CZECH IGCP NATIONAL COMMITTEE

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COMPREHENSIVE ANNUAL REPORT 2018

Prague 2018

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2018

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Chairman Signature:

1. Czech IGCP National Committee (2017-2018)

Chairman: RNDr. Radek MIKULÁŠ, CSc., DSc. *(Institute of Geology of the Czech Academy of Sciences)*

Vice Chairman: Doc. RNDr. Stanislav OPLUŠTIL, Ph.D. (*Faculty of Science, Charles University, Prague*)

Secretary: Mgr. Andrea Svobodová, Ph.D. *(Institute of Geology of the Czech Academy of Sciences)*

2. Members of the Czech IGCP National Committee (2017-2018)

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

RNDr. Jaroslav Zajíc, CSc. *(Institute of Geology of the Czech Academy of Sciences, Prague)*

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

- **IGCP 637 – HERITAGE STONE DESIGNATION**

Duration: 2015-2019
Project Leader: Professor Dolores Pereira (Spain)
Czech Representatives: B. Dudíková Schulmannová (Barbora.dudikova@geology.cz)

The main activities and results of the project in 2018:
The main activity in 2018 consisted, as well as in 2017, in organizing of educational excursions for students and members of SGA (The Society for Geology Applied to Mineral Deposits) Student Chapter Prague. The excursions were focused on decorative stones and mineralogical deposits in the territory of the Czech Republic and Slovakia.
The field trips took place on 1. - 2. 11. 2018 and 11. - 14. 11. 2018. The course and visited localities during the excursions will be present in more detail in the next SGA NEWS journal.

- **IGCP 640 – S4LIDE (SIGNIFICANCE OF MODERN AND ANCIENT SUBMARINE SLOPE LANDSLIDES)**

Duration: 2015-2020
Project Leaders: Dr. Lorena Moscardelli (USA)
Czech Representative: J. Stemberk (stemberk@irsm.cas.cz)

The main activities and results of the project in 2018:
Main work in 2018 was focused on the maintenance of a monitoring network on a megalandslide on El Hierro Island, Canaries, Spain. Additionally, thanks to IGCP contribution, new TM-71 3D dilatometer was installed on a fault plane in the Teide National park, in the caldera of Pico de Teide. Radon flux monitoring continued in three galleries on the El Hierro island, where 9-month continuous data has been measured. Rock samples from the megalandslide detachment plane and its neighbourhood were analysed and characterised using microprobe, microstructural analysis and He dating. It has been proved, that the detachment plane has been active at least 2-3 times in the past, which is a new finding. This can have implications on the hazard assessment of local inhabitants. Slope stability modelling was prepared for the San Andrés deep seated landslide, which showed that it is stable in current conditions, but can be destabilised with an earthquake of intensity VII or greater. A situation, which already happened on the Canaries in the past. Fieldwork costs were covered by the Junior grant project of the Czech Science Foundation (GA16-12227Y).

- **IGCP 649 – DIAMONDS AND RECYCLED MANTLE**

Duration: 2015-2019
Project Leaders: J. Yang (China), Y. Dilek (USA), W.L. Griffin (Australia), P.T. Robinson (Canada), I. Milushi (Albania), M.M. Abu Anbar (Egypt)
Czech Representative: Jana Kotková (jana.kotkova@geology.cz)

No activities in 2018

- **IGCP 652 – READING GEOLOGIC TIME IN PALEOZOIC SEDIMENTARY ROCKS**

Duration: 2017-2021
Project Leader: Anne-Christine Da Silva (Belgium)
Czech Representative: S. Vodrážková (stanislava.vodrazkova@geology.cz)

The main activities and results of the project in 2018:

In 2018, following conference lectures related to the IGCP 652 project were carried out:

Weiner, T. (oral presentation)
19th Czech-Slovak-Polish Palaeontological conference, Prague (October 18-20. 10. 2018)

Weinerová, H. (oral presentation)
19th Czech-Slovak-Polish Palaeontological conference, Prague (October 18-20. 10. 2018)

Abstracts:

Weiner, T., Weinerová, H., Kalvoda, J. (2018). Calcareous algae, cyanobacteria, microproblematica and microbialites from the Fransian-Famennian boundary interval at the Šumbera Section, Moravian Karst, Czech Republic. Abstracts. 19th Czech-Slovak-Polish Palaeontological conference, Prague.

Weinerová H., Weiner, T., Žemlička, J., Viktorýn, T. (2018). New findings of Sarcopterygian fish from the Moravian Karst (Upper Devonian, Czech Republic). Abstracts. 19th Czech-Slovak-Polish Palaeontological conference, Prague.

References:

Da Silva, A.C.; Dekkers, M.J.; De Vleeschouwer, D.; Hladil, J.; Chadimova, L.; Slavík, L. and Hilgen, F.J. (in press): Devonian greenhouse millennial cycles manifest Hallsatt solar cycle and Milankovitch combination tones. Geology.

Kalvoda, J., Kumpan, T., Holá, M., Bábek, O., Kanický, V., Škoda, R., 2018. Fine-scale LA-ICP-MS study of redox oscillations and REEY cycling during the latest Devonian Hangenberg Crisis (Moravian Karst, Czech Republic). Palaeogeography, Palaeoclimatology, Palaeoecology 493, 30-43. doi:10.1016/j.palaeo.2017.12.034.

Kumpan, T., Kalvoda, J., Bábek, O., Holá, M., Kanický, V., (in press):
Tracing paleoredox conditions across the Devonian-Carboniferous boundary event: a case study from carbonate-dominated settings of Belgium, the Czech Republic, and northern France. Sedimentary Geology.

Vacek, F., Slavík, L., Sobien, K. & Čáp, P. (in press): Refining the late Silurian sea-level history of the Prague Syncline – a case study based on the Přídolí GSSP (Czech Republic). Facies (2018 64:30).

Vodrážková, S., Vodrážka, R., Munnecke, A., Franců, J., Al-Bassam, K., Halodová, P. ,Tonarová, P. (in press): Microbially-induced wrinkle structures in Middle Devonian siliciclastics from the Prague Basin, Czech Republic. – Lethaia, ISSN 0024-1164. DOI 10.1111/let.12280

Weiner, T., Kalvoda, J., Kumpan, T., Schindler, E., Šimíček, D., 2017. An Integrated Stratigraphy of the Frasnian-Famennian Boundary Interval (Late Devonian) in the Moravian Karst (Czech Republic) and Kellerwald (Germany). Bulletin of Geosciences 92, 2, 257-281. doi:10.3140/bull.geosci.1636.

- **IGCP 653 – THE ONSET OF THE GREAT ORDOVICIAN BIODIVERSIFICATION EVENT**

Duration: 2016-2020
Project Leader: Thomas Servais (France)
Czech Representative: O. Fatka (fatka@natur.cuni.cz)

The main activities and results of the project in 2018:

Visit at the University of Leicester (Student V. Kovář, interested in "Small Carbonaceous Fossils" in Cambrian and Ordovician)

In 2018, following conference lectures related to the IGCP 653 project were carried out:

Kraft, P. (oral presentation)
International Geoscience Programme Project 653, The onset of the Great Ordovician Biodiversi-cation Event, Third Annual Meeting, Trekking Across the GOBE, From the Cambrian through the Katian, Athens, Ohio (June 3-7, 2018).
Laibl, L. (oral presentation)
IGCP 653 - Morocco 2018: Workshop and Fezouata field excursion, University Cadi Ayyad Marakeš (February 12-16, 2018).
Fatka, O., Budil, P., Laibl, L., Nohejlová, M. (oral presentations)
5th International Palaeontological Congress, Paris (July 9-13, 2018)
Fatka, O., Budil, P. (oral presentations)
19th Czech-Slovak-Polish Palaeontological conference, Prague (October 18-20. 10. 2018)

Mikuláš, R. (oral presentation)
Workshop on Ichnotaxonomy-6, Wilhelmshaven, September 2-8, 2018

Abstracts

Budil, P., Fatka, O., Laibl, L., Nohejlová, M., Polechová, M. (2018) Libeň and Letná formations Lagerstätten (Sandbian, Prague Basin, Barrandian area): State of art and perspectives. Abstracts. 5th International Palaeontological Congress, Paris, p. 478.

Budil, P., Fatka, O., Laibl, L., Nohejlová, M., Polechová, M. (2018) Libeň and Letná formations Lagerstätten (Sandbian, Prague Basin, Barrandian area): State of art and perspectives. 19th Czech-Slovak-Polish Palaeontological conference, Prague.

Fatka, O, Budil, P., Laibl, L. (2018) Possible Shell Disease Syndrome in late holaspid Ordovician trilobites. Abstracts. 5th International Palaeontological Congress, Paris, p. 517.

Fatka, O, Budil, P., Laibl, L. (2018) Possible Shell Disease Syndrome in two Ordovician trilobites. Abstracts. 19th Czech-Slovak-Polish Palaeontological conference, Prague.

Kraft, P., Bruthansová, J., Mikuláš, R., Zicha, O., Mergl, M. (2018) Shells as a tiering boundary and a substrate for colonization in the initial stages of the Prague Basin, Czech Republic (Tremadocian to early Darriwilian). In: Stigall, A.L., Hembree, D.I., Freeman, R.L. (eds), The onset of the Great Ordovician Biodiversification Event. Third Annual Meeting. Trekking Across the GOBE. From the Cambrian through the Katian, p. 43.

Laibl, L. (2018) Trilobites - morphology, biology and evolution. Abstracts. IGCP 653 - Morocco 2018: Workshop and Fezouata field excursion, University Cadi Ayyad Marakeš.

Laibl, L. (2018) Evolutionary modifications of early developmental stages in Cambrian trilobites. Abstracts. 5th International Palaeontological Congress, Paris, p. 521.

Lefebvre, B., Gutiérrez-Marco, J.C., Hunter, A., Nohejlová, M., Nardin, E., Sumrall, C., Zamora, S. (2018) Palaeobiogeographic implications of exceptionally preserved Late Ordovician echinoderm assemblages from the Tafilalt area, Morocco. 5th International Palaeontological Congress, Paris, p. 848.

Mikuláš, R., Bruthansová, J., Kadlecová, E (2018): In defence of Brdichnus Mikuláš, 1991: further thirty years of the study of the Šárka Formation (Ordovician, Czech Republic). WIT-6, Abstract Book, Senckenberg am Meer, Wilhelmshaven, p. 17.

Nohejlová, M., Nardin, M., Lefebvre, B., Saleh, F. (2018) Exceptionally preserved soft parts in eocrinoid echinoderms from the Fezouata Shale (Lower Ordovician, Morocco). 5th International Palaeontological Congress, Paris, p. 851.

Saleh, F., Lefebvre, B., Pittet, B., Nohejlová, M. (2018) How does the skeleton influence soft tissues preservation? A case study from the Early Ordovician Fezouata Lagerstätte. 5th International Palaeontological Congress, Paris, p. 854.

References:

Fatka, O., Budil, P. (2018) Digestive structures in the Middle Ordovician trilobite *Prionocheilus* Rouault, 1847 from the Barrandian area of Czech Republic. *Geologica Acta*, 16 (1), 65-73. doi: 10.1344/GeologicaActa2018.16.1.4

Fatka, O., Nohejlová, M., Lefebvre, B. (2018) *Lapillocystites* Barrande is aboral surface of *Stromatocystites* Pompeckj (Cambrian, Echinodermata, Edrioasteroidea). *Neues Jahrbuch für Geologie und Paläontologie*, 289 (2), 139-148. doi: 10.1127/njgpa/2018/0754

Štorch, P., Roqué Bernal, J.R., Gutiérrez-Marco, J.C. (in press) A graptolite-rich Ordovician–Silurian boundary section in the south-central Pyrenees, Spain: stratigraphical and palaeobiogeographical significance. Geological Magazine. doi: 10.1017/S001675681800047X

Wang, P.L., Fatka, O., Sun, Z.X., Budil, P., Gao, J. (2018) Fossilized gut of the trilobite *Lioparia bassleri* and the distribution of exceptional preservation in the Cambrian Stage 4–Drumian Manto Formation of North China. *Bulletin of Geosciences*, 93 (4). doi: 10.3140/bull.geosci.1694

5. Sponsors of IGCP projects in the Czech Republic in 2018: