

Summarised description

Unit name

Longlier Formation

Code

LOG

Status

Formal Formation

Parent unit

Warche Group

Child units

None

Characteristic description

Brownish fine-grained, argillaceous and limonitic sandstone rich in bioturbation and dissolved fossils, alternating with laminar siltstones.

Age

Pragian

Thickness

400 to 900 metres

Area of occurrence

Along both limb of the Neufchâteau – Eifel Synclinorium, east of Saint-Médard.

Type locality

The original stratotype does not exist anymore but composite sections along the Ourthe oriental River downstream Houffalize act as type section.

Alternative names

Quartzophyllades de Longlier

Authors

Asselberghs (1912)

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

Full description

Unit name

Longlier Formation

Code

LOG

Status

Formal Formation

Parent unit

Warche Group

Child units

none

Origin of the name

Section along the Namur–Arlon railway line, NNE of the Longlier (Neufchâteau) station.

Alternative names

Quartzophyllades de Longlier

Authors

Asselberghs (1912b, p. B203): *Quartzophyllades de Longlier*

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 Longlier Formation is dominated by brownish sandstones that are usually fine-grained, argillaceous and limonitic, and commonly micaceous; they alternate with laminar siltstones (*quartzophyllades*). These sediments are commonly bioturbated. The fossils are abundant and diverse (brachiopods, crinoids, bryozoans, bivalves, ramose tabulate corals) but they are concentrated in lenticular beds; bivalves and brachiopods can reach a large size. Furthermore, they are usually dissolved and therefore preserved as steinkerns. Westwards, the carbonate content (both bioclasts and calcitic cement) increases, passing to the carbonate facies of the Villé Formation. North-eastwards, the carbonate content virtually disappears, and the sediments tend to become finer-grained, with a larger proportion of siltstone and *quartzophyllade*, and sandstone beds occur as plurimetric bundles.

Area of occurrence

The Longlier Formation is recognised in the Neufchâteau–Eifel Synclinorium, east of a line joining Saint-Médard and Cugnon and up to the south-east of the Stavelot–Venn Inlier.

Type locality

The type section, situated along the Namur–Arlon railway north of the Longlier station, was described notably by Asselberghs (1912, 1913, 1946), Brichant (1928) and Maillieux (1936). Nevertheless, this outcrop, which exposed the upper part of the Formation, has been concealed by infrastructure work to extend the Longlier station (Godefroid, 1994); nowadays, only a small part of it remains visible around km 160.6 (Ghysel, 2023). Though no section exposes the entire Formation, good outcrops are visible in the Ourthe orientale River valley downstream Houffalize (Dejonghe, 2024).

Age

The type section yielded an abundant fauna (Maillieux, 1936; Asselberghs, 1946), among which brachiopods are the most diverse. Few of them bear a precise biostratigraphic signal and the Longlier Formation is traditionally considered to be equivalent in age with the Villé Formation. Based on the presence of *Euryspirifer dunensis* and the absence of *E. sp. 1* in the stratotype of the Longlier Formation, Godefroid (1994) suggested correlating the upper part of this section with the La Roche Formation, which would indicate that in the Neufchâteau–Eifel Synclinorium, the boundary between the Longlier and La Roche formations is slightly younger than in the Dinant Synclinorium (see also Godefroid, 2001). However, this is disputed by Jansen (2016) who considers that the specimens from the La Roche Formation attributed to *E. dunensis* by Godefroid (1994) should be assigned to *E. assimilis* spp. (see Mottequin & Jansen, 2025).

Thickness

At least 400 m in the type section, probably thicker eastwards (900 m in Houffalize, Dejonghe, 2019).

Lower boundary

First quartzophyllade bed overlying the sandstone of the Mirwart Formation.

Upper boundary

First bed of the dark shale and siltstone of the overlying La Roche or Kautenbach-Troisvierges Formation.

Regional correlations

south-east of the Stavelot–Venn Inlier where it passes to the *Rurberg-Schichten* of the German terminology (Ribbert et al., 1992). Along the northern margin of the Neufchâteau–Eifel Synclinorium, east of the Stavelot–Venn Inlier, the Formation is not discriminable and is included in the Warche Group. Westwards, the carbonate content increases, and the Longlier Formation passes to the Villé Formation (*facies de Bouillon* in Asselberghs, 1927, p. 210; 1946, p. 143).

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