

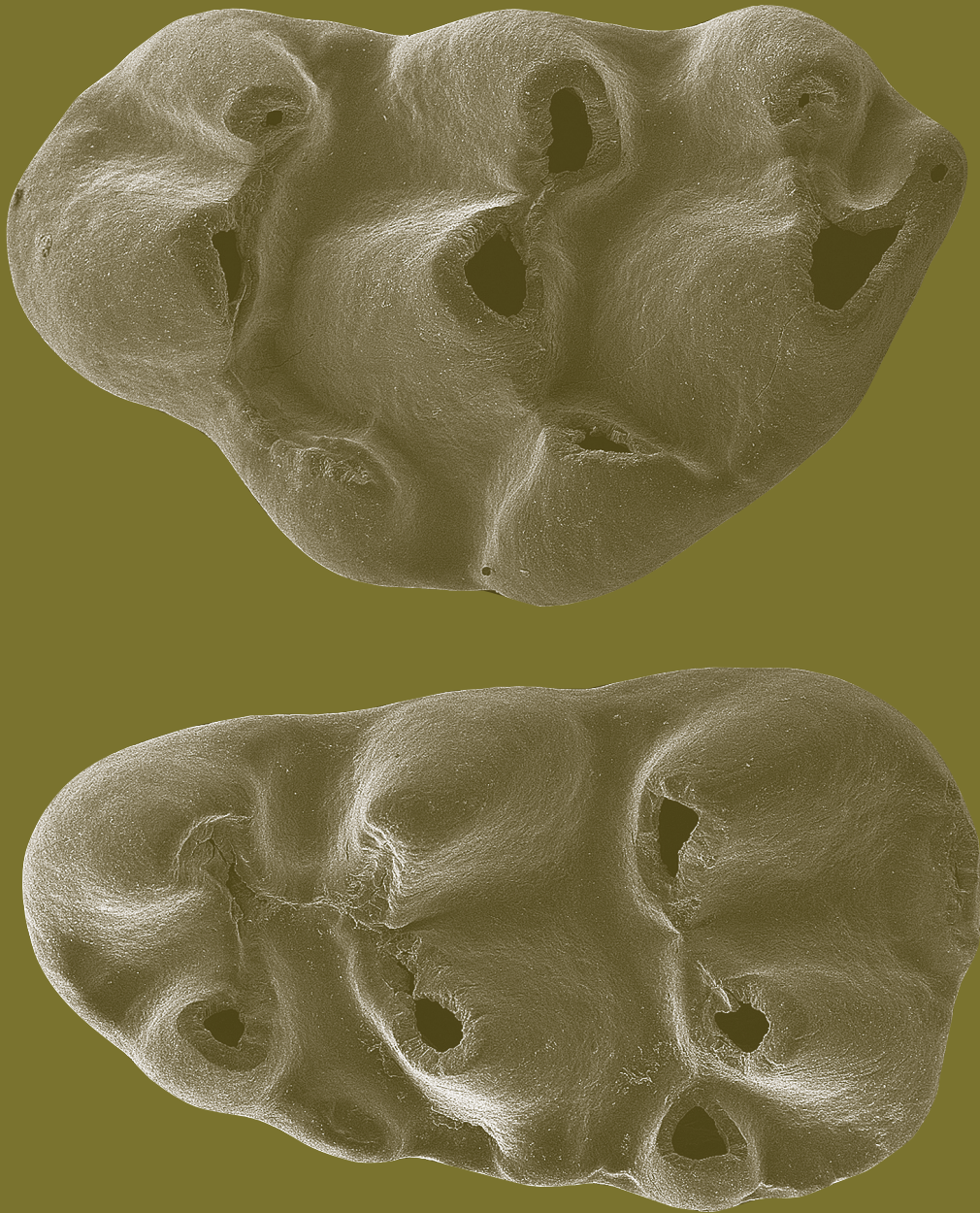


Content / Obsah

RESEARCH PAPERS / PŮVODNÉ VEDECKÉ ČLÁNKY

|                                                                                                                                                                                                                                                                                                                                                                                                     |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Upper Miocene rodents from Pezinok in the Danube Basin, Slovakia<br>Vrchnomiocénne hlodavce z lokality Pezinok, Dunajská panva, Slovensko                                                                                                                                                                                                                                                           | 1   |
| Aptian planktonic foraminiferal biostratigraphy and smaller benthic foraminifera from the Párnica Formation (Choč Mts., Western Carpathians)<br>Biostratigrafia planktonických foraminífer a menšie bentické foraminifery aptu párnického súvrstvia (Chočské vrchy, Západné Karpaty)                                                                                                                | 15  |
| Structural, biostratigraphic and petrographic evaluation of the Upper Cretaceous red marlstones and underlying granitoids from the borehole HPJ-1 Jašter near Hlohovec (Považský Inovec Mts., Slovakia)<br>Štruktúrne, biostratigrafické a petrografické vyhodnotenie vrchnokriedových červených slieňovcov a podložných granitoidov vo vrte HPJ-1 Jašter pri Hlohovci (Považský Inovec, Slovensko) | 27  |
| Structural position of the Upper Cretaceous sediments in the Považský Inovec Mts. (Western Carpathians)<br>Štruktúrna pozícia vrchnokriedových sedimentov v Považskom Inovci (Západné Karpaty)                                                                                                                                                                                                      | 43  |
| The Hurbanovo–Diösjenő Fault: A crustal-scale weakness zone at the boundary between the Central Western Carpathians and Northern Pannonian Domain<br>Hurbanovo-Diösjenő zlom: kôrová oslabená zóna na hranici medzi Centrálnymi Západnými Karpatmi a Severopanónskou oblasťou                                                                                                                       | 59  |
| Pre-Quaternary basement of Bratislava (part I): genetic vs. geotechnical characteristics of the Neogene foundation soils<br>Predkvartérne podložie Bratislavy (1. časť): genetické vs. geotechnické charakteristiky neogénnych zemín                                                                                                                                                                | 71  |
| Subsolidus alkali metasomatism in the metamorphosed Ordovician acid volcanics and volcanoclastics of the Gelnica Group (Gemerik Superunit, Western Carpathians)<br>Subsolidová alkalická metasomatóza metamorfovaných ordovických kyslých vulkanitov a vulkanoklastík gelnickej skupiny (Gemerikum, Západné Karpaty)                                                                                | 87  |
| Velocity analysis and application of synthetic seismograms in the area of the Vranovice and the Nesvačilka troughs (Bohemian Massif)<br>Rýchlostná analýza a využitie syntetických seizmogramov v oblasti vranovickej a nesvačilskej priekopy (Český masív)                                                                                                                                         | 99  |
| Application of neural network to assess landslide hazard and comparison with bivariate and multivariate statistical analyses<br>Aplikácia neurónovej siete pri hodnotení zosuvného hazardu a porovnanie s bivariačnou a multivariačnou štatistickou analýzou                                                                                                                                        | 109 |
| Ashes from oily sewage sludge combustion: chemistry, mineralogy and leaching properties<br>Tuhé produkty spaľovania olejových kalov: chemické zloženie, mineralógia a lúhovacie vlastnosti                                                                                                                                                                                                          | 119 |

Engineering Geology / Environmental Geology / Geochemistry / Geology of Deposits  
Geomorphology / Geophysics / Hydrogeology / Mineralogy / Palaeontology / Petrology  
Sedimentology / Stratigraphy / Structural Geology / Tectonics and related fields





## Instructions to authors

## SCOPE

Acta Geologica Slovaca (AGEOS) is an international peer-reviewed journal published by the Comenius University in Bratislava. It accepts original research papers, review articles, and short contributions from all branches of geology (geophysics, geochemistry, hydrogeology, engineering geology, geology of deposits, mineralogy, palaeontology, petrology, sedimentology, stratigraphy, structural geology, tectonic geomorphology, tectonics, and related fields). The papers are written in English, Slovak or Czech and they are subject to peer review by at least two independent reviewers, with often at least one from abroad. The identity of the reviewers can be left to their discretion. The final decision concerning the acceptance or rejection of a paper rests with the Editorial Board. The papers written in Slovak and Czech contain an extended English Summary and acceptance is based on quality alone.

Acta Geologica Slovaca was established in June 2009 and it replaced the Acta Geologica Universitatis Comenianae Magazine when its publishing was cancelled in 2007. The journal is supported by the departments of the Geological Section, Faculty of Natural Sciences, Comenius University in Bratislava.

Acta Geologica Slovaca appears twice a year and it is in the list of periodicals (The Ministry of Culture of the Slovak Republic); registration number: EV 3721/09. An on-line version of the journal is located on the website of the Faculty of Natural Sciences, Comenius University, Bratislava: <http://geopaleo.fns.uniba.sk/ageos/>

## LEGAL REQUIREMENTS

The author(s) guarantee(s) that the manuscript was and will not be published anywhere else in any language. The scientific results presented should be essentially new (with the exception of Review Articles) and should be of interest to the scientific community. The exclusive copyright is transferred to the publishers with the acceptance and publication of a manuscript. Along with the manuscript, the author(s) should send(s) a copyright statement that no part of the manuscript has been published previously and that the pictures and tables are original. Copies of images from other publications must be legalized by obtaining rights for publication. The declaration must contain the name of the author(s), academic degree and the permanent residential address.

## GENERAL INSTRUCTIONS

Articles are published in Slovak, Czech and English. Where publication is in Slovak or Czech languages, an English summary must be appended to the end of the article. The length of the article can not exceed 40 manuscript pages, along with references, tables, illustrations and explanatory texts. The article manuscript is to be constructed by author(s) on A4 paper with 3 cm margins on all sides. Pages must be numbered and the manuscript must be organized according to the following order: *Title – Full name(s) and address(es) – Title in the second language – Abstract – Keywords – Introduction – The core of the article (methods, results and discussion) – Conclusion – Acknowledgements – Appendix – References – Summary – List of tables and images with explanatory text – Tables – Figures*. The article manuscript is to be sent in electronic form to the e-mail address of the Executive Editor. Articles that are not prepared in accordance with the instructions to authors of the Acta Geologica Slovaca journal will be returned to the authors for revision.

## TITLE

The headline is composed of the article name, the author(s) list, the name(s) and address(es) of institution(s) and the title of the article in the second language. One of those languages must be English. The article title should be as straightforward as possible on the issue. The author(s) must put the full name(s), as well as the name(s) of the institution(s) with the exact address(es), and e-mail address(es).

## ABSTRACT

The article abstract is published in English only, and the length of the abstract must not exceed 350 words. The abstract briefly presents the main results of article without citations. As part of the abstract there are also keywords listed at the end of the abstract on a separate line in English. These must not exceed seven phrases and they are to be ranked from the general to the specific, for example: *Western Carpathians; Slovenské rudohorie Mts.; tectonics; palaeostress; faults*.

## TEXT

Before it is submitted to the editors, the text must be formatted according to the following requirements:

- ▷ the text is to be written with double-spaced using the font family "Times", for example: Times New Roman or Nimbus Roman; size 12 points;
- ▷ the text can be divided into headings at three hierarchical levels, and their numbering indicated at the beginning of the heading;
- ▷ the text must clearly distinguish between the data obtained and its interpretation;
- ▷ the text must not contain embedded tables and images, their placement may be indicated by the author in pencil on the left edge of the page;
- ▷ repetition of data from tables and images is not allowed in the text.

## ILLUSTRATION

Labels below figures must be bilingual, with one of these languages being English. Although the printed version of the journal exclusively contains black and white images, the electronic version can publish colour images. Therefore it is appropriate to send editors the images in two formats: colour and black-and-white.

Images must be made in high quality with a resolution of 450 dpi. The maximum image size is 170 x 235 mm and the best pictures are in vector graphics which are then exported to raster format. We prefer the following raster formats: tif, jpg and png. All images must include a metric scale and should be cited in the text.

All images must be properly marked on the printed or electronic version of the file name in digital form. Editors reserve the right to return images to the authors for repair or modification after language and technical corrections and to ask for replacement pictures of desired quality.

## TABLE

The tables shall be prepared on separate sheets of A4. Their size may be up to 170 x 235 mm. Larger tables will not be accepted. Tables are numbered continuously and will be published in numerical order. Boundaries of the columns of tables will not be utilized. All tables must be properly marked on the printed or electronic versions of the file name in digital form. Editors reserve the right to return tables to the author(s) for repair or modification after language and technical corrections and to ask for

replacement tables of desired quality. Labels below the tables must be bilingual, with one of these languages being English.

## REFERENCES

Each article must include "references", as quoted in the text. References should be arranged alphabetically and then by the year of issue. The following text explains the citation of used works.

## Monography:

Plašienka D., 1999: Tektochronológia a paleotektonický model jursko-kriedového vývoja Centrálnych Západných Karpát. VEDA, Bratislava, 125 p.  
Burbank D.W. & Anderson R.S., 2001: Tectonic Geomorphology. Blackwell Science, Massachusetts, 274 p.  
Melioris L., Mucha I. & Pospíšil P., 1986: Podzemná voda – metódy výskumu a prieskumu. Alfa, Bratislava, 429 p.

## Journal:

Oszczypko N., 1992: Late Cretaceous through Paleogene evolution of Magura Basin. *Geologica Carpathica*, 43, 6, 333–338.  
Soták J. & Starek D., 2000: Synorogenic deposition of turbidite fans in the Central-Carpathian Paleogene Basin: evidence for and against sea-level and climatic changes. *Slovak Geological Magazine*, 6, 2–3, 191–194.  
Pešková I., Vojtko R., Starek D. & Sliva L., 2009: Late Eocene to Quaternary deformation and stress field evolution of the Orava region (Western Carpathians). *Acta Geologica Polonica*, 59, 1, 73–91.

## Proceedings:

Michalík J., 2006: Sekvenčná stratigrafia a jej význam v geologickom výskume. *In*: Kováč M. & Dubíková K. (Eds.): Nové metódy a výsledky výskumu v geológii Západných Karpát. GEO-GRAFIKA, Bratislava, pp. 95–104.

## Manuscript:

Madarás J., Hók J., Kováč P., Mello J., Ivanička J., Vozár J., Vozárová A., Hraško L., Lexa O., Kucharčí L. & Grand T., 1995: Geologicko-štruktúrna analýza styčnej zóny gemerika a veporika v oblasti Rochovce – Dobšiná. Čiastková záverečná správa, Manuscript, archív GÜDŠ, Bratislava, 101 p.

When two or more works are by the same author(s) for the same year of issue, indexing in superscript immediately after the year of publication is required (for example: Faryad S.W.,1995<sup>a</sup>... and then Faryad S.W., 1995<sup>b</sup>...). The article of one author is used in the text citation "Plašienka (1999), or at the end of the text sentence (Plašienka, 1999). The article by two authors quoted in the text requires the use of the ampersand "&" (Soták & Starek, 2000) and three or more authors with the phrase "et al.," (Pešková et al., 2009). All authors cited must be in the list of references.

## SUMMARY

An English Summary must be given for papers written in Slovak or Czech, and a Slovak Resumé can be given for papers written in English. This can range from at least one to three standard A4 pages (approximately 400 to 1,200 words).

Please do not hesitate to contact us with additional questions at the e-mail address: [schlogl@fns.uniba.sk](mailto:schlogl@fns.uniba.sk)

## EDITORIAL BOARD / REDAKČNÁ RADA

Miroslav Bielik, Comenius University,  
Bratislava, Slovakia (Chairman / Predseda)

Ján Schlögl, Comenius University, Bratislava,  
Slovakia (Executive editor / Zodpovedný  
redaktor)

## EXECUTIVE COMMITTEE / VÝKONNÁ RADA

Peter Bačík, Comenius University,  
Bratislava, Slovakia  
Martin Bednárík, Comenius University,  
Bratislava, Slovakia

Renata Flaková, Comenius University,  
Bratislava, Slovakia

Tomáš Lánczos, Comenius University,  
Bratislava, Slovakia

Martin Ondrejka, Comenius University,  
Bratislava, Slovakia

Roman Pašteka, Comenius University,  
Bratislava, Slovakia

Peter Šottník, Comenius University,  
Bratislava, Slovakia

Rastislav Vojtko, Comenius University,  
Bratislava, Slovakia

## SCIENTIFIC BOARD / VEDECKÁ RADA

Martin Chovan, Comenius University,  
Bratislava, Slovakia

László Fodor, Geological Institute of Hungary,  
Budapest, Hungary

Hans-Jürgen Götze, Christian-Albrechts-  
University of Kiel, Kiel, Germany

Miguel Gomez-Heras, Complutense University  
of Madrid, Spain

Mathias Harzhauser, Natural History Museum,  
Vienna, Austria

Jozef Hók, Comenius University,  
Bratislava, Slovakia

Peter Ivan, Comenius University,  
Bratislava, Slovakia

Michal Kováč, Comenius University,  
Bratislava, Slovakia

Andrzej Kowalczyk, University of Silesia in  
Katowice, Sosnowiec, Poland

Otília Lintnerová, Comenius University,  
Bratislava, Slovakia

Juraj Majzlan, Friedrich-Schiller-University of  
Jena, Jena, Germany

Ilaria Mazzini, University of Roma,  
Roma, Italy

Jozef Minár, Comenius University,  
Bratislava, Slovakia

Marián Putiš, Comenius University,  
Bratislava, Slovakia

Daniela Reháková, Comenius University,  
Bratislava, Slovakia

Ľubomír Sliva, Nafta Inc.,  
Bratislava, Slovakia

Alexander Smirnov, Dowling College, Long  
Island, New York

Orsolya Sztanó, Eötvös Lóránd University,  
Budapest, Hungary

Martin Šujan, EQUIS Ltd.,  
Bratislava, Slovakia

Milada Švecová, Charles University,  
Prag, Czech Republic

Adam Tomašových, Slovak Academy of  
Sciences, Bratislava, Slovakia

Lidia Turanová, Comenius University,  
Bratislava, Slovakia

Ján Vlčko, Comenius University,  
Bratislava, Slovakia

Josef Zeman, Masaryk University,  
Brno, Czech Republic

Zlatica Ženišová, Comenius University,  
Bratislava, Slovakia

PUBLISHER / VYDAVATEĽ / © Comenius University in Bratislava, 2016

EDITOR'S ADDRESS / ADRESA REDAKCIE / Acta Geologica Slovaca, Faculty of Natural Sciences, Comenius University in Bratislava, Mlynská dolina,

Ilkovičova 6, 842 15 Bratislava; e-mail: [ageos@fns.uniba.sk](mailto:ageos@fns.uniba.sk)

EXECUTIVE EDITOR / ZODPOVEDNÝ REDAKTOR / Jan Schlögl, Department of Geology and Paleontology, Faculty of Natural Sciences,

Comenius University in Bratislava, Mlynská dolina, Ilkovičova 6, 842 15 Bratislava; phone: +421-2-60296493, fax: +421-2-60296214, e-mail: [schlogl@fns.uniba.sk](mailto:schlogl@fns.uniba.sk)

GRAPHIC DESIGN / GRAFICKÁ ÚPRAVA / Sasida production, s. r. o.

ACTA GEOLOGICA SLOVACA is an Open Access Journal and is published twice a year. On-line version of the journal is located on the website of the Faculty of Natural Sciences, Comenius University in Bratislava: <http://geopaleo.fns.uniba.sk/ageos/>. The journal is abstracted/indexed in: SCOPUS, Zoological Record/ISI; DOAJ (Directory of Open Access Journals); Geoscience e-journals, and list of periodicals of the Ministry of Culture of the Slovak Republic; registration number: EV 3721/09.

IČO: 00397865

ISSN: 1338-0044; E-ISSN: 1338-5674

Cover: *Progonomys hispanicus* Michaux, 1971, M1 (PK150111) and m1 (PK150143), locality Pezinok B. Photo: P. Joniak, x65.

Obálka: *Progonomys hispanicus* Michaux, 1971, M1 (PK150111) a m1 (PK150143), lokalita Pezinok B. Foto: P. Joniak, x65.