

Summarised description

Unit name

Villé Formation

Code

VIL

Status

Formal Formation

Parent unit

none

Child units

Bouillon Facies

Characteristic description

Dark blue shale, siltstone and slate with thin limonitic sandstone laminae, dark blue siltstone and quartzitic sandstone in pluridecimetre-thick beds, rather fossiliferous and carbonate.

Age

Pragian

Thickness

30 to 600 metres

Area of occurrence

Southern limb of the Dinant Synclinorium up to the Xhoris Fault.

Type locality

Villé near La Roche-en-Ardenne along the La Roche-en-Ardenne–Houffalize road.

Alternative names

facies des Amonines, Grauwacke de St.-Michel

Authors

Godefroid & Stainier (1982)

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

Date

23/09/2025

Cite as

Denayer, J. & Mottequin, B., 2025. The Villé Formation, 23/09/2025. National Commission for Stratigraphy Belgium. <https://ncs.naturalsciences.be/lithostratigraphy/Ville-Formation>

Full description

Unit name

Villé Formation

Code

VIL

Status

Formal Formation

Parent unit

none

Child units

Bouillon Facies

Origin of the name

After Villé, a locality of the town of La Roche-en-Ardenne.

Alternative names

facies des Amonines, Grauwacke de St.-Michel

Authors

Godefroid & Stainier (1982, p. 151): *Formation de Villé*

Modified after

Denayer, J. & Mottequin, B., 2024. Lower Devonian lithostratigraphy of Belgium. *Geologica Belgica*, 27/3-4, 115–154.

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Characteristic description

The Villé Formation includes dark blue shale, siltstone and slate with thin limonitic sandstone laminae, dark blue siltstone and quartzitic sandstone in pluridecimetre-thick beds. Sandstone and siltstone show parallel lamination, flaser bedding and occasional ripple marks. The lithologies are commonly slightly carbonated and contain coquina beds, though usually dissolved, and impure crinoidal limestone beds and lenses. Brachiopods, bivalves, corals and crinoids are frequent. Through the weathering, all lithologies present commonly a 'rusty' patina and limonite-filled cells corresponding to decarbonated material. Besides the fossils, the carbonate is present as cement in the sandstones and siltstones. The Formation also includes sets of greyish, greenish or even white quartzitic sandstone beds (*grès à faciès anoreux* and *Grès Blanc de Cielle* sensu Asselberghs, 1946).

In the western part of the Neufchâteau–Eifel Synclinorium, Asselberghs (1946) described a peculiar facies characterised by the presence of carbonate sandstones alternating with finer-grained lithologies in plurimetric sequences (*calcareophyllades*) and abundant crinoidal beds and lenses. These lithologies form the **Bouillon Facies** (*facies de Bouillon* in Asselberghs, 1927, p. 210; 1946, p. 143). In the Dinant Synclinorium, the typical facies of the Villé Formation, as known in its type locality,

still contains a carbonate unit. This is the *facies des Amonines* sensu Asselberghs (1946, p. 145), in which the rock is superficially decarbonated (*Grauwacke du bois de Saint-Michel* and *Grauwacke de St.-Michel* in the old literature, e.g. Maillieux & Demanet, 1929; Asselberghs & Maillieux, 1938; Maillieux, 1941). In the Neufchâteau–Eifel Synclinorium, east of the Vierre River valley, the carbonate content rapidly decreases, and the quartzite and slate beds become dominant, hence passing to the Longlier Formation.

Area of occurrence

The Villé Formation is present along the southern and south-eastern limb of the Dinant Synclinorium, from Anor to the La Roche-en-Ardenne Fault, then northwards up to the Xhoris Fault.

Type locality

Villé near La Roche-en-Ardenne along the La Roche-en-Ardenne–Houffalize road (Stainier, 1994). Outcrops of the Bouillon Facies can be seen along the Semois River between Bouillon and Poupehan.

Age

Despite its richness in fossils, the Villé Formation yielded few guide markers. A Pragian ('middle Siegenian') age is supported by the occurrence of the brachiopod *Multispirifer solitarius* (Godefroid & Stainier, 1982) and the first *Euryspirifer* (Godefroid, 1994).

Thickness

The Formation is c. 30 m thick south of Couvin (Marion & Barchy, 1999), 500 m at Amonines (Marion & Barchy, in press, a), 250–300 m along the northern flank of the La Roche-en-Ardenne Syncline (Dejonghe & Hance, 2001) and up to 600 m in the Semois River valley near Bouillon (Belanger & Ghysel, 2017).

Lower boundary

The base is traditionally marked by the first carbonate bed but the boundary with the underlying Mirwart Formation is transitional.

Upper boundary

The top is transitional from the Villé Formation to the La Roche Formation and is marked by the increasing thickness of the dark slate packages and the rapid disappearance of the carbonate beds.

Regional correlations

It passes to the Longlier Formation on the eastern margin of the Halleux Anticline. In the Neufchâteau–Eifel Synclinorium, the Bouillon Facies is developed west of the Vierre River valley and extends westwards into France where it is named *Calcareophyllade de Nouzon* on the southern edge of the Rocroi Inlier and *Grauwacke de Montigny-sur-Meuse* on its northern edge (Beugnies & Waterlot, 1965).

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