National Commission for Stratigraphy Belgium

Carboniferous

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Proposals and discussions
Lithostratigraphy
Chronostratigraphy

5.40 Grands Malades Formation - GMA

Authors: Conil et al., 1967; Paproth et al., 1983.

Description: The formation includes a lower part comprising the Seilles Mbr (formerly described as formation by Paproth et al., 1983) which locally passes laterally to the Maizeret Mbr, and an upper part, the Bay-Bonnet Mbr. For Paproth et al. (1983), the Grands Malades Fm was restricted to limestone breccia and stromatolitic limestone and was thought to overlie the Seilles unit. As the latter is now known to be a lateral equivalent of the breccia, it is here included in the formation.

1. ***Seilles Member – SEI*** (Conil et al., 1967)

Thick-bedded, pale limestones in shallowing upward parasequences dominated by bioclastic packstones and grainstones, and oolitic grainstones, and capped with algal boundstones and mudstones. Brachiopods and rugose corals are common.

2. ***Maizeret Member – MZT*** mbr nov. (Poty)

Thick-bedded, pale limestones (mainly algal boundstones and mudstones-wackestones), dolomites and breccias, with numerous thick beds of coarse or prismatic calcite (interpreted as pseudomorphs of evaporites). Breccias can dominate.

3. ***Bay-Bonnet Member – BAB*** mbre nov. (Poty)

Thick-bedded, pale, laminated stromatolitic limestones (boundstones), with numerous vermetid gastropods.

Stratotype: Old quarries and cliff on the left flank of the Meuse valley at Bouge, west of the Beez motorway bridge. Seilles Mbr: Tramaka quarry, situated along the road from Seilles to Couthuin. Maizeret Mbr: Plates-Escailles quarry at Maizeret, on the west side of the Samson valley. Bay-Bonnet Mbr: Bay-Bonnet quarry in the Magne valley, between Fléron and Trooz.

Area: The Seilles Mbr is present only in the eastern part of the NSA (including the Vesder area) and passes laterally south-westwards into the Maizeret Member (which is only known in the Samson valley). In the CSA, DSA and in the western part of the NSA, the Grands Malades Fm has been brecciated ("Grande Brèche Viséenne") by dissolution of evaporitic layers. The formation is present in the Boulonnais where the Seilles Mbr corresponds to the Lunel Limestone, and the Bay-Bonnet Mbr to the Napoléon Limestone (Poty, 1994).

Thickness: The Seilles Mbr is 35 to 40 m thick at Seilles, and reaches 55 m in the eastern part of the NSA (Engis). Maizeret Mbr: 35 m. Bay-Bonnet Mbr: 8 m.

Age: Late Livian (Cf5 Foraminifera Zone, RC6 Coral Zone). There are no foraminifera or corals for dating the Bay-Bonnet Mbr directly, but it is situated just below the base of the Warnantian stage (base of the Cf6 Foraminifera Zone). The Seilles and Maizeret Mbrs correspond to the HST of the third-order sequence 7 of Hance et al. (2001), while the Bay-Bonnet Mbr corresponds to the TST of the third-order sequence 8.