

CZECH IGCP NATIONAL COMMITTEE

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COMPREHENSIVE ANNUAL REPORT 2015

Prague 2015



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2015

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Chairman Signature:

1. Czech IGCP National Committee (2015-2016)

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Secretary: Mgr. Andrea Svobodová (*Institute of Geology AS CR, v.v.i.*)

2. Members of the Czech IGCP National Committee (2015-2016)

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Mgr. Andrea Svobodová (*Institute of Geology AS CR, v.v.i.*)

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RNDr. Anna Vymazalová, Ph.D. (*Czech Geological Survey, Prague*)

RNDr. Jaroslav Zajíc, CSc. (*Institute of Geology AS CR, v.v.i., Prague*)

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

A/ Projects with project leaders from the Czech Republic

IGCP 575 – THE PENNSYLVANIAN TERRESTRIAL HABITATS AND BIOTAS IN

- **SOUTHEASTERN EUROPE AND NORTHERN ASIA MINOR AND THEIR RELATION TO TECTONICS AND CLIMATE**

Duration: 2010-2015

Project Leaders: C. J. Cleal (UK), **S. Opluštil (Czech Republic)**, I. van Waveren (Netherlands), M. E. Popa (Romania), B. A. Thomas (United Kingdom)

Czech Representative: S. Opluštil (oplustil@natur.cuni.cz)

B/ Projects with active working groups in the Czech Republic

- **IGCP 587 – IDENTITY, FACIES AND TIME – THE EDIACARAN (VENDIAN) PUZZLE**

Duration: 2010-2014

Project Leader: P. Vickers-Rich (Australia)

Czech Representatives: R. Mikuláš (mikulas@gli.cas.cz)

The main activities and results of the project in 2015:

The Neoproterozoic complex of the Barrandian area, including the presumably Ediacaran marine sediments, did not yield convincing finds of body fossils during the present research; possible MISS (microbially induced sedimentary structures) described from the possible Ediacaran of the Barrandian area need further evidence to be clearly demonstrated.

The team focused on possible Ediacaran-type taphonomic windows in the Cambrian of the Skryje area. The studied sequences contain undoubted microbially induced sedimentary structures but the previous reports on non-shelly fauna comparable to *Cyclomedusa* were not confirmed; instead, the proposed *Medusites* radiates was re-interpreted as a trace fossil.

The list of publications with dedication to the project:

R. Mikuláš and O. Fatka (in press): Ichnogenus *Astropolichnus* in the middle Cambrian of the Barrandian area, Czech Republic. *Ichnos*.

➤ **IGCP 591 – THE EARLY TO MIDDLE PALAEOZOIC REVOLUTION**

Duration: 2011-2016

Project Leaders: B.D. Cramer (USA), Ž. Žigaitė (Lithuania), T. R.A. Vanderbrouke (France), K. Histon (Italy), R. Zhan (China), G.L. Albanesi (Argentina), M.J. Melchin (Canada), M. Calner (Sweden)

Czech Representatives: Š. Manda (stepan.manda@geology.cz) and Z. Tasáryová (zuzana.tasaryova@geology.cz)

➤ **IGCP 596 – CLIMATE CHANGE AND BIODIVERSITY PATTERNS IN THE MID-PALEOZOIC**

Duration: 2011-2015

Project Leaders: P. Königshof (Germany), T.J. Suttner (Austria), I.A. Boncheva (Bulgaria), N.G. Izokh (Russian Federation), P. Ta Hoa (Vietnam), T. Charoentitirat (Thailand), J.A. Waters (USA), W. Kiessling (Germany)

Czech Representative: S. Vodrážková (stanislava.vodrazkova@geology.cz)

The main activities and results of the project in 2015:

Activities of the IGCP 596 working group were focused on the Lower and Middle Devonian environmental changes related to the Daleje, Basal Choteč and Kačák events and Devonian stratigraphy in general.

Cronier et al. (2015) studied pattern of variation in the number of eye lenses in the two Devonian trilobites from the Prague Basin. They suggest, among others, that the stress related to the Basal Choteč event was responsible for the observed bimodal selection and possibly also change of ontogenetic trajectory within *Pedinapariops insequens*, the only phacopid trilobite that survived the onset of the above mentioned event.

Tonarová et al. (accepted) studied a rich assemblage of Middle Devonian (late Eifelian) polychaete jaws (scolecodonts) from the Blankenheimerdorf section in the type Eifel area, Western Germany from the level of the global Kačák event. Their study documents one of the oldest records of kielanoprionids; a polychaete family common since the Middle Devonian. This may indicate that a prominent change in jawed polychaete evolution occurred during the Lower/Middle Devonian transition. They also present new important information on polychaete palaeobiogeography.

A large, comprehensive book "Planet Earth - In Deep Time" was accepted for publication, where 114 specialists, including members of the Czech working group, from more than 30 countries introduce key outcrop locations of Mid-Palaeozoic sediment occurrence worldwide. The locations were studied as part of the UNESCO/IUGS project to identify climate change and biodiversity patterns in the mid-Palaeozoic (Devonian and Carboniferous).

Valenzuela-Ríos et al. (2015) carried out detailed study of conodont sequences, between middle and upper Lochkovian carbonate successions from two key peri-Gondwanan regions,

the Spanish Central Pyrenees and the Prague Synform. Their research contributes to the international cooperative effort to subdivide the Devonian standard stages into globally recognised substages.

The list of publications in peer-reviewed journals with dedication to the project:

Crônier, C., Budil, P., Fatka, O., Laibl, L. (2015): Intraspecific bimodal variability in eye lenses of two Devonian trilobites. *Paleobiology* 41, 554-569.

Suttner, T.J., Kido, E., Königshof, P., Waters, J.A., Davis, L., & Messner, F. (eds): *Planet Earth - In Deep Time, Devonian & Carboniferous*, Palaeozoic Series 2016. 261 pp. Schweizerbart. ISBN 978-3-510-65335-5.

Tonarová, P., Hints, O., Königshof, P., Suttner, T. J., Kido, E., Da Silva, A., Pas, D. (accepted): A Middle Devonian jawed polychaete fauna from the type Eifel area, western Germany, and its biogeographical and evolutionary affinities. *Papers in Palaeontology*.

Valenzuela-Ríos, J.I., Slavík, L., Liao, J.-C., Calvo, H., Hušková, A. & Chadimová, L. (2015): The middle and upper Lochkovian (Lower Devonian) conodont successions in key peri-Gondwana localities (Spanish Central Pyrenees and Prague Synform) and their relevance for global correlations. *Terra Nova*, 27, 409–415. DOI: 10.1111/ter.12172

C/ Combined and planned projects

SIDA/UNESCO/IGCP Program “Environmental & Health Impacts of Abandoned Mines in Sub-Saharan African Countries” (2015- 2019)

Leader of the project is Theophilus Clavell Davis Mangosuthu, University of Technology, Durban; Head of the Scientific Committee: **Bohdan Kříbek**, Czech Geological Survey, Praha

The project is organized to understand: 1. How the mining activities and particularly abandoned mines negatively affect the ecosystem and the health of the neighboring communities; 2. What are the most appropriate rehabilitation technologies and remedial actions for contaminated sites; 3. How to promote a peaceful mining atmosphere through education and outreach.

The project is funded by the Swedish International Development Cooperation Agency (SIDA). The core participants of this project are built on UNESCO-IUGS International Geoscience Programme (IGCP), namely IGCP-594 and IGCP-606, but the network is growing rapidly. In 2015 the project was focused on the establishment of the organization network and selection and monitoring of individual topics in African countries. Based on the recommendation of the Scientific Committee of the project, over 20 sub-projects in many African countries (Namibia,

Burkina Faso, Cameroon, Mali, Nigeria, Senegal, Zimbabwe, South Africa, Cote d'Ivoire and Zambia) were selected to be funded in next years. Throughout the 2015 initial phases of individual projects were continuously monitored.

More information on the Project 606 can be obtained at:

<http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/earth-science-education-in-africa/earthscienceeducation02/>

In 2016, the evaluation of individual projects is scheduled for February 2016 within the IGCP/UNESCO Board meeting in Paris. Presentation of partial results of individual sub-projects and meeting of the scientific committee of the project is planned within the 35th Geological Congress in Cape Town, South Africa.

4. Sponsors of IGCP projects in the Czech Republic in 2015:



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