National Commission for Stratigraphy Belgium

Lower Paleozoic

Commission members
Proposals and discussion
Lithostratigraphy
Chronostratigraphy

2.1.3 Oisquercq Formation - OIS

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Authors: Malaise, 1873; modified by Beugnies in Waterlot et al., 1973; De Vos et al., 1993; Herbosch et al., Ittre-Rebecq map, in press; Herbosch, 2009 (herein).

Description: The Ripain Member (RIP), the lowermost of the two members in the formation, created by Beugnies in Waterlot et al. (1973), consist of grey-blue to purple extremely homogeneous fine-grained slate (claystone). Stratification is not visible or very difficult to observe even in thin section. Green patches or pluricentimetric bands are frequently present but are unrelated to the bedding. The colour is very sensitive to weathering and change easily from purple over red to Bordeaux red. The Asquempont Member (ASQ) (Verniers et al., 2001) forms the upper part of the formation, which is interrupted by the Asquempont fault in the type area (Senne basin). It show greenish grey to green slate also without any stratification. The transition between the two members is gradual over a short distance (2 to 5 meters) and only marked by a change in colour. However, toward the top of this member the grain-size increases and stratification appears. The contact with the underlying Tubize Formation has nowhere been observed.

Stratotype: Type area in the Senne basin. A quite continuous section from the upper part of the Ripain Member to the upper part of the Asquempont Member (Asquempont Fault) is observed along the E bank of the Brussels-Charleroi canal trench between km 41,10 (x 140,66 y 148,74) and km 40,12 (x 140,85 y 147,68). Description and geological map in Debacker et al. (2003, pp. 12-15, fig. 6, 12, 24). Good outcrop of Ripain Member along the old canal E bank from km 43,0 to km 43,4 (km of the new canal) (La Bruyère, around x 139,72 y 150,00).

Area: Outcrop area in the southern border of the Brabant Massif: only in the Senne basin. Removed by fault (Asquempont Detachment System) in the Dyle basin (Debacker et al., 2004) and in the Gette basin (Herbosch et al., 2008). In the Lessines borehole, Dender valley (Herbosch et al., 1991, 2008), and in several borehole to the west of the outcrop area (De Vos et al., 1993).

Thickness: Difficult to estimate from the geometry because of the poor stratification and the presence of folded zones. The presence of the Ripain Member in a 1600 m wide and generally steeply dipping band, suggest a thickness of more than 1000 m; the thickness of the Asquempont Member is estimated to be more than 500 m.

Age: acritarchs in the Asquempont Member from the Lessines and Oudenaarde boreholes were used to correlate with the trilobite biozones: from *Holmia* Zone until the *Paradoxides oelandicus* Zone (Vanguestaine, 1991, fig. 6) and dated as mid Early to early Middle Cambrian. The same author (Vanguestaine, 1992, p. 8) underlines that this age bracket is exactly the same as for the upper part of the Deville Group, due to the revision of the dating of his acritarch biozone 0 in the Ardennes (fig. 4 and p. 2 to 4). In the new global stratigraphy of the Cambrian (Peng & Babcock in Gradstein et al., 2008), this interval is situated between the upper part of Stage 3 (series 2) to about the 3/4 of Stage 5 (base of the *P. gibbus* Zone)(Series 3). The Oisquercq Formation can be situated in the upper part of this interval, probably in or near Stage 5 (Vanguestaine, 1991 and 1992 mention several times an age close to the Lower-Middle Cambrian boundary). Indeed, this formation is situated stratigraphically above the Blanmont and the Tubize formations and all three formations are dated in the same interval from 2/3 of Stage 3 to ¾ of Stage 5.

The Ripain Member is unfossilliferous, not allowing a direct age determination.

Remarks: Synonym: «Formation des phyllades bleus de Ripain» (Beugnies in Waterlot et al., 1973); «Formation de Ripain» (André et al., 1991); «Oisquercq Group» (De Vos et al., 1993); The Ripain Member and the Asquempont Member correspond respectively to the Rva2 unit and the Rva3 unit of Legrand (1968).