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# ECE 11

Lyon, France

## ABSTRACT BOOK

11<sup>th</sup> European Conference on Echinoderms (ECE11)

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## First results of the revision of the eublastoids (Echinodermata) from the Devonian of the Armorican Massif (NW France)

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Eublastoids are an extinct clade of worldwide distributed echinoderms (except Antarctica) known in marine sediments from the Middle Silurian to the Middle Permian (Waters *et al.*, 1990; Bauer *et al.*, 2019). Their theca is characterized by 17 major plates (3 basals, 5 radials, 4 deltoids and 5 lancets beneath the ambulacra) and tens of thousands of rarely preserved smaller plates. Eublastoids respired with internal structures, the hydrospires (Bauer *et al.*, 2019). In the Armorican Massif, eublastoids were first described in 1876. However, they remain poorly studied with no new publications in the last 50 years. The literature reports the existence of several taxa in the Lower and Middle Devonian (412–383 Ma) of the Armorican Massif: *Belocrinus cottaldi*, *Cordyloblastus clavatus*, *C. eifeliensis*, Eublastoidea indet. (Brest area), *B. cottaldi* (Ménez-Bélaïr and Laval synclines) and Eublastoidea indet. (Normandy). Since the publication of the S volume of the *Treatise on Invertebrate Paleontology*, many new eublastoids have been described worldwide, and several new Armorican specimens have been discovered.

The aim of this study is to provide preliminary results on the ongoing revision of eublastoids from NW France. The genus *Cordyloblastus* is considered as a junior synonym of *Hyperoblastus*. Thus, two families are identified so far: hyperblastids and troosticrinids. The biostratigraphic range of taxa and their associated paleoenvironments are re-evaluated, while their paleobiogeography is investigated. In the Early (Pragian–Emsian, 412–406 Ma) and Middle Devonian (Givetian, 385–379 Ma), they are found in a wide range of settings, from the intertidal zone to the storm wave base. However, most taxa seem to be restricted to relatively quiet, low energy environments. Finally, some of them lived in restricted and slightly reducing settings and/or in waters with moderately low oxygen concentrations highlighting their adaptability. The oldest known troosticrinids are from the Silurian (~430 Ma) of Laurussia (NE USA), where they possibly originated, before crossing southwards the Rheic Ocean and eventually reaching North Gondwana, as indicated by the presence of *B. cottaldi* (single troosticrinid known from Gondwana). Meanwhile, the oldest hyperblastids are from the Emsian of North Gondwana (Spain). They then spread into other peri-Gondwanan areas such as Bolivia (Eifelian), NW France and Morocco, but also to China, which was then part of another continent (Givetian).

### References

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