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ABSTRACT BOOK

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A possible peltocystid mitrate (*Stylophora*) in a new Praguian (Early Devonian) Konservat-Lagerstätte from Belgium

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Peltocystid mitrates are the most long-ranging clade of stylophorans, with representatives known from the Tremadocian (Early Ordovician) to the Bashkirian (Early Pennsylvanian). They are characterized by the possession of a single posterior spine (glossal) and two particularly large adorals extending on most of (Peltocystidae) or on the entire upper thecal surface (Jaekelocarpidae and Kirkocystidae). Although peltocystids were highly diverse and palaeogeographically widespread in the Ordovician, their younger record is particularly cryptic (Lefebvre, 2007). They are so far undocumented in the Silurian, and are known from only two later occurrences: in the Lower Devonian Hunsrück Slate of Germany ("*Mitrocystites*" *styloideus*; Dehm, 1934) and the Upper Carboniferous Gene Autry Shale Formation of Oklahoma (*Jaekelocarpus oklahomaensis*; Kolata *et al.*, 1991).

A third possible occurrence of post-Ordovician peltocystids is reported here from a new Konservat-Lagerstätte in the Praguian (Lower Devonian) of southern Belgium that was discovered thanks to the BRAIN-be project B2/202/P1/VERTIGO of Belspo. In 2021 and 2022, two field campaigns in the Neufchâteau Synclinorium yielded several hundreds of fossils, some of which preserving soft parts. This particularly diverse marine assemblage comprises arthropods, molluscs, priapulians, as well as putative *Pikaia*-like cephalochordates. A wide range of techniques have been used (e.g. X-ray elemental mapping, CT-scan, energy-dispersive X-ray spectroscopy) to reveal the morphology and, in some cases, the internal anatomy of these fossils. One of the fossils is morphologically very similar to "*Mitrocystites*" *styloideus* and other as yet undescribed peltocystids from the Devonian of Germany (Haude, 1983). Although its posterior spine is apparently absent, the specimen is remarkably well preserved, with a fully articulated theca and a relatively long appendage (aulacophore?) preserved in extended (feeding) position.

References

- Dehm, R. 1934. Untersuchungen an Cystoideen des rheinischen Unterdevons. *Sitzungsberichte der Bayerischen Akademie der Wissenschaften zu München, Mathematisch-naturwissenschaftliche Abteilung*, **1934(I)**, 19–34.
- Haude, R. 1983. Kaum bekannte und seltene Echinodermen aus dem Mitteldevon des rechtsrheinischen Schiefergebirges. *Der Aufschluss*, **34**, 101–110.
- Kolata, D.R., Frest, T.J. & Mapes, R.H. 1991. The youngest carpod: occurrence, affinities and life mode of a Pennsylvanian (Morrowan) mitrate from Oklahoma. *Journal of Paleontology*, **65**, 844–855.
- Lefebvre, B. 2007. Early Palaeozoic palaeobiogeography and palaeoecology of stylophoran echinoderms. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **245**, 156–199.