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**FIELD GUIDE TO THE GEOLOGY  
OF THE BRABANT MASSIF**

**THE OUTCROPS OF THE DYLE  
AND SENNE BASINS**

**ALAIN HERBOSCH & JACQUES VERNIERS**

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**Field guide to the geology of the Brabant Massif:  
the outcrops of the Dyle and Senne basins**

by Alain HERBOSCH<sup>1</sup> and Jacques VERNIERS<sup>2</sup>

1 Département des Sciences de la Terre et de l'Environnement, Université Libre de Bruxelles, Belgium, herbosch@ulb.ac.be  
2 Department of Geology and Soil Science, Ghent University, Belgium, jacques.verniers@ugent.be

40 pages, 37 figures

*Cover illustration: Sequence of turbidites from the Rogissart Member of the Tubize Formation. Stop 9 along the road Braine-le-Château to Clabecq, Hain valley.*

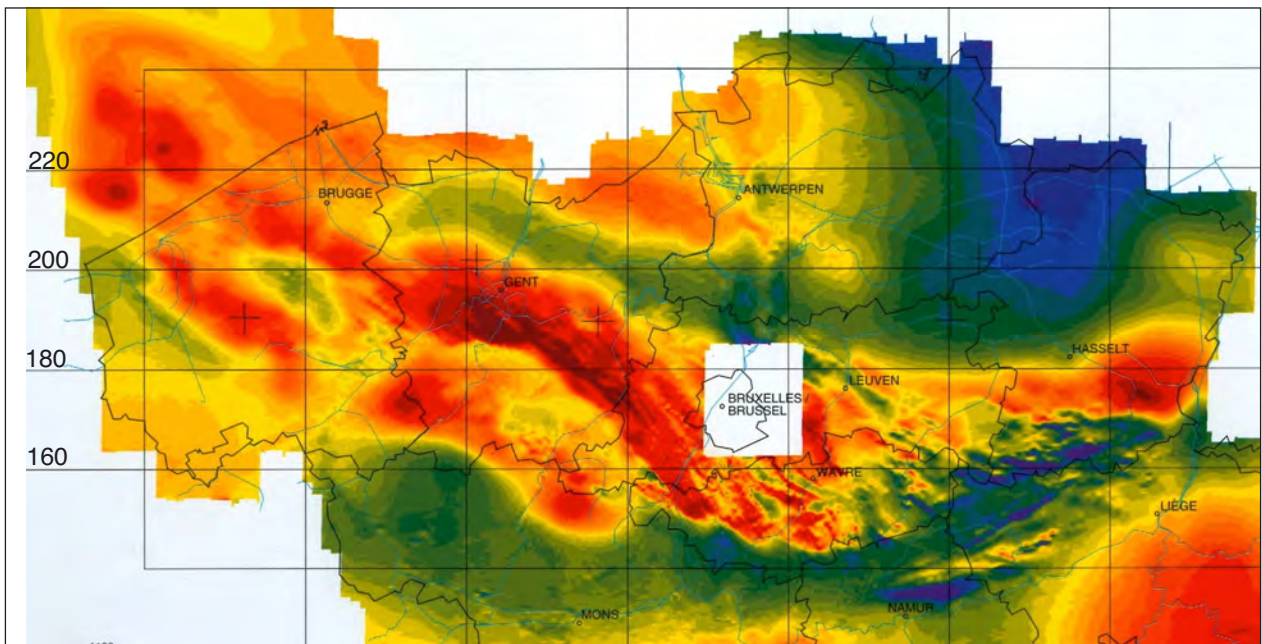
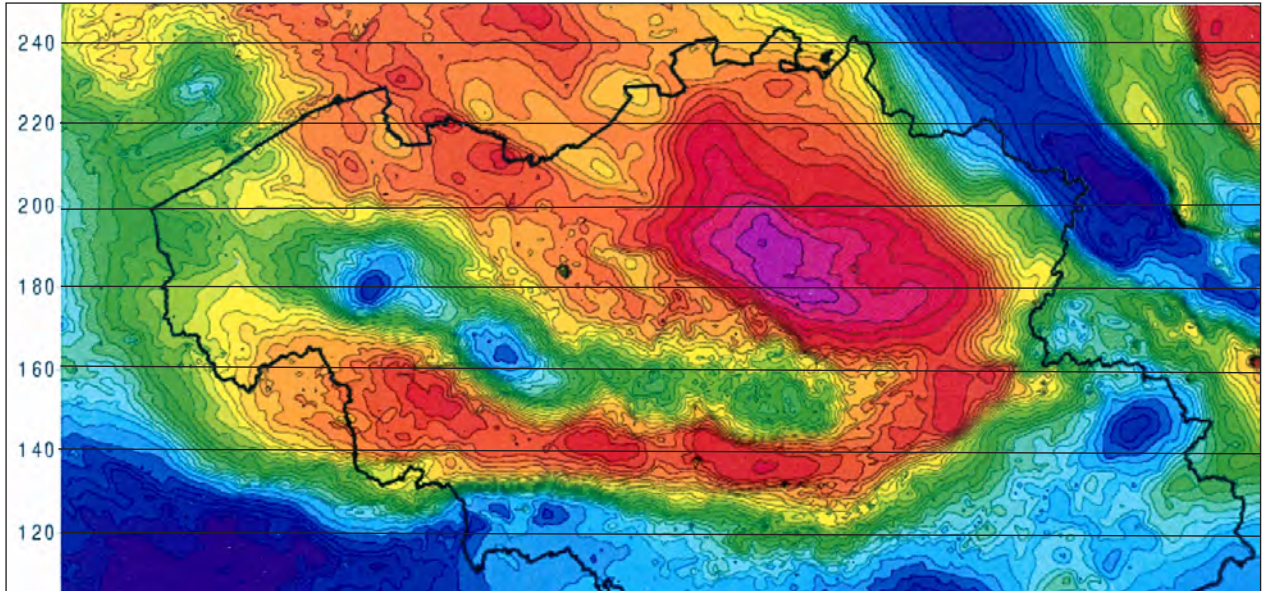
*Maps in annex page 4:*

*top: Bouguer anomaly map of the northern part of Belgium (Everaerts & De Vos, 2012).*

*bottom: Aeromagnetic map of the northern part of Belgium (Geological Survey of Belgium, 1994).*

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# FIELD GUIDE TO THE GEOLOGY OF THE BRABANT MASSIF: THE OUTCROPS OF THE DYLE AND SENNE BASINS

by Alain HERBOSCH<sup>1</sup> and Jacques VERNIERS<sup>2</sup>

1 Département des Sciences de la Terre et de l'Environnement, Université Libre de Bruxelles, Belgium, herbosch@ulb.ac.be  
2 Department of Geology and Soil Science, Ghent University, Belgium, jacques.verniers@ugent.be

**Abstract.** This field guide will provide a good insight into the Lower Palaeozoic geology of the Dyle (first day) and Senne (second day) basin areas, which are among the most important and extensive outcropping zones of the Brabant Massif. Fifteen selected outcrops are visited. They cover all the stratigraphic range observed in the Brabant Massif from the Lower Cambrian (Blanmont Formation) to the upper Silurian (Ronquières Formation) and also the Brabantian unconformity. An up-to-date geological introduction synthesizes the most recent publications and the results of the recent 1/25,000 scale mapping of the Brabant. In each stop, a detailed description is provided of the location, stratigraphy, lithology and structural architecture, followed by interpretations. The observations and their implications are placed in the broader context of the Cambrian to Devonian odyssey of the Brabant Massif within the wandering history of the Avalonia microplate.

**Keywords:** regional geology, Belgium, Cambrian, Ordovician, Silurian

## 1. Excursion programm

### 1.1. First day: outcrops of the Dyle Basin (Fig. 1)

**Stop 1:** near the old mill Al Vau (Blanmont), Orne valley. Massive quartzite and greenish sandstone of the **Blanmont Formation**. Upper part of Terreneuvian (?) based on ichnofossil *Oldhamia radiata*.

**Stop 2:** Mont-St-Guibert church, Orne valley. Rhythmic alternances of sandstone, siltstone and slate of the lower part of the **Tubize Formation**. Stage 3 (lower Cambrian) based on ichnofossil *Oldhamia radiata*.

**Stop 3:** Beurieux highway bridge, Orne valley. Very compact green slate with magnetite of the **Tubize Formation**. Same age.

**Stop 4:** old quarry of Franquénies (Mousty), Dyle valley. Graphitic, pyritic and manganiferous slate with some chert (phtanite) lenses from the lower part of the **Mousty Formation**. Furongian (upper Cambrian) based on acritarchs. Unconformity of Eocene sands over the Caledonian basement, only some sandstone and black slate pebble.

**Stop 5:** railway trench near the old mill of Chevlipont, Thyle valley. Rhythmic alternances of silt and mudstone laminae with wavy bedding of the **Chevlipont Formation**. Lower Tremadocian based on the graptolites *Rhabdinopora flabelliformis* and acritarchs.

**Stop 6:** W side of the Thyle valley 300 m to the N of the abbey. Dark brown bioturbated siltstone and argillaceous sandstone from the **Abbaye de Villers Formation**. Upper Dapingian to the lowermost Darriwilian based on acritarchs and chitinozoans.

**Stop 7:** wall of the church of Villers-la-Ville, Thyle valley. Very heavily bioturbated siltstone and argillaceous sandstone of the upper part of the **Tribotte Formation**. Lower half of the Darriwilian (upper Arenigian to lowermost Llanvirnian) based on acritarchs and chitinozoans.

**Stop 8:** old sunken road to Rigenée, Thyle valley. Rapid transition to the dark siltstone (slate) of the **Rigenée Formation**. Second half of the Darriwilian to lowermost Sandbian (Llanvirnian to lowermost Caradocian) based on acritarchs and chitinozoans. Short walk to the old castle Le Chatelet (XIII century).

### 1.2. Second day: outcrops of the Senne Basin (Fig. 1)

**Stop 9:** Rogissart, road Braine-le-Chateau to Clabecq, Hain valley. Rhythmic alternances of sandstone (greywacke), siltstone and slate of the middle member of the **Tubize Formation** (Rogissart Mbr.). Series 2 (lower Cambrian) based on the ichnofossil *Oldhamia*.

**Stop 10:** Asquempont bridge over the Brussels-Charleroi canal, Sennette valley. East side of the canal trench:

- Greenish slate without stratification of the upper member of the **Oisquercq Formation** (Asquempont Mbr.). Upper part of the Stage 4 to lower part of the Stage 5 (lower to middle Cambrian boundary) based on acritarchs.
- The massive greenish slate changes progressively to green stratified slate. At the 40.12 km of the canal,

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