

**CZECH IGCP NATIONAL COMMITTEE**

***COMPREHENSIVE ANNUAL REPORT***

**Prague 2006**



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*Signed by Dr. Jan Pasava, Chairman*

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## 2. Members of the Czech IGCP National Committee:

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## 3. Number and title of projects in which the Czech Republic has participated:

### *A/ Projects with project leaders from the Czech Republic:*

#### **Project 469**

##### **Variscan terrestrial Biotas and Palaeoenvironments**

Project leaders: C.J. Cleal (United Kingdom), S. Oplustil (Czech Republic),

Y. Tenchov (Bulgaria), E. Zodrow (Canada)

Czech Representative: S. Oplustil (oplustil [-- @ -- ] natur.cuni.cz )

#### *Activities in 2006:*

##### *Macrofloras*

The Total Species Richness analysis has been applied to Central Bohemia and Intra-Sudetic Basins (Oplustil, Psenicka, Libertin, Simunek – data presented at Prague meeting and paper being written).

A number of analytical approaches have been tested to identify palaeofloristic variation across Variscan Euramerica. Czech participants together with others from abroad collated and analysed the data for specific taxonomic groups, or for particular floristic comparisons:

- Marattialean & Tedelacean ferns (Psenicka and Bek – data being collated and preliminary analysis presented at Prague meeting, September 2006)
- Cordaites (Simunek – data being collated)
- Lycophytes (Oplustil and Bek – data being collated, one paper published and a second in press)

##### *Palynology*

J. Bek as a member of a Working Group of the active palynologists in the project he participated in establishment of the best protocol for collating palynological data. Various projects to identify vegetation changes in the palynological record are currently active.

- Pilsen and Intra-Sudetic Basins (Bek – data collated and paper presented at Kraków)
- Upper Silesia (Oliwkiewicz-Miklasińska, Bek – data collated and paper presented at Prague)

##### *Faunas*

J. Prokop in cooperation with other colleagues of the Fauna Working Group collated the entomological data from Central Bohemia

### *Sedimentology*

Oplustil in conjunction with Kędzior, and Paszkowski (Poland) are collating the data from the various study areas. Oplustil and Cleal have submitted paper (now in press) presenting a preliminary synthesis of the published data.

### *List of meetings with approximate attendance and number of countries*

Two IGCP 469 meetings were held during 2006.

1. Kraków, Poland (May). There were 6 delegates from the Czech Republic (J. Bek, M. Libertin, S. Oplustil, J. Prokop, J. Psenicka, Z. Simunek)
2. Prague, Czech Republic (September). This was a day symposium held during the 7<sup>th</sup> European Palaeobotany-Palynology Conference. There were again 6 delegates (J. Bek, J. Drabkova, M. Libertin, S. Oplustil, J. Psenicka, Z. Simunek)

### ***List of Publications:***

Bek, J. & Oplustil, S. 2006. Six rare *Lepidostrobus* species from the Pennsylvanian of the Czech Republic and their bearing on the classification of lycosporae. *Review of Palaeobotany and Palynology*, **139**, 211-226.

Oplustil, S. & Cleal, C.J., in press. A comparative analysis of some Late Carboniferous basins of Variscan Europe. *Geological Magazine*.

Prokop, J. & Nel, A. 2006. An enigmatic Palaeozoic stem-group: Paoliida, designation of new taxa from the Upper Carboniferous of the Czech Republic (Insecta: Paoliidae, Katerinkidae fam. n.). *African Invertebrates* **47**, 10 pp.

Prokop, J., Smith, R., Jarzembowski, E. & Nel, A. 2006. New homiopterids from the Late Carboniferous of England (Insecta: Palaeodictyoptera). *Comptes Rendu Palevol*, **5**, 867-873.

Simunek, Z. 2006. *Discinities* cf. *jongmansii* Hirmer from the Carboniferous of the Intrasudetic Basin (Czech Republic). *Acta Universitatis Carolinae - Geologica*, **47**, 161-164.

Simunek, Z. & Libertin, M. 2006. *Cordaites schatzlarensis* sp. nov. and *Samaropsis newberryi* (Andrews) Seward from the Westphalian (Carboniferous) of the Zacler area (Czech Republic). *Review of Palaeobotany and Palynology*, **138**, 43-63.

Zodrow, E. L., Simunek, Z., Cleal, C. J., Bek, J. & Psenicka, J. 2006. Taxonomic revision of the Palaeozoic marattialean fern *Acitheca*. *Review of Palaeobotany and Palynology*, **138**, 239-280.

### ***Planned activities in 2007:***

#### *General goals*

During the next full year of the project, the aim will be to:

1. Complete macrofloral and faunal inventory-work on certain outstanding areas, notably in central and western Bohemian basins and in the Intra Sudetic Basin.
2. Collate that palaeobiotic data and initiate palaeobiogeographical and diversity analyses
3. Collate palynological data from different basins to determine patterns of vegetation change
4. Integrate available sedimentological data and undertake comparative analysis

#### *Meetings and field trips related to IGCP 469*

Two meetings will be held during the year.

1. Birmingham, UK – April 2007. This will include excursions to look at late Westphalian sequences in northern England and the English Midlands.
2. Leiden, the Netherlands – September 2007. This will include an opportunity to examine the extensive collections at the *Naturalis* Museum at Leiden.

## **Project 497**

### **The Rheic Ocean: Its Origin, Evolution and Correlatives**

Project Leaders: U. Linnemann (Germany), R. D. Nance (USA), M. de Wit (South Africa), E. Bozkurt (Turkey), P. Kraft (Czech Republic), F. Pereira (Portugal), R. A. Strachan (UK)  
Czech Representative: P. Kraft (kraft [-- @ -- ] natur.cuni.cz )

#### ***Activities in 2006:***

The project designed for better understanding the origin and evolution of the Rheic Ocean continued with planned events in 2006. The research in the Czech Republic focused on geological and palaeobiological aspects of the Rheic Ocean's margin in the region of the Bohemian Massif. A study of the Tepla-Barrandian unit history as a direct response to the opening and closure of the Rheic Ocean is under progress. New ideas on further units arose from the viewpoint of complex history of the Gondwanan margin. They involved other collaborators of the project and will be in focus next years. Correlation of fossils from the different zones of the ocean's margin continued together with Museum of Mineralogy and Geology (U. Linnemann). Major activities are included into projects supported by national grant agencies.

The final editorial steps to the the GSA-Volume "The Evolution of the Rheic Ocean: From Avalonian-Cadomian active margin to Alleghenian-Variscan collision (Eds. Ulf Linnemann, Damian Nance, Petr Kraft, Gernold Zulauf) were done and all 29 papers were accepted formerly by editor-in-Chief of the GSA-Books. The book will be printed in 2007.

#### ***Planned activities in 2007:***

Planned international meetings for 2007:

- 1) Conference (Joint meeting of IGCP 485 and IGCP 497) and field trip in El Jadida, Morocco (AntiAtlas) (IGCP 485-board: Jean-Paul Liegeois & Nasser Ennih, responsibility for IGCP 497: Francisco Pereira, Scott Samson, Richard D'Lemos, Mohsine Aghzer, Mohamed El Houicha)
- 2) Field trip "The rootless Variscan suture of NW Iberia (Galicia)" in NW-Spain (responsibility: Ricardo Arenas, Jose Ramon Martinez Catalan, Jacobo Abati).

## ***B/ Projects with active working groups in the Czech Republic:***

### **Project 463**

#### **Upper Cretaceous Marine Red Beds**

Project Leaders: C. Wang, M. Sarti, R.W. Scott and L.F. Jansa  
Czech Representative: P. Skupien (petr.skupien [-- @ -- ] vsb.cz)

The objective of the project is to establish the causes of major change in the world ocean basins from deposition of organic carbon-enriched sediments to oxic, red beds.

Institutions co-operating in project IGCP No. 463: Institute of Geological Engineering, VSB - Technical University Ostrava (Petr Skupien, Zdenek Vasicek, Dalibor Matysek), Czech Geological Survey (Miroslav Bubik, Lilian Svabenicka), Institute of Geology, Academy of Sciences of the Czech Republic (Radek Mikulas).

#### ***Activities in 2006:***

In 2006 research focused on the organic (microfossil) content, integrated stratigraphy (foraminifera, dinoflagellates, calcareous nannofossils), ichnological analysis, geochemistry and clay minerals of the oceanic red beds in the Outer Western Carpathians (Moravia, Czech Republic). Our works are supported by obtaining of grant funded by Czech Science Foundation. In the Silesian Unit of the basinal setting the complete section (about 1000 m thick section)

across the Upper Cretaceous was documented at Bystry potok in the Moravskoslezské Bekydy Mts in 2005. The oceanic red beds are enclosed especially within the Mazak Formation of Upper Cenomanian to Turonian age. Four new sections through the variegated calcareous shales of Turonian age were documented in the slope setting of the Silesian unit. Geochemical study (phosphorus) has been conducted with cooperation with Y. Huang (Univ. of Geosciences, Beijing, China). Stratigraphic (especially foraminifera and dinoflagellates), ichnological and clay minerals data was obtained from small outcrops of red beds in the Magura Unit and correlate with Silesian assemblage. In the Bile Karpaty Unit, the CORB are most facially diverse indicating different paleoenvironmental settings varying from middle-slope marls, through lower-slope turbidite fan, to abyssal clays.

Foraminiferas of the Upper Cretaceous Red Beds in the California was studied. Section containing intercalations of red calcareous claystone in the Tibet was studied in cooperation with Dr. Xiumian Hu (China). Two sections in the Tibet were sampled for stratigraphic analysis.

Results were presented at the Final Workshop on Cretaceous Oceanic Red Beds in Beijing, China (September 3-5, 2006) and at the 5<sup>th</sup> Czech – Slovak Paleontological Symposium in Brno, Czech Republic (October 19-20, 2006). Ours achieved new data about stratigraphy and lithology from the continuous Bystry potok section (Silesian unit) was registered at the Database (coordinator Robert W. Scott, USA) of the Upper Cretaceous Red Bed.

#### ***List of Publications:***

- Bubik M. (2006): Cretaceous Oceanic Red Beds in the eastern Pacific province: Orchard Peak Section, California. - Abstr. Book Workshop Cretaceous Oceanic Red Beds: Palaeoclimate, Palaeoceanography and Ocean-Land Interaction (IGCP 463 and 494), 29, Beijing.
- Skupien P. (2006). Biostratigraphy and paleoenvironment of the Upper Cretaceous sediments according to dinoflagellates. - Abstr. Book Workshop Cretaceous Oceanic Red Beds: Palaeoclimate, Palaeoceanography and Ocean-Land Interaction (IGCP 463 and 494), 72-73, Beijing.
- Skupien P., Bubik M., Svabenicka L., Vasicek Z., Matysek D. (2006): Cretaceous Oceanic Red Beds in the Outer Flysch Carpathians of Czech Republic. - Abstr. Book Workshop Cretaceous Oceanic Red Beds: Palaeoclimate, Palaeoceanography and Ocean-Land Interaction (IGCP 463 and 494), 74-75, Beijing.
- Skupien, P., Bubik, M., Mikolas, R., Matysek, D., Vasicek, Z. (2006): Nova biostratigrafická a ichnologická pozorování z křídových sedimentů u Frenstatu pod Radhostem (New biostratigraphical and ichnological data from the Cretaceous sediments near Frenstat pod Radhostem). - Zpr. geol. výzk. v R. 2005, 48-50. Praha.
- Boorova D., Vasicek Z., Skupien P. (2006): Albské foraminifery ve vybrusech z nejvyšší části lhotského souvrství na profilu Bystry potok u Trojanovic (Albian foraminifera in the uppermost part of the Lhoty Formation on the Bystry potok near Trojanovice). - Scripta Fac. Sci. Nat. Univ. Masaryk. Brunensis, Vol. 33 – 34, Geology, 16-18. Brno.
- Skupien P., Bubik M., Svabenicka L., Mikulas R., Vasicek Z. (2006): Stratigrafie svrchnokřídových pestrých vrstev české části vnějších Západních Karpat (Stratigraphy of the Upper Cretaceous Red Beds in the Czech part of the Outer Western Carpathians). – Scripta Fac. Sci. Nat. Univ. Masaryk. Brunensis, Vol. 33 – 34, Geology, 75-77. Brno.
- Svabenicka L. (2006): Biostratigraphy and paleoenvironment of the „black shales“ and „red beds“ in the Tethyan foreland basins according to study of calcareous nannofossils. - Abstr. Book Workshop Cretaceous Oceanic Red Beds: Palaeoclimate, Palaeoceanography and Ocean-Land Interaction (IGCP 463 and 494), 77-79, Beijing.

#### ***Planned activities in 2007:***

Compilation of contribution about distribution of red beds in the Czech part of the Western Carpathians for the Final Volume of IGCP 463.

## **Project 471**

### **Evolution of Western Gondwana during the Late Palaeozoic**

Project leaders: C.O. Limarino and L.A. Buaotois

Czech Representative: R. Mikulas (mikulas [-- @ -- ] gli.cas.cz )

#### ***Summary of results:***

Radek Mikulas, Ondrej Babek, Tomas Lehotsky, Jan Zapletal

The up-to date database of collected samples of ichnofossils, which remain the main tool for understanding the biogenic and sedimentary processes of the eastern part of the Culm facies (Visean) in Moravia (Czech Republic) was completed. In this way, a firm background of the already published data and interpretations was erected.

#### ***List of Publications:***

*Lehotsky, T. (2006): Palacky University, Olomouc: Collection of Ilja Pek, Jan Zapletal and Tomas Lehotsky. In: Mikulas, R. /ed./, Trace fossils in the collections of the Czech Republic (wth emphasis on type material). A special publication for the Workshop on Ichnotaxonomy – III, Prague and Moravia, Czech Republic, September 2006. Institute of Geology, AS CR. Praha, pp. 48-124.*

## **Project 479**

### **Sustainable Use of Platinum Group Elements**

Project leaders: J. Mungall, M. Iljina, C. Ferreira-Filho

Czech Correspondent: I. Knesl (knesl [-- @ -- ] cgu.cz)

#### ***Activities in 2006:***

Our activities were focused on the study of PGE fractionation in ultrabasic rocks of the Svitavy anomaly, which belongs to one of prosperous localities for PGE mineralization in the Bohemian Massif. Czech correspondent took an active part in the IGCP 479 special session at the 12<sup>th</sup> Quadrennial IAGOD Symposium 2006 in Moscow (Russia).

#### ***List of Publications:***

Knesl I. (2006): Prosperous mafic and ultramafic bodies for PGE mineralization in the Bohemian massif. In: Cherkasov S. V. (editor): Understanding the genesis of ore deposits to meet the demands of the 21<sup>st</sup> century. Moscow. 34.

#### ***Planned activities in 2007:***

A more detailed geochemical and mineralogical study is planned on mineralized samples from Svitavy and samples from Kdyne ultrabasic body. The results will be presented at the 9<sup>th</sup> SGA Biennial Meeting (August 2007, Dublin, Ireland).

## **Project 486**

### **Au-Ag-Telluride-Selenide Deposits**

Project leaders: N.J. Cook (Norway), K.Kojonen (Finland)

Czech Representative: A. Vymazalova (anvym [-- @ -- ] cgu.cz )

#### ***Activities in 2006:***

The activities of the Czech working group were focused on experimental studies (Pd-Sn-Te and Pd-Pb-Te systems). Within Pd-Sn-Te system ternary phases were investigated (in terms of crystal structure). The system Pd-Pb-Te has not been studied so far. Therefore experimental works were focused on marginal binary phases and during the following year phase relation will be studied in the system at 400°C.

The results were presented at the 12<sup>th</sup> IAGOD Symposium held in Moscow (Russia) in August (21-24), 2006. A.Vymazalova also participated in the workshop within IGCP 486 working group that took place in IGEM (Moscow) and visited the Experimental Laboratory in Chernogolovka where we discussed further collaboration with Czech and Russian teams. During the following years of the project the Czech team will focus on experimental work of geologically important Te and Pd bearing synthetic systems and their applications to natural equivalents.

#### ***List of publications:***

Vymazalova, A., Drabek, M., (2006): Synthetic Kotulskite – Pd(Te,Sn) solid solution. In Cherkasov S.V. (ed) Understanding the genesis of ore deposits to meet the demands of the 21<sup>st</sup> century - 12<sup>th</sup> IAGOD Symposium, Alfa print. Moscow

### **Project 491**

#### **Middle Palaeozoic Vertebrate Biogeography, Palaeogeography and Climate**

**Project leaders: M. Zhu (P.R. China), G. Young (Australia)**

**Czech Representative: J. Zajic (zajic [-- @ -- ] gli.cas.cz )**

#### ***Activities in 2006:***

\* The old (19<sup>th</sup> century) Bohemian and Moravian collections were rediscovered and studied in the Naturhistorisches Museum Wien and in the Geologische Bundesanstalt, Wien. The most important is the Benda's collection of vertebrate remains (particularly actinopterygians and sharks) from Stephanian C of the Krkonose Piedmont Basin (Kyje, Zdar, and Plouznice localities) and collection from Rosice (the Boskovice Graben) with interesting actinopterygians.

\* Both the "Acanthodian web" ([www.gli.cas.cz/acanthodians](http://www.gli.cas.cz/acanthodians)) and the acanthodian PaleoTax (<http://www.paleotax.de>) world database are slowly filled with data.

\* The new extensive and wide-ranging list of all non-marine Permo-Carboniferous fauna of the Czech Republic (apart from the paralic Upper Silesian Basin) is prepared by Stanislav Stamberg and Jaroslav Zajic as a book.

\* Two oral communications were presented at the 7<sup>th</sup> Paleontological Conference (Czech – Slovak – Polish) in Brno:

Stamberg S. & Zajic J.: The Permo-Carboniferous fauna of the limnic basins of the Bohemian Massif – present state of our knowledge.

Zajic J.: The main fish communities of the limnic Permian and Carboniferous basins of the Czech Republic.

#### ***List of Publications:***

Stamberg S. (2006): Carboniferous-Permian actinopterygian fishes of the continental basins of the Bohemian Massif, Czech Republic: an overview. – In S. G. Lucas, G. Cassinis & J. W. Schneider (eds) Non-Marine Permian Biostratigraphy and Biochronology. - Geological Society, London, Special Publications, 265, 217–230.

Zajic J. (2006): The main fish communities of the limnic Permian and Carboniferous basins of the Czech Republic. – 7<sup>th</sup> Paleontological Conference, Extended abstracts, Scripta Facultatis Scientiarum Naturalium Universitatis Masarykianae Brunensis, Geology, 33-34 (2003-2004), 99-101. Brno.

Compilation of the database "Acanthodians of the World" will continue with help of the programme PaleoTax (<http://www.paleotax.de>). The acanthodian web page will be completed gradually. The book concerning the new

extensive and wide-ranging list of all non-marine Permo-Carboniferous fauna of the Czech Republic will be finished.

## **Project 499**

### **Evolution of Ecosystems and Climate in the Devonian**

Project Leaders: P. Königshof (Germany), J. Lazauskiene (Lithuania), E. Schindler (Germany), V. Wilde (Germany), N. Yalcin (Turkey)

Czech Correspondent: O. Fatka (fatka [-- @ -- ] natur.cuni.cz )

### **Activities in 2006:**

#### ***C.I.M.P. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting. Praha.***

A special session of the IGCP 499 “Devonian Land-Sea Interactions: Evolution of Ecosystems and Climate (DEVEC)” was organized at the C.I.M.P. 2006 General Meeting in Prague on September 5<sup>th</sup>. This session attended more than forty participants and it was chaired by leader of the IGCP 499 Dr. P. Königshof (Forschung-Institut Senckenberg, Frankfurt a. M.). At this session the following five contributions were presented and published in the Abstract volume of the C.I.M.P. meeting:

Brocke, R., Fatka, O. (2006): Devonian acritarch *Navifusa bacilla*: Morphological variability and method of opening. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting, 55-56. Praha.

Lakova I.: Biodiversity, stratigraphic and geographic distribution of Pridoli and Lochkovian acritarchs and prasinophyte algae from the Moesian Terrane, North Bulgaria. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting, 32-33. Praha.

Michaud J.R. & Strother P.K.: Studies on the Devonian/Carboniferous Acritarch Decline. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting, 37-38. Praha.

Wicander R., Le Herisse A., Dorning, K.J. & Mullins G.L.: Late Silurian to Earliest Devonian organic-walled phytoplankton biodiversity changes. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting, 62-63. Praha.

Wicander R., Clayton G., Troth I., Racey A. & Marshall J.E.A.: An Upper Devonian palynomorph assemblage from Bolivia. Palaeozoic palynology in space and time. C.I.M.P. 2006 General Meeting, 63-64. Praha.

For participants of the C.I.M.P. as well as for participants of the IGCP 499 Special session two excursions were organized, including two printed chapters in the excursion guide.

Fatka, O., Kraft, J., Kraft, P., Linnemann, U., Storch, P., Tonarova, P. (2006): A1 – Precambrian and Lower Palaeozoic of the Barrandian area. *In*: Fatka, O., Kvacek, J. (eds.): 7<sup>th</sup> European Palaeobotany-Palynology Conference. Excursions Guide Book, 25-34. Praha.

Fatka, O., Brocke, R., Chlupac, I., Jancarikova, I., Kriz, J., Moravek, R. (2006): A2 – Lower Palaeozoic of the Barrandian area. *In*: Fatka, O., Kvacek, J. (eds.): 7<sup>th</sup> European Palaeobotany-Palynology Conference. Excursions Guide Book, 35-46. Praha.

#### ***2<sup>nd</sup> International Palaeontological Congress. Beijing.***

Five participants from the Czech Geological Survey Prague, Academy of Science of the Czech Republic Prague and Charles University Prague presented the following three contributions to this IGCP at the 2<sup>nd</sup> International Palaeontological Congress. Beijing.

Budil, P., Horbinger, F.: Lower Devonian Dalmanitid trilobites of the Prague Basin (Czech Republic).

Berkyova, S., Fryda, J., Lukes, P.: The first evidence of unsuccessful predation on the Middle Palaeozoic plankton.



Slavik, L., Valenzuela-Rios, J.I.: Correlation of Pragian (Early Devonian) conodont successions from the Barrandian area (Czech Republic) and the Spanish Central Pyrenees.

*International Conodont Symposium ICOS, University of Leicester.*

L. Slavik (Academy of Science of Czech Republic Prague) presented two contributions to this IGCP at the International Conodont Symposium ICOS in Leicester:

Carls, P., Slavik, L., Valenzuela-Rios, J.I.: Late Ludlow and Pridoli guide conodonts in the Pozary section (Czech Republic) and their correlation.

Carls, P., Slavik, L., Valenzuela-Rios, J.I.: Lochkovian guide conodonts in the Pozary section (Czech Republic).

As a contribution to the IGCP 499 the following papers were published:

#### *Journals*

Brocke, R., Fatka, O., Wilde, V. (2006): Acritarchs and prasinophytes of the Silurian-Devonian GSSP (Klonk, Barrandian area, Czech Republic). *Bulletin of Geosciences*, 81 (1), 27-41 Praha.

#### *Abstracts*

Berkyova, S., Fryda, J., Lukes, P.: The first evidence of unsuccessful predation on the Middle Palaeozoic plankton. Abstracts of The Second International Palaeontological Congress, Beijing, China 2006 (Ed.: Qun Yang, Yongdong Wang, Elizabeth A. Weldon), 353.

Budil, P., Horbinger, F.: Lower Devonian Dalmanitid trilobites of the Prague Basin (Czech Republic). Abstracts of The Second International Palaeontological Congress, Beijing, China 2006 (Ed.: Qun Yang, Yongdong Wang, Elizabeth A. Weldon), 97-98.

Carls, P., Slavik, L., Valenzuela-Rios, J.I. (2006): Late Ludlow and Pridoli guide conodonts in the Pozary section (Czech Republic) and their correlation. *International Conodont Symposium ICOS, Abstract Book* (Ed.: Mark Purnell), 25. University of Leicester.

Carls, P., Slavik, L., Valenzuela-Rios, J.I. (2006): Lochkovian guide conodonts in the Pozary section (Czech Republic). *International Conodont Symposium ICOS, Abstract Book* (Ed.: Mark Purnell), 26. University of Leicester.

Slavik, L., Valenzuela-Rios, J.I. (2006): Correlation of Pragian (Early Devonian) conodont successions from the Barrandian area (Czech Republic) and the Spanish Central Pyrenees. Abstracts of The Second International Palaeontological Congress, Beijing, China 2006 (Ed.: Qun Yang, Yongdong Wang, Elizabeth A. Weldon), 367-368.

#### *Report on activities within the IGCP 499 in 2006 by Ladislav Slavik:*

Project of the Grant agency of the ASCR

In the beginning of the year 2006 has been launched a three-year project „Integrated biostratigraphy of the Lower Devonian of Central Bohemia matched against magnetic susceptibility and gamma-ray logs in outcrops“ (project code: B300130613).

Researchers involved: Ladislav Slavik, Jindrich Hladil, Leona Koptikova and Martin Chadima (all from the Institute of Geology, Academy of Sciences of the Czech Rep. (ASCR))

The purpose of the project is to fill substantial gaps in early Devonian stratigraphy of Central Bohemia with new biostratigraphical (conodont) data and to perform their detailed correlation with other faunal groups. Biostratigraphic data will be correlated with magnetic susceptibility (MS) and gamma-ray spectrometry (GRS) logs. The arrangement of these records into the main composite section of the Lower Devonian of the Barrandian area in combination with bio- and chemostratigraphic data, in terms of integrated stratigraphy, will strongly enhance the potential of the Barrandian area for interregional correlation purposes. The results of the project to be most welcomed on international scale are the long expected proposals for a novel revision of global early Devonian stratigraphy. Preliminary results were presented at international meetings.

## **Project 502**

### **Global comparison of volcanic-hosted massive sulphide districts: the controls on distribution and timing of VMS deposits.**

Project Leaders: R. Allen (Sweden), F. Tornos (Spain), J. Peter (Canada), N. Çagatay (Turkey)  
Czech Correspondent: J. Pasava (pasava [-- @ -- ] cgu.cz)

#### ***Activities in 2006:***

2006 was the third year of the project. This project aims to compare a number of the world's important VMS districts in order to define the key geological events that control the distribution and timing of high-value VMS deposits; and thereby develop new criteria for locating these ore deposits. Czech participants (Jan Pasava and Anna Vymazalova from the Czech Geological Survey) published first PGE data from major VHMS deposits of the Iberian Pyrite Belt in Spain and Portugal (Pasava et al. 2006). Another project jointly carried out with people from IFM-GEOMAR (Germany) was on the study of the PGE fractionation in seafloor hydrothermal systems on examples from mafic- and ultramafic-hosted hydrothermal fields at the slow-spreading Mid-Atlantic Ridge. The results were summarized in Pasava et al. (accepted).

Activities in 2007 will be mostly focused on a detailed study of selected base metal deposits in the IPB and on new targets in Polar Ural (Russia), Uzbekistan and the two only known high-temperature vent fields in the Indian Ocean (Kairei and Edmond vent).

#### ***List of publications:***

Pasava, J., Vymazalova, Tornos, F. (accepted): PGE distribution in massive sulfide deposits of the Iberian Pyrite Belt. *Mineralium Deposita*.

Pasava, J., Vymazalova, Petersen, S. (accepted): PGE fractionation in seafloor hydrothermal systems: examples from mafic- and ultramafic-hosted hydrothermal fields at the slow-spreading Mid-Atlantic Ridge. *Mineralium Deposita*.

## **Project 503**

### **Ordovician Palaeogeography and Palaeoclimate**

Project Leaders: T. Servais (France), D.A.T. Harper (Denmark), J. Li (China), A. Munnecke (Germany), W. Owen (U.K.), P.M. Sheehan (USA)  
Czech Representative: O. Fatka (fatka [-- @ -- ] natur.cuni.cz)

#### **Activities in 2006:**

##### ***2<sup>nd</sup> International Palaeontological Congress. Beijing.***

Two participants from Czech Geological Survey Prague and Charles University Prague presented the following two contributions to this IGCP at the 2<sup>nd</sup> International Palaeontological Congress. Beijing:

Fatka, O., Budil, P., Mergl, M.: Lower and Middle Ordovician trilobite communities of the Prague Basin (Barrandian area, Czech Republic).

Budil, P., Kraft, P., Kraft, J.: Trilobite fauna of the Sarka Formation (Middle Ordovician, Darriwillian), Prague Basin, Czech Republic.

##### ***“Palaeogeography and global correlation of Ordovician events“***

Three participants from the Academy of Science of Czech Republic Prague, Charles University Prague and University of West Bohemia Plzen presented the following two contributions to this IGCP at the “Palaeogeography and global correlation of Ordovician events“ in Novosibirsk.

- Kraft, P., Kraft, J.: Faunal responses to changes in the Prague Basin during Lower/Middle Ordovician.
- Mikulas, R., Dronov, A.V.: Trace fossils from the Upper Ordovician of St. Petersburg region, Russia.

*As contribution to the IGCP 503 the abstracts were printed:*

- Budil, P., Kraft, P., Kraft, J.: Trilobite fauna of the Sarka Formation (Middle Ordovician, Darriwillian), Prague Basin, Czech Republic. Abstracts of The Second International Palaeontological Congress, Beijing, China 2006 (Ed.: Qun Yang, Yongdong Wang, Elizabeth A. Weldon), 111.
- Fatka, O., Budil, P., Mergl, M.: Lower and Middle Ordovician trilobite communities of the Prague Basin (Barrandian area, Czech Republic). Abstracts of The Second International Palaeontological Congress, Beijing, China 2006 (Ed.: Qun Yang, Yongdong Wang, Elizabeth A. Weldon), 131-132.
- Kraft, P., Kraft, J.: Faunal responses to changes in the Prague Basin during Lower/Middle Ordovician. Abstracts "Palaeogeography and global correlation of Ordovician events" (Ed.: Sennikov, N.V., Kanygin, A.V., Obut, O.T., Kipriyanova, T.P.), 26-27.
- Mikulas, R., Dronov, A.V.: Trace fossils from the Upper ordovician of St. Petersburg region, Russia. Abstracts "Palaeogeography and global correlation of Ordovician events" (Ed.: Sennikov, N.V., Kanygin, A.V., Obut, O.T., Kipriyanova, T.P.), 37-38.

## **Project 510**

### **A-type granites and related rocks through time**

Project leaders: Roberto Dall'Agnol (Brazil), Carol D. Frost (USA), O. Tapani Rämö (Finland)

Czech representative: M.Rene (rene [-- @ -- ] irsm.cas.cz)

#### ***Activities in 2006:***

In 2006 was the Czech Working Group definitely constituted and some national scientific projects for support of project activities were prepared. According to partly limited institutional support of members of the Czech WG (Faculty of Science of the Charles University, Institute of Rock Structure and Mechanics of AS CR, Czech Geological Survey) some new studies of accessory minerals in highly fractionated granites were performed. These investigations were concentrated on selected accessory minerals (Fe-Ti-Nb oxides, zircon, monazite, xenotime, apatite) in highly evolved granites of the Moldanubian batholith and the Krusne Hory batholith. In the Melechov stock of the Moldanubian batholith investigation of chemical composition of monazite, xenotime, zircon and apatite was performed. For apatite from this area are highly significant abundant small inclusions of zircon, monazite and xenotime. In some of apatites from the Melechov stock was also found a tetrad effect in distribution of REE.

In phosphorus rich topaz-bearing granites of the Krudum granite body in the Krusne Hory batholith were found Ti- and W-enriched ferrocolumbites, Nb-rutiles and manganocolumbites were found. In phosphorus poor topaz-granites with significant A-signature of the Cinovec granite stock occurs Hf-enriched and partly also P-enriched zircon.

Combined study of geology, petrology, mineral chemistry, zircon morphology and whole-rock geochemistry indicate that the metavolcanic rocks in the Devonian Vrbno Group (Moravosilesian zone) apparently form two distinct volcanic provinces: (1) western with a most likely convergent geotectonic setting and (prevailing) submarine origin, and (2) eastern, at least partly subaeric, back-arc rift-related alkaline suite. The metavolcanites of the eastern suite show high contents of HFSE (Nb, Ta, Y, Zr) as well as high Ga/Al and Fe/Mg ratios, typical for within-plate, A-type igneous activity.

**List of publications:**

- Janousek V., Hanzl P., Aichler J., Pecina V., Erban V., Wilimsky D., Zacek V., Mixa P., Buriankova K., Pudilova M. and Chlupacova M. (2006): Contrasting petrogenesis of two volcanic suites in the Devonian Vrbno Group (Hruby Jesenik Mts., Czech Republic). *Geolines*, 20: 57-59.
- Harlov D., Prochazka V., Förster H.-J. (2006): Monazite-xenotime-zircon-fluorapatite associations in the Melechov granite massif, Czech Republic. – *Contr. Mineral. Petrol.* (submitted).
- Prochazka V., Matejka D. (2006): Rock forming accessory minerals in the granites of the Melechov massif (Moldanubian batholith, Bohemian Massif). – *Acta Univ. Carol., Geol.* (submitted).

**Activities planned in 2007**

Advancing study of accessory minerals in the Melechov granite body (Moldanubian batholith) and in topaz-bearing granites of the Krasne Hory batholith (Krasno, Vysoky Kamen, Cinovec). Crystallization experiments to constrain of the stability of rock-forming minerals in topaz-bearing granites and estimation of the role of fluorine (together with University of Hannover, F. Holtz, joint project of AS CR and DFG). Preparing of international research project to constrain of topaz-granites origin, together with University of Hannover and University Göttingen. Geochemical classification of topaz-bearing granites of the Saxothuringian zone.

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**4. IGCP meetings held in the Czech Republic in 2006**

none

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**5. IGCP meetings planned for 2007**

none

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**6. Other relevant information**

The recent election resulted in a new Czech IGCP National Committee: Ing. M. Eis (*Severoceske doly, a.s., Chomutov*), Dr. O. Fatka (*Faculty of Science, Charles University*), Dr. P. Havlicek (*Czech Geological Survey, Prague*), Dr. J. Hladil (*Geological Institute, Czech Academy of Sciences*), Dr. P. Kraft (*Faculty of Science, Charles University*), Dr. R. Mikulas (*Geological Institute, Czech Academy of Sciences*), Dr. S. Oplustil (*Faculty of Science, Charles University*), Dr. J. Pasava (*Czech Geological Survey, Prague*), Ing. P. Skupien (*Technical Univesity, Ostrava*), Dr. V. Sibrava (*emeritus - UNESCO*), Ing. P. Skoda (*Czech Commission for UNESCO*), Mgr. K. Verner (*Faculty of Science, Charles University / Czech Geological Survey*), Dr. A. Vymazalova (*Czech Geological Survey, Prague*), Dr. J. Zajic (*Geological Institute, Czech Academy of Sciences*)

In order to promote IGCP activities in the Czech Republic the Committee has also continued in seeking funds for the IGCP National Committee special foundation established in 1996. Generous donations, which enabled to offer 8 grants in the total amount of 104 000,- Czk was kindly provided by a major sponsor of the Czech IGCP National Committee:

*Severoceske doly, a.s. (SD a.s., Chomutov)*

*and also by*

*Ceske lupkove zavody, a.s. (Nove Straseci)*

*Ceska naftarska spolecnost s.r.o. (Hodonin)*

*GeoTec – GS, a.s. (Praha)*

The website address of the Czech IGCP National Committee is ***<http://www.gli.cas.cz/igcp/>***  
The Czech IGCP NC is actively involved in the preparation of IYPE activities onnational level.

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