

National Commission for Stratigraphy Belgium

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2.5.7 Corroy Formation - COY

Lower Paleozoic

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Author: Malaise, 1900; restricted herein.

Description: Mudslate, mudstone, siltstone and fine sandstone, alternating in thin beds, decimetric to a few cm thick. The sandstone is light-coloured, obliquely stratified, sometimes convolute bedding, with often undulating base and bounce and other current marks. Interbedded are dark grey laminated hemipelagite layers containing most of the graptolite levels. Some of the beds are slightly calcareous. The mudslate is greenish grey in the lower part of the formation, indicating its softer, chloritic composition with thin to medium thin Tde sequences (average between 6 and 14 cm); T(b)cde sequences frequent to very frequent (20-50%), generally twice as thick as the average Tde sequence, with c-divisions between 1 and 10 cm in 50 to 65% of all the c-divisions, and 10 to 22 cm in the rest of the cases. The colour changes to dark grey in the upper part of the formation, indicating a more quartzic or illitic composition. The lower boundary occurs via a gradual transition from the Fallais Fm and is marked by the lowest presence of at least three, decimetric, sandstone beds per meter of sediment. The upper boundary is marked by the presence of the highest sandstone bed (Tc division) of >5 cm thickness.

Stratotype: Orneau valley, south of Gembloux, abandoned quarry 'La Poudrière de Corroy', near the river.

Area: Present in Western Flanders subsurface (Houtem borehole, Martin, 1969a), in many boreholes for the A8 road in the Dender valley (Hance, pers. comm. 1992), at the Ferme des Chèvres in the Sennette valley (Verniers, unpublished), Rue du Gendarme (Monstreux, Nivelles area, Diependaele, 1997 ms), Orneau valley, Burdinale and Mehaigne valleys. There is an overall tendency to thinner turbidite sequences from east to west.

Thickness: Mehaigne area: thickness of recorded sections: lower part 48.0 m, upper part 26.1 m; thickness of outcropping sections: lower part 57.6 m and upper part 31.1 m; estimated thickness of the lower part: 82 ±10 m and upper part: 32 m; 114 ± 10 m in total for the formation. Orneau valley: about 100 m; Sennette valley: estimated at about 140 m.

Age: Graptolites in the Orneau valley belong to the *C. purchisoni* and *M. riccartonensis* biozones (Malaise, 1900; Legrand, 1961b); graptolites in the Burdinale and Mehaigne valleys indicate the presence of the *C. centrifugus*, *C. purchisoni* biozones in the lower part of the formation, and the upper part of the *M. riccartonensis* and the middle Wenlock *M. flexilis* biozones (now *M. dubius* biozone) in the upper part of the formation indicating the lower to middle Sheinwoodian (lower and basal middle Wenlock) for the formation (Verniers & Rickards, 1979). The chitinozoans were described as belonging to subzone C3 (Verniers, 1981, 1982) and belonging to the *M. margaritana* global biozone or to the *M. margaritana* local biozone for the lower member and to the *C. burdinalensis* local biozone for the upper part of the formation, with an extinction event and an impoverished assemblage in the top of the formation (Verniers, 1999). The *margaritana* biozone starts in the uppermost Telychian (*insectus* graptolite biozone, Mullins, 1998), and hence the Wenlock-Llandovery boundary cannot be located exactly with chitinozoans. The presence of Wenlock graptolites close to the base of the formation however suggests that the base of the Wenlock coincides or lies close to the base of the Corroy Fm. The acritarchs, described by Martin (1969a) from the Mehaigne area and the Houtem borehole also indicate an early Wenlock age.

Remarks: Synonyms: "partie inférieure de l'Assise de Corroy" (Verniers, 1983b); Bounia Fm or MB4 Fm in the Mehaigne area with two members: a lower green member MB4A and a upper dark grey member MB4B (Verniers, 1976 ms, 1983b; Verniers & Van Grootel, 1991).

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