

Summarised description

Unit name

Kautenbach-Troisvierges Formation

Code

KAT

Status

Formal Formation

Parent unit

Warche Group

Child units

Jupille Member

Characteristic description

Dark bluish slate getting richer in thin light grey or greenish sandstone laminae upwards, passing to typical *quartzophyllade*. Light greenish quartzitic sandstone beds with ripple marks occur.

Age

Pragian

Thickness

1300 to 1500 metres

Area of occurrence

North-eastern part of the Neufchâteau–Eifel Synclinorium.

Type locality

Section along the railway in Troisvierges and along the Wiltz River at Kautenbach (Luxembourg).

Alternative names

Facies de Saint-Vith

Authors

Gosselet (1885)

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 Kautenbach-Troisvierges Formation, 23/09/2025. National Commission for Stratigraphy Belgium. <https://ncs.naturalsciences.be/lithostratigraphy/Kautenbach-Troisvierges-Formation>

Full description

Unit name

Kautenbach-Troisvierges Formation

Code

KAT

Status

Formal Formation

Parent unit

Warche Group

Child units

Jupille Member

Origin of the name

After the villages of Kautenbach and Troisvierges, in the Wiltz River valley (Luxembourg). Both names were associated by Dejonghe et al. (2017) to create a single lithostratigraphic unit.

Alternative names

Facies de Saint-Vith

Authors

Gosselet (1885, p. 283): *Schistes de Kautenbach*

Gosselet (1885, p. 285): *Phyllades de Trois-Vierges*

Dejonghe et al. (2017, p. 36): *Kautenbach-Troisvierges Formation*.

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

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Characteristic description

The Kautenbach–Troisvierges Formation is a lateral facies of the La Roche Formation (*facies de Saint-Vith* in Asselberghs, 1927, 1946) developed east of Wibrin and characterised by a slaty facies. Its lower part is made of homogeneous dark bluish slate that probably corresponds to the expression of the laterally equivalent Martelange Member of the La Roche Formation. Upwards, the slate is richer in thin light grey or greenish sandstone laminae and show the typical *quartzophyllade* facies. Light greenish quartzitic sandstone beds with ripple marks and rare decalcified coquinas occur (*Grès vert du bois de Liherain* in Leblanc (in Asselberghs & Leblanc, 1934)). Large pyrite crystals, up to 1 cm wide, often pseudomorphosed into limonite are locally very abundant, especially in the sandstone laminae. The Kautenbach–Troisvierges Formation recorded the deposition of distal turbidites.

The upper part of the formation is richer in decimetric beds of dark grey to brownish micaceous and bioturbated sandstone and siltstone. The sandstone beds display a wide range of sedimentary structures (oblique stratifications, toolmarks, ripples, lenticular bedding, oblique and cross stratifications, load casts, ball-and-pillows, etc.). They typically have a brownish-orange weathering colour due to their limonitic content. This unit is recognised as the Jupille Member that forms the upper part of the equivalent, La Roche Formation.

Area of occurrence

North-eastern part of the Neufchâteau–Eifel Synclinorium, east of Wibrin and towards the Luxembourg where Colbach (2003) named it *Formation de Grumelange* (name abandoned in further publications). The Jupille Member fades away eastwards in the Grand Duchy of Luxembourg.

Type locality

Section along the railway in Troisvierges and along the Wiltz River at Kautenbach (Luxembourg). There is no good section exposing these facies in Belgium, but discontinuous outcrops in the Ourthe occidentale River valley, upstream Houffalize, allow to see these facies.

Age

The Formation is not dated precisely. As its lateral equivalent (La Roche Formation), it is considered as mostly late Pragian in age.

Thickness

The Formation is 1300–1500 m thick in Luxembourg (Dejonghe et al., 2017).

Lower boundary

The transition with the underlying Longlier Formation is progressive, with the increase of dark grey to black slates and decrease of sandstone beds being used as boundary between the two units.

Upper boundary

Similarly, the transition with the overlying Our Formation is transitional, with a change in colour of the sandstone beds (from rusty brown to greenish grey or brownish) used as a boundary marker.

Regional correlations

West of Wibrin, the more typical silty facies of the La Roche Formation develops progressively. In Germany, this slaty unit is named *Wüstebach-Formation* (Ribbert et al., 1992) and *Herdorf-Schichten* in the Eifel Hills (Zitmann & Grünig, 1987).

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