view of the long distance that most delegates had to travel to get to Lugansk, it was agreed that this should be a field meeting, with presentations and reports given in the evening after dinner.

There were 19 delegates present from 10 countries. The meeting was led by Dr Natalya Boyarina, Dr Vladislav Poletaev and Prof. A. K. Shchegolev (Institute of Geological Sciences, Ukraine). Also present were Dr Vedat Didari (Karaelmas University, Zonguldak, Turkey), Dr Hülya Inaner (Izmir University, Turkey), Dr Chris Cleal (National Museum Wales, UK), Dr Sally Young (Natural History Museum, London, UK), Dr Isabel van Waveren (Naturalis, Leiden, the Netherlands), Dr Ausonio Ronchi (University of Pavia, Italy), Dr Stanislav Opluštil (Charles University, Prague, Czech Rep.), Dr Zbynek Šimůnek (Czech Geological Survey, Prague), Dr Josef Pšenička, J. Bureš and I. Hradská (West Bohemian Museum, Pilsen, Czech Republic), Dr Mihai Popa (Bucharest University, Romania), Dr Ellen Stolle (EP Research, Ennigerloh-Westkirchen, Germany), Dr Tea Kolar-Jurkovsek (Geological Survey of Slovenia, Ljubljana) and Prof. Jasenka Sremac and Ms Jelena Španiček (University of Zagreb, Croatia).

In addition to the IGCP grant received from UNESCO, financial support for the meeting was received from the Palaeontological Association.

#### Achievements of Meeting

Day 1: At the start of the morning, Dr V. Poletaev gave a brief introduction to the Middle and Upper Pennsylvanian geology of the eastern part of the Donets Basin. Delegates then visited the southern side of the Lugan River, where upper Moscovian strata between limestones N<sub>1</sub> and N<sub>4</sub> were exposed in deep ravines. Several of the major limestones were examined and their characteristic features that allow each to be identified were studied. The coal-bearing terrestrial part of the sequence was less well exposed, but at several points had been excavated for the meeting by Ukrainian colleagues. These allowed macrofloral and

palynological samples to be taken. In the afternoon, nearby outcrops of Kasimovian strata were examined, associated with limestones O<sub>4</sub> and O<sub>5</sub>. The limestones were again well exposed. The terrestrial part of this sequence was seen to be in marked contrast to that in the Moscovian Stage, with much fewer and thinner coals, probably indicating climatic change. Palynological samples were taken, but macrofloras were poor and rare.

In the evening, after dinner, a brief Business Meeting was held. C. Cleal gave a brief report on progress of the project in the different areas being studied. He reported on the special volume of papers arising from the Zonguldak and Zagreb meetings, which was scheduled to be published in *Geologica Croatica* towards the end of 2012. It was agreed to produce a second set of papers after the present (Lugansk) meeting and Dr Pšenička suggested they be submitted to the *Bulletin of Geosciences*, of which he is an editor. It was agreed to hold the 2013 meeting in Italy and Dr Ronchi agreed to make the arrangements together with Dr Kustatcher, who unfortunately was unable to attend the Lugansk meeting. The 2013 meeting would be held either in Sardinia or the Alps.

The following oral presentations were then given:

N. Boyarina & A. Shchsegolev, "Stephanian and Autunian floras and vegetation of the Donets Basin, Ukraine"

J. Pšenička, "Plant fossils from the Val Sanagara locality (Italy)"

Also, two posters were "presented":

J. Bureš & N. Udovitscenko, "Diversity of the silicified woods from the uppermost Pennsylvanian (Gzhelian) of the Pilsen basin (Czech Republic) and the Donetsk Basin (Ukraine)"

I. Hradská, "New records of trigonocarpid arachnids from West Bohemia, Czech Republic"

Day 2: On the morning of the second day, we returned to the Lugan River area to examine higher parts of the Kasimovian Stage and the lower Gzhelian Stage, between the limestones O<sub>4</sub>-O<sub>5</sub> and P<sub>5</sub>. Limestones were again the most prominently exposed strata, including a major bioherm that formed a feature along a ridge. The terrestrial parts of the succession were nevertheless visible in exposures that had been excavated for the meeting, including some that yielded limited macrofloras.

We then visited the Gzhelian site near Luganskoe village near the Lugan River Reservoir where terrestrial deposits are exposed between limestones P<sub>5</sub> and P<sub>6</sub>. This interval had yielded abundant peltasperms that had been the subject of a 2010 paper by N. Boyarina. Excavations made for the meeting allowed floras to be collected from several levels. Palynological samples were also taken.

In the afternoon, we then moved down-section, on to an abandoned quarry near the village of Ilyria that had been worked for coal C<sub>2</sub><sup>3</sup>H of Bashkirian age that showed the coal seam, the thick seat earth and some roof. The seat earth yielded a restricted flora including *Stigmara* rhizophores and *Laveineopteris* pinnae.

In the evening, after dinner, we heard another set of presentations:

S. Opluštil & M. Schmitz, "Preliminary report on new radiometric ages from the continental basins in the Bohemian Massif, Czech Republic"

M. E. Popa & C. J. Cleal, "The Carboniferous flora of Cucuiova, Sirinia Basin, Romania"

Ç. Yilmaz, "Typical sporoporphs of Westphalian C in Amasra-Bartın Coal Basin, Turkey" [in the absence of the author, this paper was read by V. Didari]

H. İnaner, "Geoconservation courses in Geological Engineering Department in Engineering Faculty of Dokuz Eylul University"

In addition, a poster was presented by E. Stolle, entitled "The Carboniferous from the eastern Taurus range (Turkey, peri-Gondwana) in relation to Euramerica – results from palynology."

Day 3: On the morning of final day we returned to the area near Ilyria village, where there was a spoil tip from a disused coal mine that yielded an abundant upper Bashkirian macroflora, including abundant *Laveineopteris*, *Linopteris*, and sphenophyte and lycophyte remains.

In the afternoon we returned to the Lugan River Reservoir area, where we examined the middle part of the Gzhelian Stage, which are contemporaneous with the Stephanian – Autunian boundary zone in the western European sequences. Alternating marine limestone and terrestrial clastic deposits were again visible, but towards the top of the succession the terrestrial deposits showed a clear transition to yellow and the red clastics, providing clear evidence of increasingly arid conditions. We also visited a locality that yielded abundant silicified wood, also indicative of better drained and more arid conditions.

The meeting culminated on the final evening in a dinner for all delegates, where thanks were given to our Ukrainian colleagues. However, as most delegates had to catch a very early flight for Kiev the following morning, the dinner ended relatively early.

#### Outcome of Meeting

1. An improved understanding of the changing terrestrial habitats and biotas from late Bashkirian through to Gzhelian times in the Donets Basin.
2. Extensive collections of macrofloras, notably from the upper Bashkirian, upper Moscovian and middle Gzhelian stages.
3. Palynological samples, notably from the Moscovian, upper Kasimovian and lower Gzhelian stages.
4. New data on the Pennsylvanian macrofloras from Ukraine, Italy, Czech Republic and Romania, including silicified wood.
5. New data on arachnids from Czech Republic.
6. A preliminary report on the new project in West and Central Bohemia, including a revised radiometric chronology.
7. Preliminary plans for developing a geoconservation project in the Zonguldak – Amasra Coalfield (northern Turkey).
8. A series of paper which will form the basis of a thematic volume in the *Bulletin of Geosciences*.



24 Sept 2012