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# **National Commission for Stratigraphy Belgium**

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**NCS meeting report 26/01/2024 (pro 2023)**

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Date: 26/01/2024

Version: final

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# 1 Administrative section

The Chair opens the meeting at 13h05.

## 1.1 Presence list

**Present:** Bernard Mottequin (BM, President), Kris Welkenhuysen (KW, Secretary, Webmaster), Michiel Duser (MD), Jacques Verniers (JV), Katrien De Nil (KD), Edouard Poty (EP), Kris Piessens (KP), Johan Yans (JY), Stephen Louwey (SL).

**Excused:** Vanessa Heyvaert (VH), Jonathan Michel (JM), Bernard Delcambre (BD), Alain Herbosch (AH).

## 1.2 Approval of the previous meeting report

The report of the end 2022 meeting, available on the website, did not raise any remarks and is approved.

## 1.3 Approval of the agenda

The agenda is approved.

# 2 Reports of the subcommissions

## 2.1 Lower Palaeozoic (JV)

### Activities

- The chairperson (AH) and secretary (JV) met twice at the GSB in Brussels to discuss work in progress (3.04.2023 and 1.12.2023).
- Talk at the Lille Strati 2023 conference July 2023 (Verniers, J., Mortier, J., Vanmeirhaeghe, J., Van Grootel, G. & Herbosch, A. 2023. Review of the Silurian in Belgium. Abstract).
- Xavier Devleeschouwer (GSB) and Michiel Arts (ULiège) worked since 2021 on the sedimentology and geochemistry of the Silurian Tihange section (Condroz).
- Sofia Pereira (Coimbra) and Jorge Colmenar (Madrid) have logged and sampled for macrofauna two Ordovician outcrops near Sart-Bernard in the Condroz Inlier (summer 2023) (identification in progress).
- Bernard Mottequin, Thomas Servais, Yves Candela continued their study on Cambro-Silurian fossil collection and several publications are in preparation.

**Publications** in 2022 and 2023 not mentioned in previous report or with new bibliographical data.

### *Stratigraphy/tectonics*

Herbosch A. & Boulvain F. (2023 in press) Chap. 8.1 Ardenne In *Geology of the Central European Variscides and its Avalonian-Cadomian precursors*. Elsevier (U. Linnemann, Editor).

Herbosch A. 2023. The Mousty Formation (Brabant Massif, Belgium): state of the art. *Geologica Belgica*, 26/3–4, 157–213. <https://doi.org/10.20341/gb.2023.005>

Lefebvre B., Álvaro J.J., Casas J.M., Ghienne J.J., Herbosch A., Loi A., Moncheret E., Verniers J., Vidal M., Vizcaino D. & Servais T. 2022. The Ordovician of the Variscan Chain in Belgium, France, western and northeastern Germany. *Geological Society, London, Special Publications*, 532, 375–408. <https://doi.org/10.1144/SP532-2022-268>

Mortier J., Vanmeirhaeghe J., Harper D., Storch P., Zalasiewicz J., Van Den Haute P., Deckers J., Mestdagh J., Pille T. & Verniers J. (2023 in press). Stratigraphy and biostratigraphy with chitinozoans of the uppermost Ordovician and Silurian of the Condroz Inlier. *Memoirs of the Geological Survey of Belgium*.

### *Palaeontology*

Candela Y. & Mottequin B. 2023. Middle and Upper Ordovician linguliformean and craniiformean brachiopods from the Brabant Massif, Belgium: Infaunal giants, encrusting forms and durophagy. *Geobios*, 81, 101–119. <https://doi.org/10.1016/j.geobios.2023.04.002>

Laibl L., Servais T., Mottequin B. 2023. Tremadocian (Ordovician) trilobites from the Brabant Massif (Belgium): Palaeogeographical and palaeoecological implications. *Geobios*, 81, 7–16. <https://doi.org/10.1016/j.geobios.2023.04.003>

Lefebvre B., Candela Y., Nardin E., Servais T. & Mottequin B. 2023. Late Ordovician echinoderms from the Brabant Massif (Belgium): Taxonomic revision, palaeoecology and palaeobiogeographic implications. In Lefebvre B. & Saucède T. (eds), 11th European Conference on Echinoderms, October 2023, Villeurbanne, France, Abstract Book, p. 161.

Mottequin B. & Candela Y. 2023. Brachiopods from the Ordovician of southern Belgium (Avalonia): the end of a terra incognita. In 4th International Congress on Stratigraphy, Lille, sciencesconf.org:strati2023:464561.

### Plans for 2024

Several new Silurian formations in the Condroz Inlier, were already in use informally. Two new are formally published in Mortier *et al.* (2023 in press): Bonne Esperance and Neuville-sous-Huy. Six other formations were redescribed/redated or described in other areas as: the Genicot Fm, Dave Fm, Naninne Fm, Jonquoi Fm, Thimensart Fm and the Colibeau Fm. These new or redescribed formations are not in contradiction with the definitions or practice used on the geological maps of the Walloon Region in the Condroz Inlier. As soon as the publication is online, we can put these two new formations and the formations described more in detail on the NCS website to be discussed (hopefully) in spring 2024.

Also new definitions for some Ordovician formations or members in the Condroz Inlier made by Jan Vanmeirhaeghe (2007 ms) have formally been published in the same publication: Mortier *et al.* (2023 in press). It concerns the Vitruvial-Bruyère Formation (Giroux Mbr, La Bruyère Mbr, Sart Bernard Mbr & Rue de Courrière Mbr), Fosses Fm (Tihange Mbr) and the Ri de Chevreuil Formation. These revisions are in places contradicting the stratigraphy used in the geological maps of the Walloon Region in the Condroz Inlier. It implies that a discussion on this is needed.

#### *Alain Herbosch (ULB)*

- Preparation of two manuscripts for *Geologica Belgica*  
Herbosch A. & Walewyns J.L. Occurrence of magnetite slates in a borehole drilled in the Blanmont Formation at Nil-Pierreux (Walhain, Walloon Brabant).  
Herbosch A. (nearly finished) Geological observations following sewage works in the Hain valley (Walloon Brabant): implications for the interpretation of the Belgian aeromagnetic map.

#### *J. Verniers (UGent)*

- Preparation of three manuscripts for *Geologica Belgica* (articles requested for the Van den Broeck medal).  
Verniers J., Van Grootel G., Vanmeirhaeghe J. & Mortier J. A new biostratigraphy with chitinozoans for the Silurian of Belgium.  
Verniers J., Herbosch A., Debacker T., Vanmeirhaeghe J. & Mortier J. A review on the Silurian of Belgium 23 years after the previous synthesis (Verniers *et al.* 2002).  
Verniers J. & Herbosch A. The Silurian formations in Belgium anno 2024 (for the NCS).

#### *Michiel Arts et al.*

- work on two papers:  
Arts M. *et al.* The chemostratigraphic record of the early Silurian at Huy, Belgium.  
Arts M. *et al.* Indications for a lower Paleozoic petroleum system in the early Silurian strata of Huy, Belgium.

#### **Members**

Scientists active (in more or less degree) on the study of the Lower Palaeozoic of Belgium over the last three years: Alain Herbosch, Jacques Verniers, Jan Mortier, Xavier De Vleeschouwer (BGD/SGB), Michiel Arts (ULiège), Sofia Pereira (Coimbra), Jorge Colmenar (Madrid).

## **2.2 Devonian (BM)**

### **Activities**

Julien Denayer (JD) and BM organised an excursion (14-16 July 2023) to the Devonian and Carboniferous of southern Belgium as part of the 4th International Congress of Stratigraphy held in Lille.

### **Plans for 2023–2024**

The current revision of the lithostratigraphic scale of Belgium will be published in a special volume of *Geologica Belgica* (end 2024). The Lower Devonian has been submitted by JD and BM in November 2023 and the Middle-Upper Devonian will soon follow.

### **Varia**

Marie Coen-Aubert, who chaired the subcommission for 17 years, has resigned from her position. On behalf of the NCS, BM thanks her for her continued efforts in establishing the Devonian lithostratigraphic scale, mainly in southern Belgium, but also in the Campine Basin. This is why, in 2024, a complete renewal of the board is necessary.

## Publications

Denayer J. & Mottequin B. 2023. The Devonian and Carboniferous of southern Belgium. 4th International Congress on Stratigraphy, Lille, 52 p.

## Activities

JD and BM organised an excursion (14-16 July 2023) to the Devonian and Carboniferous of southern Belgium as part of the 4th International Congress of Stratigraphy held in Lille.

## 2.3 Carboniferous (EP, BM)

### Activities

In 2023, research was still focused on the definition of the Devonian-Carboniferous boundary on a worldwide scale. That is why a field trip was organised in eastern and southern Belgium by the Subcommittee on Carboniferous Stratigraphy and the DCB working group (9-10 July 2023), just before the aforementioned Lille congress.

The stratigraphy of the Namur Group (Grandes Dolomies de Namur) and the Vesdre Formation was clarified; they will be subdivided into members and correlated more precisely with the carbonate units of the Namur-Dinant Basin.

### Plan for 2024

It is planned to start the update of the Dinantian (Tournaisian-Viséan) of southern Belgium, probably during the second semester. MD indicated that the revision of the contemporaneous succession (stratigraphy and sedimentology) in the Campine Basin (with L. Hance and R. Swennen as advisers) is now completed (see the 2022 report) and should be considered in future investigations.

## 2.4 Permian-Triassic-Jurassic (MD)

### Activities

The activities of the Permian-Triassic-Jurassic Subcommittee concern two different areas: a subcrop area in the Ruhr Valley Graben and adjacent Campine Basin and the outcrop area in the Gaume as part of the transboundary Luxembourg-Lorraine Basin, hence quite different activities: exclusively geophysics and borehole data, mapping and interpretation in the Campine, also geotechnical work, fossil collecting, outcrop and quarry descriptions and protection in Luxembourg-Lorraine. Moreover, museological work is carried out on fossil collections. These activities generate a lot of new info, but a revision of the stratigraphy is not needed.

BM: Will there be no revision of the Permian in the Stavelot Massif?

MD: It is possible to compare with the surrounding area, e.g. Campine Basin and Eifel area. The best dates that were obtained are from the Malmedy unit (Upper Rotliegend), based on lithological correlation of surrounding units, but there is no intrinsic date of sedimentation.

### Publications

#### *Stratigraphy/tectonics/regional geology*

Chenot E., Dennielou E., Lathuilière B., Carpentier C. & Fischer M. 2023. Neuves-Maisons : La minette de Lorraine dans les mines du Val de fer. Contribution ORAGE originale à la Banque de données du sous-sol (32): 1-37

Coudron T. 2023. Geomechanische analyse van de Buntsandstein en de Neeroeterenzandsteen voor de inschatting van de criteria voor de activering van brosse discontinuïteiten. KU Leuven Bachelorproef Geologie, 1-25.

Deckers J., Rombaut B., Broothaers M., Dirix K. & Debacker T. 2023. New 3D fault model for eastern Flanders (Belgium) providing insights on the major deformation phases in the region since the late Paleozoic. *Journal of Structural Geology*, 166 doi.org/10.1016/j.jsg.2022.104779, 17 p.

Dennielou E., Chenot E. & Lathuilière B. 2023. Villers-lès-Nancy : coupe géologique du spéléodrome de Nancy. Contribution ORAGE originale à la Banque de données du sous-sol (34): 1-38.

Gruslin S., Hennebaut T., Tirone M. 2023. Optimisation du soutènement grâce à la méthode observationnelle : l'exemple de l'extension du parking Knuedler à Luxembourg. In: AFTES 2023 Session 12 - Pushing technical limits in conventional methods. Association Française des Tunnels et de l'Espace Souterrain (AFTES), Livre des résumés: 116.

Royer T. & Lathuilière B. 2023. Moyeuve-Grande, Carrière des Anges (Malena). Contribution ORAGE originale à la Banque de données du sous-sol (33): 1-26.

#### *Palaeontology*

Ligeron J. M. & Delsate D. 2023. Charleville-Mézières : Le registre fossile du Sinémurien inférieur (Marnes de Warcq) du Bois-en-Val. Contribution ORAGE originale à la Banque de données du sous-sol. (35): 1-136.

Sachs S., Madzia D., Thuy B. & Kear B.P. 2023. The rise of macropredatory pliosaurids near the Early-Middle Jurassic transition. *Scientific Reports*, 13 10.1038/s41598-023-43015-y; 17558.

### Activities

#### *Robert Colbach (Service géologique de Luxembourg)*

- In the context of search for deep geothermal resources, we proceeded to a seismic reflection survey in southern Luxembourg (see [www.seismik.lu](http://www.seismik.lu)), where we hope to obtain an answer to the question of the existence of a Permian graben in the Dudelange-Esch area as a possible SW extension of the Wittlich Rotliegend Graben in Germany, as presumed by Tom Schintgen (2014).
- A 2018 borehole (partially cored) up to a depth of 420 m in that area already showed a much thicker Liassic unit (esp. Toarcian) than outside of the presumed graben area.
- Results of the seismic survey are expected in March 2024.

#### *Dominique Delsate (MNHN)*

- Expertise des Chimères du Sinémurien de la Carrière de Sampont (Arlon, B) (fouilles et projet avec Ben Thuy et Robert Weis).
- Reprise des explorations dans le Steinmergelkeuper de la zone de Larochette, L (Bone Bed de Medernach, reconnaissance d'une nouvelle localité et début de prélèvements, traitement physico-chimique et tri granulométrique d'un nouveau Bone-Bed, avec présence d'ostracodes) (Avec Ben Thuy)
- Etude de la faune des Poissons du Toarcien de Lorraine Luxembourgeoise, Belge et Française.
- Article accepté par *Swiss Journal of Palaeontology*, sous presse : Pachycormid fish fed on octobranchian cephalopods: new evidence from the 'Schistes bitumineux' (early Toarcian) of southern Luxembourg. Robert Weis, Dominique Delsate, Christian Klug, Thodoris Argyriou, Dirk Fuchs.

#### *Steve Gruslin*

- Collaboration with the Walloon Geological Survey, using their website to report temporary outcrops in Belgian Lorraine.
- Reports on engineering geology.

#### *Bernard Lathuilière (Univ. Lorraine)*

- In 2023 (and before) I have worked with Elise Chenot to a general interest book on Minette ("La minette de Lorraine en 50 questions à des géologues")...The book is written, we are presently looking for money to publish the book....

#### *Ben Thuy (MNHN)*

- excavations in the Sinemurian sandstone quarry of Sampont, Belgium, aiming at 1) locating and sampling mollusk-rich pockets, yielding gastropods and bivalves with exceptional shell preservation, and 2) sampling echinoderm-rich beds to find identifiable ophiuroid microfossils.
- preliminary fieldwork and sampling of a promising bonebed in the upper Steinmergelkeuper (upper Norian) of Larochette, Luxembourg.
- As for publications, a report will be published soon on the new 3D model of the Permo-Triassic and lower Jurassic in the Campine Basin by VITO. This was part of a larger mapping excursion that included the suprajacent upper Westphalian. This model was made for the Flemish Government (Bureau for Environment and Spatial Development).
- A paper is being revised that was submitted earlier this year (in *Journal of Structural Geology*) on "New 3D fault model for eastern Flanders (Belgium) providing insights on the major deformation phases in the region since the late Paleozoic". This paper includes a discussion/review on the Permian to Jurassic tectonic activity in the Campine Basin, with some seismic figures as well as a log correlation panel of the Permo-Triassic. We hope that this will be published online in the beginning of next year. Once accepted, the log-correlation panel of the Permo-Triassic in the Campine Basin could be of added value to the website of the NCS.

## 2.5 Cretaceous (MD)

### Activities

For eastern Belgium, no real work has recently been done on stratigraphy, mostly on palaeontology. Especially John Jagt is very active; MD proposed him for the André Dumont medal. There is an active amateur working

group active in the BE-NL Maastricht area. Because of ageing, MD suggests the idea of publishing a synthesis of general knowledge for preservation.

### Varia

The Maastricht area is also proposed as a Unesco Geopark.

There is no update on activities in the Mons Basin.

### Publications

#### Stratigraphy/mapping

- Delcambre B. 2023. Carte géologique de Wallonie, Andenne - Couthuin 48/1-2 échelle 1/25 000. Notice explicative. SPW, Agriculture, Ressources naturelles et Environnement.
- Goolaerts S. & Mottequin B. 2023. A Santonian record of the nautilid cephalopod *Angulithes westphalicus* (Schlüter, 1872) from the subsurface of the Campine, north-east Belgium, with comments on regional lithostratigraphic problems. *Geologica Belgica*, 26/1–2, 101–113. doi.org/10.20341/gb.2023.007
- Mottequin B. & Marion J.-M. 2023. Carte géologique de Wallonie, Tongeren - Herderen 34/5-6 échelle 1/25 000. Notice explicative. SPW, Agriculture, Ressources naturelles et Environnement.
- Pingot J.-L. 2023. Carte géologique de Wallonie, Meldert - Tienen 32/7-8 échelle 1/25 000. Notice explicative. SPW, Agriculture, Ressources naturelles et Environnement.

#### Palaeontology

- Asyee, Wenche, 2023. Wonderchicken & Co. De verborgen juweeltjes Asteriornis Maastrichtensis en Janavis Finalidens. Geo.brief, Nieuwsbrief van KNGMG en NWO-ENW, 2/2023, 17–19.
- Barten L.P.J., Jagt J.W.M., Barten J.H.M. & Nieuwenhuis E.A.P.M. 2023. 'Lars', de nieuwste mosasauriër uit Maastricht. Deel 4: Onderzoek en conclusies. *Gea*, 56/2, 18–25.
- Barten L.P.J., Mol D. & Jagt J.W.M. 2023. 'Flintstones, meet the Flintstones ...'. Wolharige mammoeten en mosasauriërs zij-aan-zij in de Sint-Pietersberg, Maastricht. *Afzettingen WTKG*, 44/4, 123–128.
- Field D.J., Benito J., Kuo P.-C., Chen A., Widrig K., Ksepka D.T. & Jagt J.W.M. 2023. Two special lumps of stone: insights into modern bird origins from the type Maastrichtian. *10th International Meeting of the Society of Avian Paleontology and Evolution*, Málaga (Spain), May 8-12, 2023, 1 pp. [abstract]
- Fraaije R.H.B., Mychko E.V., Barsukov L.S. & Jagt J.W.M. 2023. A new mid-Cretaceous hermit crab (Crustacea, Anomura) from Central Russia sheds new light on paguroid evolution. *Cretaceous Research*, in druk <https://doi.org/10.1016/j.cretres.2023.105749>
- Fraaije R.H.B., van Bakel B.W.M., Jagt J.W.M., Wallaard J.J.W. & De Coninck L. 2023. A new hermit crab (Anomura, Paguroidea) from the middle Albian of Wissant, Pas-de-Calais (northern France). *Neues Jahrbuch für Geologie und Paläontologie Abhandlungen*, 307/2, 107–111. <https://doi.org/10.1127/njgpa/2023/1117>
- Friedman M., Andrews, James V.; Saad, Hadeel; El-Sayed, Sanaa, 2023. The Cretaceous–Paleogene transition in spiny-rayed fishes: surveying “Patterson’s Gap” in the acanthomorph skeletal record. *Geologica Belgica*, 26/1-2, 1-23. doi.org/10.20341/gb.2023.002, 1–23
- Heere J.J.A., Wallaard J.J.W., Mulde, E.W.A., Ponstein J. & Schulp A.S. 2023. The first report of Chelonioidea cf. Ctenochelys from the Late Cretaceous of the Maastrichtian type area. *Netherlands Journal of Geosciences / Geologie en Mijnbouw*, doi.org/10.1017/njg.2023.3.
- Holwerda F.M., Bestwick J., Purnell M.A., Jagt J.W.M. & Schulp A.S. 2023. Three-dimensional dental microwear in type-Maastrichtian mosasaur teeth (Reptilia, Squamata). *Scientific Reports*, 13, 18720, 9 pp. <https://doi.org/10.1038/s41598-023-42369-7>
- Jagt J.W.M. & Zazykova E.A. 2023. Muzei estestvoznaniia v Maastrikhte (Niderlandy) – chetyre desiatiletiia uspehnogo sotrudnichestva s paleontologami-liubiteliiami («civil scientists»). In: LXIX Sessii Paleontologicheskogo obshchestva, 3-7 aprelia 2023 g. FGBU «VSEGEI», Sankt-Peterburg, 2 pp. [abstract English – The 'Natuurhistorisch Museum Maastricht' – four decades of succesful close co-operation with citizen scientists]
- Jagt J.W.M. 2023a. Opmerkelijke Luiks-Limburgse Krijtfossielen. Deel 50. De bodemfauna rond het kadaver van een mosasauriër in kaart gebracht. *Natuurhistorisch Maandblad*, 112/5, 145–153.
- Jagt J.W.M. 2023b. Polyptychoceratinae. In: Schneider C. & Girod P. (ed.). *Fossilien aus dem Campan von Hannover*, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 345–349.
- Jagt J.W.M. 2023c. Opmerkelijke Luiks-Limburgse Krijtfossielen. Deel 51. Oude en nieuwe 'driehoeksschelpjes' (Trigoniida). *Natuurhistorisch Maandblad*, 112/6, 175–179.
- Jagt J.W.M. 2023d. Het grote uitsterven. *Sprekende Bodem*, 67/3, 82–85.
- Jagt J.W.M. 2023e. Opmerkelijke Luiks-Limburgse Krijtfossielen. Deel 52. Veel meer soorten vis dan gedacht – verkiezelde gehoorsteentjes leveren het bewijs. *Natuurhistorisch Maandblad*, 112/12, in druk.
- an. (J. Jagt), 2023. Aanvullingen artikel Wonderchicken & Co. Geo.brief 2 2023. Geo.brief, Nieuwsbrief van KNGMG en NWO-ENW, 3/2023, 23.

- Jagt J.W.M., Claessens L.P.A.M., Fraaije R.H.B., Jagt-Yazykova E.A., Mulder E.W.A., Schulp A.S. & Wallaard J.J.W. 2023. The Maastrichtian type area (Netherlands-Belgium): a synthesis of 250+ years of collecting and ongoing progress in Upper Cretaceous stratigraphy and palaeontology. *In: Clary R.M., Pyle E.J. & Andrews W.M. (eds). Geology's significant sites and their contributions to geoheritage. Geological Societies, London, Special Publications, 543: 14 pp.* <https://doi.org/10.1144/SP543-2022-232>
- Jagt J.W.M., Deckers M.J.M., Den Boer C., Den Boer H., Dortangs R.W., Nieuwenhuis E.A.P.M. & Schins W.J.H., 2023. Herinneringen aan collega-verzamelaars André Hofman (1934-2022) en Willy van Rijsselt (1946-2022). *Sprekende Bodem, 67/2, 53–64.*
- Jagt J.W.M., van Bakel B., Fraaije R. & Frerichs U. 2023. Zehnfußkrebse (Decapoda). *In: Schneider C. & Girod P. (ed.). Fossilien aus dem Campan von Hannover, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 617–621.*
- Jagt, J.W.M. & P. Girod, 2023. Schlangensterne (Ophiuroidea). *In: Schneider, C. & Girod, P. (ed.). Fossilien aus dem Campan von Hannover, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 517–524.*
- Jagt, J.W.M., Girod P. & Krupp R. 2023. Rankenfußkrebse (Cirripedia, Thoracicalcareia). *In: Schneider, C. & Girod, P. (ed.). Fossilien aus dem Campan von Hannover, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 606–616.*
- Mazuch M., Košťák M., Mikuláš R., Culka A., Kohout O. & Jagt J.W.M. 2023. Bite traces of a large, mosasaur-type(?) vertebrate predator in the lower Turonian ammonite *Mammites nodosoides* (Schlüter, 1871) from the Czech Republic. *Cretaceous Research, 153, 105714, 9 pp.* <https://doi.org/10.1016/j.cretres.2023.105714>
- Mychko E.V., Fraaije R.H.B., Barsukov L.S. & Jagt J.W.M. 2023. Novye rak-otshel'nik (Crustacea: Anomura) iz nizhnemelovykh otlozheniia Vladimirskoj Oblasti [A new hermit crab (Crustacea: Anomura) from Lower Cretaceous of Vladimir Oblast], pp. 66, 67. *In: Vserossiiskaia nauchno-prakticheskaja konferentsiia. Voprosy paleontologii i regional'noj stratigrafii fanerozoia evropejskoj chasti Rossii. Posviashchennaia 225-letiiu so dnia rozhdaniiia P.M. Yazykova, 22-25 sentiabria 2023 goda.*
- Neumann C., Jagt J.W.M., Girod P. & Krupp R. 2023. Seesterne (Asteroidea). *In: Schneider, C. & Girod, P. (ed.). Fossilien aus dem Campan von Hannover, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 482–516.*
- Schneider C., Jagt J.W.M. & Krupp R. 2023. Seelilien (Crinoidea). *In: Schneider C. & Girod P. (ed.). Fossilien aus dem Campan von Hannover, 4., komplett überarbeitete und erweiterte Auflage, 2023 (1. Druck), 454–481.*

## 2.6 Paleogene-Neogene (SL)

### Activities

The PN Subcommission has held 3 meetings, attended by 10 to 25 persons.

After the last meeting, a mini-symposium was held on Neogene stratigraphy and BE-NL correlations. Monika Doubrawa (KUL) and Alexandra Siebels (VU-NI) were external speakers, complemented by several SC member speakers.

A new description for the Brussels Formation was made. It was accepted by the NCS as-is, and published online. Led by Noël Vandenberghe and Laurent Wouters, a complete revision of the Rupel Group and all of its units was made by a working group. The extensive document was discussed in the SC and submitted as proposal to the NCS on 24/01/2024. In principle the decision on formalisation is made at the next meeting, but to allow for a smooth procedure, comments can be sent for a period of two months following the current meeting.

All discussions on the new Neogene unit descriptions are closed, without essential remarks. The full description file was compiled by Jasper Verhagen and KDN, following the LIS template. It can be consulted on the website.

There is ongoing research on the Neogene in Belgium, various publications are following in GB.

A geological passport is being set up on DOV by Jasper Verhagen, with standardised info on analysis (e.g. mineral content, grain size). This will initially be done for the loose (reference) samples at the Geotheek, but e.g. samples from the Brabant Massif will follow too.

There is a consensus in the SC-PN that the recently LIS files should be online available, with the full info and a proper reference so it can easily be retrieved. In many cases now there's still old and/or obsolete info.

## 2.7 Quaternary (KW, on behalf of VH)

Frieda Bogemans retired in 2023 and resigned as chair after 16 years. The NCS thanks her for her contributions on the Quaternary stratigraphy of Belgium. A new chair will be appointed.

There were no activities in 2023.

## 2.8 Région Wallonne

BM questioned the usefulness of this section and indicated that he would contact the SGW to find someone to take charge if necessary.

## 2.9 Alteration units

The last update for this section dates back to 2016. After discussion about the importance of alterites, notably for land use planning, MD and JY agreed to send to a list of relevant papers to be published on the NCS website.

## 2.10 Lithotectonic Units (KP)

A mission statement was created for the Lithotectonic Units SC to provide goals, *raison d'être*, and international context, which will be included on the website. The starting point of definitions are always the existing nomenclature.

A public workshop on 9/5/2023 had 23 participants. Two internal workshops were organised on in 11/2023 and 01/2024. The next one will be in 03/2024 with the intention of meeting every few months. The SC now has 7 members, the position of secretary is still vacant.

A paper in the European Geologist on this topic is planned for 2024.

## 3 Website (KW)

In January, a transfer of subdomain was performed to enable external access to the new website, while retaining access to the old website as long as possible. The new website, under construction, is now available under <http://ncs.naturalsciences.be>. The old website remains available for the coming months under <http://ncs-old.naturalsciences.be>. Some hard links to pages, documents and images on the old site might not work properly but replacing “ncs” with “ncs-old” in the link should work.

Information will be added gradually on the new website. The structure and pages are present for the Paleogene and Neogene. The new Neogene unit descriptions are available as pdf documents.

It is highlighted that for new unit descriptions, a new template should be used in order to have a summary section that can be added in html format on the unit page. This template will be made available.

KD mentions that changing the weblinks causes issues with links on DOV, and users are landing on currently still empty pages.

KW replies that with the old website going offline in the coming months, and the limited available resources, this conversion is necessary but will take some time. Apart from the news item, a more general message will alert users that the website is under construction.

SL mentions that it would be useful to have clear NCS guidelines online on naming and writing stratigraphic unit names.

## 4 Varia

### Local Palaeozoic building stones from the Walloon Brabant (presentation by MD)

MD points out that in many areas of the Brabant Massif, only the old buildings reflect the local geology, as most of the quarries have now disappeared, many examples are given. It is concluded to include this in the Paleozoic SC.

### Geologica Belgica meeting (BM)

From 11-13/09/2024 the 8th Geologica Belgica meeting will take place in Liège.

The Chair closes the meeting at 15h00.