

# ABSTRACTS

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## **BRIDGING THE SILURIAN GAP: FIRST RECORD OF A MITRATE STYLOPHORAN FROM THE TELYCHIAN OF ANTICOSTI ISLAND (CANADA) [talk]**

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As the majority of marine invertebrate groups, stylophoran echinoderms were severely affected by the Hirnantian mass extinction. All cornute groups went extinct and only four clades of mitrates survived the crisis: Allanicytidiinae, Anomalocystitinae, Paranacystidae, and Peltocystida. However, the mitrate Silurian fossil record is extremely scarce and restricted to shallow, low-latitude settings. Only two Silurian allanicytidiines were described: *Placocystella burretti* (Llandovery, Tasmania) and *P. garratti* (Ludlow, Victoria). The Silurian fossil record of anomalocystitines includes *Mongolocarpus minzhini* (Ludlow, Mongolia), *Placocystites forbesianus* (Wenlock, England), *Victoriacystis wilkinsi* (Ludlow, Victoria), and one undescribed form from the Wenlock of Gotland, Sweden. Silurian paranacystids were recorded in the Wenlock of Gotland (isolated plates) and the Ludlow of Victoria, Australia (*Adoketocarpus acheronticus*). No Silurian peltocystids have been described so far, but they reoccur as 'Lazarus taxa' in the Devonian and the Carboniferous. Stylophoran recovery did not take place before the Lower Devonian, with high diversity values approaching those of the Ordovician, and a palaeobiogeographic expansion into the cooler settings of the Malvinocaffric Realm.

In this context, the discovery of a complete, fully articulated specimen of mitrate stylophoran in the late Llandovery (early Telychian) Cybele Member (Jupiter Formation) of Anticosti island, Canada is particularly significant. Its exposed lower thecal surface, with sockets for the articulation of two posterior spines, clearly supports anomalocystitid affinities. Tomographic investigations (in progress) should provide additional information on the (unexposed) upper thecal surface and, thus, help decipher whether this new mitrate should be assigned to the Allanicytidiinae or to the Anomalocystitinae. Along with *Placocystella garratti* (see above), this new anomalocystitid represents the earliest record of stylophorans in the Llandovery, i.e. immediately after the Late Ordovician mass extinction. The Anticosti mitrate is also the first known occurrence of stylophorans in the Silurian of North America, thus greatly expanding their palaeobiogeographic distribution, and confirming their restriction to warm-water, shallow settings.