Brachiopods from the Ordovician of southern Belgium (Avalonia): the end of a terra incognita

Bernard Mottequin*1 and Yves Candela2

1D.O. Terre et Histoire de la Vie, Institut royal des Sciences naturelles de Belgique – Belgium
2Department of Natural Sciences, National Museums Scotland – United Kingdom

Abstract

Contrary to the well-exposed Devonian–Carboniferous rock sequence, the thick siliciclastic Cambrian–Silurian succession of Belgium is poor in macrofossils and, more especially, in brachiopods. These rocks mostly crop out in the Brabant and the Stavelot–Venn massifs, and in the Condroz Inlier. Occurrences of Ordovician brachiopods have been reported since the second half of the 19th century in the Brabant Massif but, until recently, only those from the Ashgill Fosses Formation (Condroz Inlier) have been properly taxonomically studied (Sheehan 1987). In the Early Ordovician, Belgium was located in high southern latitudes (it was part of Avalonia, a terrane with a Gondwanan origin), offshore from high latitude Gondwana (Amazonia–North-West Africa). During the Ordovician, Avalonia rifted from Gondwana and drifted northward, eventually docking Baltica in the Katian forming a block that collided with Laurentia in the Silurian and closing the Iapetus Ocean. The ongoing revision of the historical collections of the Royal Belgian Institute of Natural Sciences, complemented with newly collected specimens, has enables us to document the development of brachiopod faunas in this part of Avalonia from the Tremadocian. Early and Middle Ordovician brachiopod faunas are characterized by poor preservation leading to tentative identifications, low diversity and low to medium abundance assemblages, dominated by linguliformean taxa (Candela et al. 2021; Candela & Mottequin 2022, in press), from assemblages rooted in the Furongian (Popov et al. 2013). Middle to Late Ordovician brachiopod assemblages (e.g., Oxhe and Fosses formations) are characterized by a distinct shift towards rhychonelliformean-dominated faunas that show stronger affinities with palaeo-equatorial faunas (Laurentia, Baltica), than with Early Ordovician peri-Gondwanan and Gondwanan faunas.


Candela, Y. & Mottequin, B., in press. Middle and Upper Ordovician linguliformean and craniiformean brachiopods from the Brabant Massif, Belgium: infaunal giants, encrusting forms and durophagy. Geobios.


*Speaker

**Keywords:** Ordovician, brachiopods, Belgium, Avalonia