

Revised lithostratigraphic scale of the Devonian of Belgium: An introduction and an homage to Pierre Bultynck

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The Devonian is the fourth period of the Paleozoic Era, occurring between the Silurian and Carboniferous periods. It extends from c. 419.0 Ma to c. 359.3 Ma (Becker et al., 2020) and is divided into three epochs (Early, Middle and Late), themselves divided into seven ages (Fig. 1). The Devonian Period is a key interval in the history of Earth and Life. It witnessed the advent of the first continental ecosystems on land and the formation of the largest shallow-water reef complexes of the Paleozoic in the seas. These developments were accompanied by significant changes in the biosphere.

Since the pioneer works of Dumont (1848), Gosselet (1860, 1888) and Dewalque (1868), the Devonian lithostratigraphic scale was built up gradually through dating and correlations. The first large-scale geological mapping campaigns of the Belgian territory, dating back to the late 1800s and early 1900s produced a stratigraphic framework characterised by its precision and the continuous updating of the legend of the *Carte géologique de la Belgique à l'échelle du 40 000^e* from 1892 to 1929. Fundamental monographs, notably by Asselberghs (1946) on the Lower Devonian, and by Godefroid (1968) and Bultynck (1970) on the Middle Devonian, represent the culmination of half a century of research and were the authoritative works for decades. The dedicated papers in the *Prodrome* published by the Société géologique de Belgique to mark Paul Fourmarier's 75th birthday (Asselberghs, 1954; Dumon et al., 1954; Fourmarier, 1954a) represented state-of-the-art summaries on the Devonian of Belgium. Despite its initial biostratigraphic purposes, the compendium published as field guidebooks of the symposium on Belgian micropalaeontological limits from Emsian to Viséan, held in Namur in 1974 (Bouckaert & Streeel, 1974), is still an important contribution to the Devonian and Carboniferous stratigraphy providing bed-by-bed data and lithostratigraphic columns of numerous type sections.

The onset of the revision of the Geological Map of Wallonia (*Carte géologique de Wallonie*) at the scale 1/25,000 in the early 1990s, coupled to the work of the Subcommittee on Devonian Stratigraphy of the National Commission for Stratigraphy in Belgium, led to the revision of the Lower, Middle and Upper Devonian lithostratigraphy by Godefroid et al. (1994), Bultynck et al. (1991) and Boulvain et al. (1993, 1999), respectively.

However, as the latter focused mostly on the northern part of the southern Belgian sedimentary basin (chiefly the Dinant Synclinorium), the mapping geologists had to introduce several new lithostratigraphic units and had to tackle areas that were left aside during decades since Asselberghs (1946, 1954), notably the Lower Devonian of the Neufchâteau–Eifel Synclinorium. This has been done through the publication of the explanatory booklets of the geological maps, usually before their formal ratification by the National Commission for Stratigraphy.

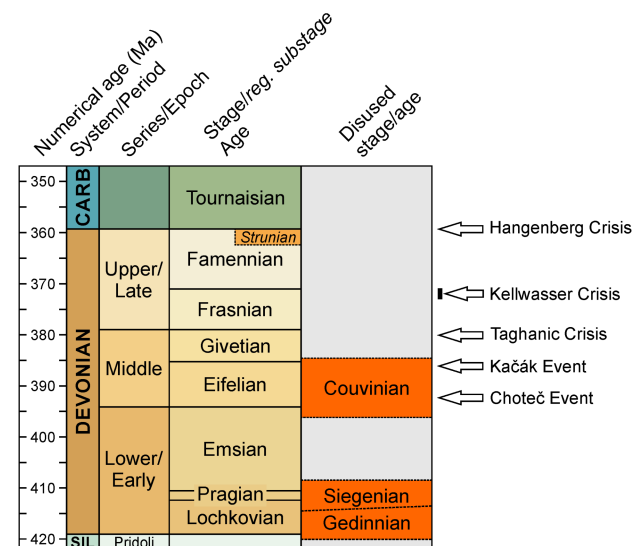


Figure 1. Devonian time scale with the approximative position of the disused Gedinnian, Siegenian and Couvinian stages and the regional Strunian substage; the main biotic crises and events recognised within the Middle and Upper Devonian are indicated (from Becker et al., 2020). Numerical ages are from Melchin et al. (2020), Becker et al. (2020) and Aretz et al. (2020) for the Silurian, Devonian and Carboniferous periods, respectively. Abbreviations: CARB, Carboniferous; SIL, Silurian; reg., regional.

The present volume of *Geologica Belgica* represents a major contribution aiming at updating and supplementing the aforementioned Lower, Middle and Upper Devonian lithostratigraphic scale previously summarised and published by Bultynck & Dejonghe (2002), through the revision of the tremendous work produced these last 20 years by the mapping geologists and stratigraphers, who worked on the considered stratigraphic interval. Furthermore, this is a tribute to the work of the geologists who were involved in the revision of the Geological Map of Wallonia. Their efforts have already been duly recognised with the E. Van den Broeck Medal, awarded by *Geologica Belgica* in 2019.

The increase of knowledge about the lithostratigraphy, through decades of research, allowed a better understanding of the tectonostratigraphy and resulted in several publications (e.g. Hance et al., 1999; Belanger et al., 2012) that revised the tectonic concepts of the Ardenne inherited e.g. from Fourmarier (1954b) or Michot (1980). The Devonian sediments were deposited in the Namur–Dinant Basin, which corresponded to a shallow marine basin developed on the southern margin of Laurussia, along the Rheohercynian Sea. The Namur–Dinant Basin was then tectonised during the Variscan orogeny (or Hercynian orogeny) and its remnants now form parts of the Variscan fold and thrust belt. They are exposed in several

tectonostratigraphic units that are moderately deformed (Fig. 2). From south to north, these are the Givonne Anticlinorium, Neufchâteau–Eifel Synclinorium, Ardenne Anticlinorium, Dinant Synclinorium and Durbuy–Philippeville Anticlinorium, and Vesdre Nappe that altogether form the Ardenne Allochthon. The latter is limited to the north by the Midi–Eifel Thrust Fault. North of this major fault, the Haine–Sambre–Meuse Overturned Thrust sheets form a series of imbricated tectonic sheets thrust over the Brabant Parautochthon. The eastern margin of this parautochthon is divided into small tectonic blocks in the Visé area and Booze–Le Val-Dieu Ridge. Part of the Parautochthon is also outcropping in the Theux Window. The cumulative thickness of the Devonian lithostratigraphic units exceeds 7000 m in the Ardenne Allochthon. North of the Brabant Parautochthon, the Devonian succession of the Campine Basin, covered by thick post-Devonian deposits, is only known from boreholes.

This volume is therefore a compendium of existing data published by many authors in numerous publications dealing with the Namur–Dinant (including the geological maps of Wallonia) and Campine basins. The authors tried to be exhaustive in reshaping the available framework, adding new lithostratigraphic units introduced since the last overview by Bultynck & Dejonghe (2002) and resurrecting some units

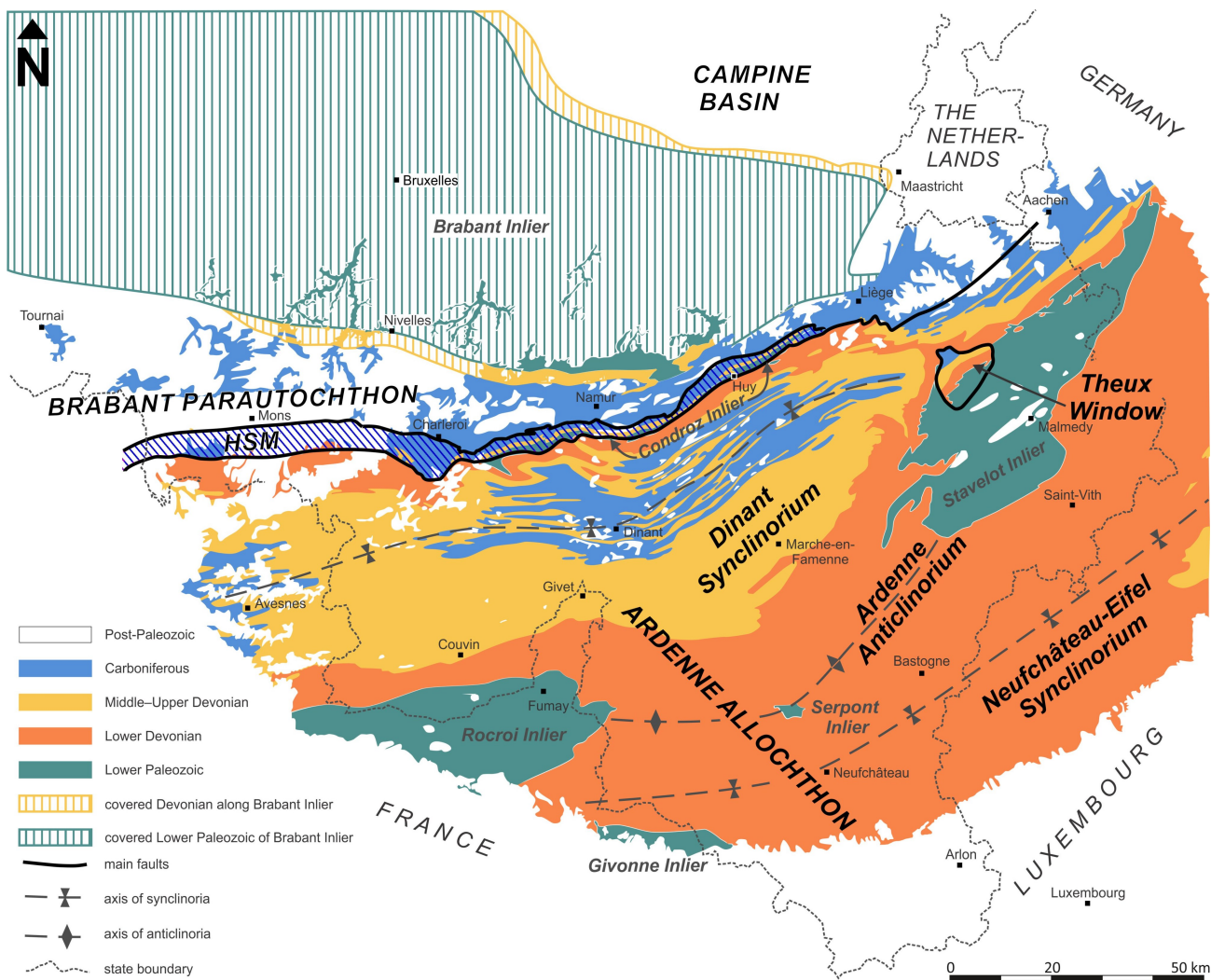


Figure 2. Simplified tectonostratigraphic map of central and southern Belgium with the main tectonic units used in the papers forming this volume (after de Béthune, 1954; Belanger et al., 2012). Abbreviation: HSM, Haine–Sambre–Meuse Overturned Thrust sheets.

overlooked in previous papers. There are very few new unpublished data and efforts were made to cite the contributors of original ideas presented here.

The volume includes three papers, each of them being dedicated to a series of the Devonian System: the Lower Devonian (Denayer & Mottequin, 2024), Middle Devonian (Denayer et al., 2024), and Upper Devonian (Mottequin et al., 2024). For practical purposes, the lithostratigraphic units recognised in Belgium are listed alphabetically in each paper as a lexicon, notwithstanding their age and geographic distribution. An index including all these units is placed in Appendix 1 and comprises the spelling of each of them in English, French, Dutch, and German. Lithostratigraphic units are classified as groups, formations, members, horizons and facies, following the international standards (Hedberg, 1976; Murphy & Salvador, 1999). The geometric and stratigraphic relationships of the units are explained in the charts figured in each paper. Every unit is presented in the following standard way: origin of name, description, stratotype and sections, area and lateral variations, thickness, age, use, and main contributions. If necessary, additional remarks are included. Characteristic facies and outcrops are photographically documented. The importance of macrofossils (brachiopods, rugose corals and tabulate corals) in the recognition and dating of the lithostratigraphic units is emphasised and the latter are widely illustrated. Other organisms, such as crinoids, molluscs and trilobites, are also figured. Wherever possible, as brachiopods rank among the most common and important Devonian macrofossils, the type specimen (holotype, lectotype or neotype) of each brachiopod species, which was originally described in Belgium and cited in the text, has been illustrated. Similarly, illustrations of type specimens of some cephalopod, crinoid, plant and trilobite species have been included.

Most of the descriptions provided in the articles are synthesised from previous publications such as the abovementioned lithostratigraphic charts, complemented by more recently published data, including those from the revised Geological Map of Wallonia. To be coherent with the latter, new names are here proposed for units that were previously grouped for mapping purposes. For example, the Saint-Joseph and Eau Noire formations are here transformed into members of the newly introduced Moulin de la Foulerie Formation; the Montfort and Evieux formations, which are traditionally mapped together, are considered as members of the Condroz Formation; the upper Frasnian to lower Famennian shaly units are here gathered into the newly introduced Marche-en-Famenne Formation. Informal members (e.g. *Arkose d'Haybes*, *membre biostromal de la Formation de Lustin*, etc.), remarkable beds (e.g. *Poudingue de Naninne*, *Quartzite de Berlé*, etc.) and facies (e.g. Reumont Dolomitic Facies, Lesse Facies, etc.) are also introduced with standard definitions. As far as possible, existing names have been retained, unless they are confusing or already used for distinct units.

The spelling of the names is chosen to ensure stability and to follow the most common use, even if it differs from the originally introduced typing (e.g. Falnuée Member, not Fanué, Mondrepuis Formation, not Mondrepuits). In case of composed place names, the article is not preserved (e.g. Chavées Member, not Les Chavées Member; Trois-Fontaines Formation, not Les Trois-Fontaines Formation), except when it is a name of a town or a village (Le Roux Formation, not Roux Formation).

For each unit, we have indicated the oldest references available in the literature, which may explain certain discrepancies between the present work and previous ones (Bultynck & Dejonghe, 2002). A history of the Devonian subdivisions was provided by the compendia published in the 1990s and therefore not repeated herein (see references above).

The industrial past of Belgium is strongly linked to the natural resources of its subsoil, and in particular to the different lithologies that have been exploited, sometimes since the Antiquity. It seems therefore important to highlight the past and present uses of the various lithostratigraphic units presented herein. Besides the local use of the rocks as building stones (e.g. Macar, 1947; De Jonghe et al., 1995; Gemis & Vandembrouck, 2023), uncountable quarries and mines were dug for industrial purposes (lime, refractories, millstones, etc.; e.g. Macar, 1947; Camerman, 1947), but also for metallic ores (e.g. Dejonghe, 1985; Denayer et al., 2011) (Fig. 3). Many of them have disappeared, backfilled with various materials, obliterating all traces of past activity and erasing all geological documentation. Nowadays, the number of active quarries exploiting Devonian rocks has been drastically reduced in southern Belgium and they mainly produce aggregates, lime, industrial carbonates, and ornamental stones (Goemaere et al., 1998; Poty & Chevalier, 2004; De Ceukelaire et al., 2014).

Unlike some countries where the geological heritage—so-called geoheritage—is preserved and promoted, it has to be said that major efforts should be made by regional and local authorities to preserve key outcrops for future generations of geologists, geochemists and palaeontologists, but also as a universal natural heritage. The reader is referred to the incredible saga of the successive fillings of the trenches dug at Senzeille in an attempt to preserve the historical type section of the Frasnian–Famennian boundary (Casier & Bultynck, 2000). Few Belgian sites are classified for their geology: the Beauchâteau quarry in Seinzelle (classified since 1992), the Strud quarry in Gesves (since 2012) and the Omalius Anticline in Durbuy (Unesco global geosite since 2024). Although a plethora of scientific papers was dedicated to the Belgian geology and palaeontological collections are available in federal and university collections, nothing can replace observations made in the field.

The first part of this volume (Denayer & Mottequin, 2024) is dedicated to the (Pridoli)–Lower Devonian lithostratigraphy, with the description and discussion of 79 formal and former units. The second contribution (Denayer et al., 2024) deals with the Middle Devonian lithostratigraphy, including the description and discussion of 63 formal and former units. The third paper (Mottequin et al., 2024) describes and discusses the lithostratigraphy of the Upper Devonian, with 100 formal and former units. Contrary to the Frasnian ones, the Famennian units are here described in detail for the first time. Major adaptations have been applied to the ‘traditional’ framework, in order to reflect the reality of the field mapping.

This volume was made possible thanks to the tremendous work of geologists, palaeontologists, mapping geologists and stratigraphers, namely Laurent Barchy, Isabelle Belanger, Sabine Blockmans, Frédéric Boulvain, Marie Coen-Aubert, Léon Dejonghe, Serge Delaby, Bernard Delcambre, Roland Dreesen, Virginie Dumoulin, Bénédicte Eggermont, Pierre Ghysel, Jacques Godefroid, Eric Goemaere, Luc Hance, Michel Hennebert, Daniel Lacroix, Martin Laloux, Eric Lemonne, Jean-Marc Marion, Jonathan Michel, Jean-Louis Pingot, Alain Préat, Pierre Stainier, Philippe Steemans, Jacques Thorez, Francis Tourneur and Hsien Ho Tsien and the late Alain Blicck, Pierre Bultynck, Michel Coen, Raphaël Conil, Philippe Gerrienne, Alexis-Nicolas Mouravieff, and Jacques Pel.

We also thank the reviewers who accepted to give their time to improve the large manuscripts they received: Markus Aretz, Rebecca Bennion, Michiel Duser, Sophie Gouwy, Jean-Marc Marion, Edouard Poty, Martin Salamon, Philippe Steemans, Francis Tourneur and Kris Welkenhuysen, as well as the editor, Annick Anceau for all her precious advice.

Finally, all the authors of the papers forming this special



Figure 3. The past and ongoing stone industry in the Devonian of southern Belgium. **A.** Hautmont *marbre rouge* quarry, Vodelée, 1929 (courtesy of Pierres et Marbres de Wallonie). **B.** Wierde ironstone mine, active between 1855 and 1869. **C.** Lime kiln at Jemelle, early 20th century (courtesy of Pierres et Marbres de Wallonie). **D.** Mazy *marbre noir* underground quarry at Mazy, the only underground ‘marble’ quarry still ongoing nowadays in Belgium. **E.** *Marbre Sainte-Anne* quarry at Gournies, 1920s (courtesy of Pierres et Marbres de Wallonie). **F.** Entrance of the Alle slate underground quarry. **G.** Aerial view of the Marenne quarry, extracting Givetian limestone for aggregate production, 2023 (courtesy of Jean-Marc Marion).

volume would like to make an homage to Pierre Bultynck who has been a driving force for the stratigraphy of the Devonian since the 1970s. Allying a detailed field work and a precise palaeontological work at the office, he demonstrated the complementarity of such fields of expertise. Pierre Bultynck passed away on November 27th, 2022. A summary of his scientific work was published previously by Vandenberghe & Dhondt (2004) at the occasion of his retirement. A list of Pierre's publications was recently published with his obituaries by Becker & Narkiewicz (2023).

Bernard Mottequin, President of the National Commission for Stratigraphy in Belgium

Julien Denayer, President of the National Subcommittee on Devonian Stratigraphy

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Appendix 1. List of the lithostratigraphic units described in the volume 27/3-4 of *Geologica Belgica*, and their translation in French, Dutch and German.

- Abîme Member – Membre de l'Abîme – Lid van Abîme – Abîme-Member – ABI: [Middle Devonian](#)
- Acoz Formation – Formation d'Acoz – Formatie van Acoz – Acoz-Formation – ACO: [Lower Devonian](#)
- Aisemont Formation – Formation d'Aisemont – Formatie van Aisemont – Aisemont-Formation – AIS: [Upper Devonian](#)
- Aisne Sandstone Facies – Faciès gréseux d'Aisne – Zandsteen Facies van Aisne – Aisne-Sandsteinfacies: [Middle Devonian](#)
- Alle Member – Membre d'Alle – Lid van Alle – Alle-Member – ALL: [Lower Devonian](#)
- Alvaux Formation – Formation d'Alvaux – Formatie van Alvaux – Alvaux-Formation – ALV: [Middle Devonian](#)
- Anlier Facies – Faciès d'Anlier – Facies van Anlier – Anlier-Facies: [Lower Devonian](#)
- Anloy Formation – Formation d'Anloy – Formatie van Anloy – Anloy-Formation – ANL: [Lower Devonian](#)
- Arche Member – Membre de l'Arche – Lid van Arche – Arche-Member – ARC: [Upper Devonian](#)
- Aye Facies – Faciès d'Aye – Facies van Aye – Aye-Facies: [Upper Devonian](#)
- Baelen Member – Membre de Baelen – Lid van Baelen – Baelen-Member – BAE: [Upper Devonian](#)
- Barrage Member – Membre du Barrage – Lid van Barrage – Barrage-Member – BAR: [Lower Devonian](#)
- Barse Facies – Faciès de Barse – Facies van Barse – Barse-Facies: [Upper Devonian](#)
- Barvaux Facies – Faciès de Barvaux – Facies van Barvaux – Barvaux-Facies: [Upper Devonian](#)
- Berlé Quartzite – Quartzite de Berlé – Quartzite van Berlé – Berlé-Quartzit: [Lower Devonian](#)
- Beverire Facies – Faciès de Beverire – Facies van Beverire – Beverire-Facies: [Upper Devonian](#)
- Bième Member – Membre de la Bième – Lid van Bième – Bième-Member – BME: [Lower Devonian](#)
- Biémonsart Member – Membre de Biémonsart – Lid van Biémonsart – Biémonsart-Member – BIN: [Upper Devonian](#)
- Bieumont Member – Membre de Bieumont – Lid van Bieumont – Bieumont-Member – BMT: [Upper Devonian](#)
- Bois Chestion Member – Membre du Bois Chestion – Lid van Bois Chestion – Bois Chestion-Member – BCS: [Lower Devonian](#)
- Bois d'Ausse Formation – Formation du Bois d'Ausse – Formatie van Bois d'Ausse – Bois d'Ausse-Formation – BAU: [Lower Devonian](#)
- Bois de Bordeaux Group – Groupe du Bois de Bordeaux – Group van Bois de Bordeaux – Bois de Bordeaux-Gruppe – BOR: [Middle Devonian](#)
- Bois de Boussu Formation – Formation du Bois de Boussu – Formatie van Bois de Boussu – Bois de Boussu-Formation – BBO: [Middle Devonian](#)
- Bois de Chaumont Formation – Formation du Bois de Chaumont – Formatie van Bois de Chaumont – Bois de Chaumont -Formation – BCH: [Lower Devonian](#)
- Bois de la Rocq Formation – Formation du Bois de la Rocq – Formatie van Bois de la Rocq – Bois de la Rocq-Formation – BDR: [Upper Devonian](#)
- Bois des Collets Member – Membre du Bois des Collets – Lid van Bois des Collets – Bois des Collets-Member – BCO: [Lower Devonian](#)
- Bois des Mouches former formation – ancienne formation du Bois des Mouches – vroegeren formatie van Bois des Mouches – ehemalige Bois des Mouches-Formation: [Upper Devonian](#)
- Bois du Planti Formation – Formation du Bois du Planti – Formatie van Bois du Planti – Bois du Planti-Formation – BDP: [Middle Devonian](#)
- Bois Godiau Formation – Formation du Bois Godiau – Formatie van Bois Godiau – Bois Godiau-Formation – BGB: [Lower Devonian](#)
- Bôlia Member – Membre de Bôlia – Lid van Bôlia – Bôlia-Member – BOL: [Lower Devonian](#)
- Booischoot Formation – Formation de Booischoot – Formatie van Booischoot – Booischoot-Formation – PBI: [Middle Devonian](#)
- Bon-Mariage Facies – Faciès de Bon-Mariage – Facies van Bon-Mariage – Bon-Mariage-Facies: [Upper Devonian](#)
- Bosscheveld Formation – Formation de Bosscheveld – Formatie van Bosscheveld – Bosscheveld-Formation – PBO: [Upper Devonian](#)
- Bossière Member – Membre de Bossière – Lid van Bossière – Bossière-Member – BOS: [Upper Devonian](#)
- Bouillon Facies – Faciès de Bouillon – Facies van Bouillon – Bouillon-Facies: [Lower Devonian](#)
- Boussu-en-Fagne Member – Membre de Boussu-en-Fagne – Lid van Boussu-en-Fagne – Boussu-en-Fagne-Member – BOU: [Upper Devonian](#)
- Boverie Member – Membre de La Boverie – Lid van Boverie – Boverie-Member – BVR: [Upper Devonian](#)
- Bovesse Formation – Formation de Bovesse – Formatie van Bovesse – Bovesse-Formation – BOV: [Upper Devonian](#)
- Braux Member – Membre de Braux – Lid van Braux – Braux-Member – BRO: [Lower Devonian](#)
- Brayelles Dolomitic Facies – Faciès dolomitique de Brayelles – Dolomitische Facies van Brayelles – Brayelles-Dolomitfacies – BRA: [Upper Devonian](#)
- Bure former formation – ancienne formation de Bure – vroegeren formatie van Bure – ehemalige Bure-formation: [Lower Devonian](#)
- Burnot Formation – Formation de Burnot – Formatie van Burnot – Burnot-Formation – BUR: [Lower Devonian](#)
- Caillou-qui-Bique Member – Membre du Caillou-qui-Bique – Lid van Caillou-qui-Bique – Caillou-qui-Bique-Member – CQB: [Lower Devonian](#)
- Chaieneu former member – ancien membre de Chaieneu – vroegeren lid van Chaieneu – ehemalige Chaieneu-member: [Lower Devonian](#)
- Chalon Member – Membre de Chalon – Lid van Chalon – Chalon-Member – CHA: [Upper Devonian](#)
- Champ Broquet former formation – ancienne formation du Champ Broquet – vroegere formatie van Champ Broquet – ehemalige Champ Broquet-formation: [Upper Devonian](#)
- Champ du Fau Member – Membre du Champ du Fau – Lid van Champ du Fau – Champ du Fau-Member – CHF: [Upper Devonian](#)
- Charlemont former formation – ancienne formation de Charlemont – vroegeren formatie van Charlemont – ehemalige Charlemont-formation : [Middle Devonian](#)
- Chavées Member – Membre des Chavées – Lid van Chavées – Chavées-Member – CVE: [Middle Devonian](#)
- Chooz Formation – Formation de Chooz – Formatie van Chooz – Chooz-Formation – CHO: [Lower Devonian](#)
- Cimetière Member – Membre du Cimetière – Lid van Cimetière – Cimetière-Member – CIM: [Middle Devonian](#)
- Ciney Member – Membre de Ciney – Lid van Ciney – Ciney-Member – CIN: [Upper Devonian](#)
- Citadelle de Huy Facies – Faciès de la Citadelle de Huy – Facies van Citadelle de Huy – Citadelle de Huy-Facies: [Upper Devonian](#)
- Claminforge Member – Membre de Claminforge – Lid van Claminforge – Claminforge-Member – CLA: [Middle Devonian](#)
- Clervaux Formation – Formation de Clervaux – Formatie van Clervaux – Klerf-Formation – CLE: [Lower Devonian](#)
- Comblain-au-Pont Formation – Formation de Comblain-au-Pont – Formatie van Comblain-au-Pont – Comblain-au-Pont-Formation – CBP: [Upper Devonian](#)
- Comblain-la-Tour Member – Membre de Comblain-la-Tour - Lid van Comblain-la-Tour – Comblain-la-Tour-Member – CLT: [Upper Devonian](#)
- Combreuil Member – Membre de Combreuil – Lid van Combreuil – Combreuil-Member – CBR: [Upper Devonian](#)
- Condroz Formation – Formation du Condroz – Formatie van Condroz – Condroz-Formation – CDZ: [Upper Devonian](#)

- Cousolre Member – Membre de Cousolre – Lid van Cousolre – Cousolre-Member – COU: [Upper Devonian](#)
- Couvin Formation – Formation de Couvin – Formatie van Couvin – Couvin-Formation – CVN: [Middle Devonian](#)
- Crupet Facies – Faciès de Crupet – Facies van Crupet – Crupet-Fazies: [Upper Devonian](#)
- Cul d'Éfer Member – Membre du Cul d'Éfer – Lid van Cul d'Éfer – Cul d'Éfer-Member – CUE: [Middle Devonian](#)
- Dave former member – ancien membre de Dave – vroegere lid van Dave – ehemalige Dave-member: [Lower Devonian](#)
- Dolhain Facies – Faciès de Dolhain – Facies van Dolhain – Dolhain-Fazies: [Upper Devonian](#)
- Dorinne Facies – Faciès de Dorinne – Facies van Dorinne – Dorinne-Fazies: [Upper Devonian](#)
- Eau Noire Member – Membre de l'Eau Noire – Lid van Eau Noire – Eau Noire-Member – EAN: [Lower Devonian](#)
- Écluse Member – Membre de l'Écluse – Lid van Écluse – Écluse-Member – ECL: [Lower Devonian](#)
- Ermitage Member – Membre de l'Ermitage – Lid van Ermitage – Ermitage-Member – ERM: [Upper Devonian](#)
- Épinette Facies – Faciès de l'Épinette – Facies van Épinette – Épinette-Fazies: [Upper Devonian](#)
- Esneux Formation – Formation d'Esneux – Formatie van Esneux – Esneux-Formation – ESN: [Upper Devonian](#)
- Etrœungt Formation – Formation d'Etrœungt – Formatie van Etrœungt – Etrœungt-Formation – ETR: [Upper Devonian](#)
- Évieux Member – Formation d'Évieux – Formatie van Évieux – Évieux-Formation – EVX: [Upper Devonian](#)
- Falissolle former formation – ancienne formation de Falissolle – vroegere formatie van Falissolle – ehemalige Falissolle-formation: [Upper Devonian](#)
- Falnuée Member – Membre de Falnuée – Lid van Falnuée – Falnuée-Member – FLN: [Upper Devonian](#)
- Famelette Formation – Formation de Famelette – Formatie van Famelette – Famelette-Formation – FML: [Upper Devonian](#)
- Famenne Member – Membre de la Famenne – Lid van Famenne – Famenne-Member – FAM: [Upper Devonian](#)
- Famenne former group or formation – ancien groupe ou ancienne formation de la Famenne – vroegere groep of formatie van Famenne – ehemalige Famenne-gruppe oder -formation: [Upper Devonian](#)
- Fépin Formation – Formation de Fépin – Formatie van Fépin – Fépin-Formation – FEP: [Lower Devonian](#)
- Flohimont Member – Membre de Flohimont – Lid van Flohimont – Flohimont-Member – FLH: [Middle Devonian](#)
- Fond des Cris Member – Membre du Fond des Cris – Lid van Fond des Cris – Fond des Cris-Member – FDC: [Upper Devonian](#)
- Fooz Formation – Formation de Fooz – Formatie van Fooz – Fooz-Formation – FOO: [Lower Devonian](#)
- Fond des Valennes Member – Membre du Fond des Valennes – Lid van Fond des Valennes – Fond des Valennes-Member – FVA: [Middle Devonian](#)
- Fontaine Samart Member – Membre de la Fontaine Samart – Lid van Fontaine Samart – Fontaine Samart-Member – FSA: [Upper Devonian](#)
- Fontin Facies – Faciès de Fontin – Facies van Fontin – Fontin-Fazies: [Upper Devonian](#)
- Forrières Group – Groupe de Forrières – Group van Forrières – Forrières-Gruppe – FOR: [Middle Devonian](#)
- Fort Hulobiet Member – Membre du Fort Hulobiet – Lid van Fort Hulobiet – Fort Hulobiet-Member – FHB: [Middle Devonian](#)
- Foulerie former member – ancien membre de la Foulerie – vroegere lid van Foulerie – ehemalige Foulerie-member: [Middle Devonian](#)
- Franc-Waret Formation – Formation de Franc-Waret – Formatie van Franc-Waret – Franc-Waret-Formation – FRW: [Upper Devonian](#)
- Frasnes former group or formation – ancien groupe ou ancienne formation de Frasnes – vroegere groep of formatie van Frasnes – ehemalige Frasnes-Gruppe oder Frasnes-Formation: [Upper Devonian](#)
- Fromelennes Formation – Formation de Fromelennes – Formatie van Fromelennes – Fromelennes-Formation – FRO: [Middle Devonian](#)
- Givet Group – Groupe de Givet – Group van Givet – Givet-Gruppe – GIV: [Middle Devonian](#)
- Golzinne Member – Membre de Golzinne – Lid van Golzinne – Golzinne-Member – GOL: [Upper Devonian](#)
- Gombe Facies – Faciès de la Gombe – Facies van Gombe – Gombe-Fazies: [Upper Devonian](#)
- Gougnies Member – Membre de Gougnies – Lid van Gougnies – Gougnies-Member – GOU: [Upper Devonian](#)
- Grand Ri Member – Membre du Grand Ri – Lid van Grand Ri – Grand Ri-Member – GRI: [Lower Devonian](#)
- Grands Breux Formation – Formation des Grands Breux – Formatie van Grands Breux – Grands Breux-Formation – GBR: [Upper Devonian](#)
- Hamoûle Member – Membre de Hamoûle – Lid van Hamoûle – Hamoûle-Member – HML: [Lower Devonian](#)
- Hampteau Facies – Faciès d'Hampteau – Facies van Hampteau – Hampteau-Fazies: [Lower Devonian](#)
- Hanonet Formation – Formation de Hanonet – Formatie van Hanonet – Hanonet-Formation – HNT: [Middle Devonian](#)
- Härebësch Member – Membre de Härebësch – Lid van Härebësch – Härebësch-Member – HAR: [Lower Devonian](#)
- Haversin Facies – Faciès d'Haversin – Facies van Haversin – Haversin-Fazies: [Upper Devonian](#)
- Haybes Member – Membre d'Haybes – Lid van Haybes – Haybes-Member – HAY: [Lower Devonian](#)
- Héblon Facies – Faciès d'Héblon – Facies van Héblon – Héblon-Fazies: [Middle Devonian](#)
- Heusy Member – Membre d'Heusy – Lid van Heusy – Heusy-Member – HEU: [Middle Devonian](#)
- Hierges Formation – Formation de Hierges – Formatie van Hierges – Hierges-Formation – HIE: [Lower Devonian](#)
- Hodimont Formation – Formation de Hodimont – Formatie van Hodimont – Hodimont-Formation – HOD: [Upper Devonian](#)
- Hony Horizon – Horizon de Hony – Horizon van Hony – Hony-Horizont: [Upper Devonian](#)
- Hotton former member – ancien membre de Hotton – vroegere lid van Hotton – ehemalige Hotton-member: [Middle Devonian](#)
- Huccorgne Formation – Formation de Huccorgne – Formatie van Huccorgne – Huccorgne-Formation – HUC: [Upper Devonian](#)
- Hymiée Member – Membre d'Hymiée – Lid van Hymiée – Hymiée-Member – HYM: [Upper Devonian](#)
- Jemelle Formation – Formation de Jemelle – Formatie van Jemelle – Jemelle-Formation – JEM: [Middle Devonian](#)
- Joigny Member – Membre de Joigny – Lid van Joigny – Joigny-Member – JOI: [Lower Devonian](#)
- Jupille Member – Membre de Jupille – Lid van Jupille – Jupille-Member – JUP: [Lower Devonian](#)
- Kautenbach-Troisvierges Formation – Formation de Kautenbach-Troisvierges – Formatie van Kautenbach-Troisvierges – Kautenbach-Troisvierges-Formation – KAT: [Lower Devonian](#)
- Laforêt Formation – Formation de Laforêt – Formatie van Laforêt – Laforêt-Formation – LAF: [Lower Devonian](#)
- Lambermont Formation – Formation de Lambermont – Formatie van Lambermont – Lambermont-Formation – LAM: [Upper Devonian](#)
- La Roche Formation – Formation de La Roche – Formatie van La Roche – La Roche-Formation – LAR: [Lower Devonian](#)
- Le Roux Formation – Formation du Roux – Formatie van Le Roux – Le Roux-Formation – ROU: [Middle Devonian](#)
- Lesse Facies – Faciès de la Lesse – Facies van Lesse – Lesse-Fazies: [Upper Devonian](#)
- Levrézy Member – Membre de Levrézy – Lid van Levrézy – Levrézy-Member – LEV: [Middle Devonian](#)
- Linchamps Conglomerate – Conglomérat de Linchamps – Conglomeraat van Linchamps – Linchamps-Konglomerat: [Lower Devonian](#)
- Lion Member – Membre du Lion – Lid van Lion – Lion-Member – LIO: [Upper Devonian](#)

- Lomme Formation – Formation de la Lomme – Formatie van Lomme – Lomme-Formation – LOM: [Middle Devonian](#)
- Longlier Formation – Formation de Longlier – Formatie van Longlier – Longlier-Formation – LOG: [Lower Devonian](#)
- Lustin Formation – Formation de Lustin – Formatie van Lustin – Lustin-Formation – LUS: [Upper Devonian](#)
- Machenées Member – Membre des Machenées – Lid van Machenées – Machenées-Member – MAC: [Upper Devonian](#)
- Mallieue Member – Membre de la Mallieue – Lid van Mallieue – Mallieue-Member – MLL: [Upper Devonian](#)
- Marche-en-Famenne Formation – Formation de Marche-en-Famenne – Formatie van Marche-en-Famenne – Marche-en-Famenne-Formation – MEF: [Upper Devonian](#)
- Marchin Member – Membre de Marchin – Lid van Marchin – Marchin-Member – MRC: [Middle Devonian](#)
- Marenne Member – Membre de Marenne – Lid van Marenne – Marenne-Member – MRN: [Middle Devonian](#)
- Mariembourg former formation or member – ancienne formation ou ancien membre de Mariembourg – vroegere formatie of lid van Mariembourg – ehemalige Mariembourg-member odder Mariembourg-formation : [Upper Devonian](#)
- Marlagne Dolomitic Facies – Faciès dolomitique de la Marlagne – Dolomitische Facies van Marlagne – Dolomitische Marlagne-Fazies: [Upper Devonian](#)
- Marteau Member – Membre de Marteau – Lid van Marteau – Marteau-Member – MAR: [Lower Devonian](#)
- Martelange Member – Membre de Martelange – Lid van Martelange – Martelange-Member – MTL: [Lower Devonian](#)
- Matagne Facies – Faciès de Matagne – Facies van Matagne – Matagne-Fazies: [Upper Devonian](#)
- Masuis Member – Membre des Masuis – Lid van Masuis – Masuis-Member – MAS: [Lower Devonian](#)
- Mautiennes Formation – Formation des Mautiennes – Formatie van Mautiennes – Mautiennes-Formation – MAU: [Middle Devonian](#)
- Mazy Formation – Formation de Mazy – Formatie van Mazy – Mazy-Formation – MAZ: [Upper Devonian](#)
- Mehaigne Member – Membre de la Mehaigne – Lid van Mehaigne – Mehaigne-Member – MEH: [Upper Devonian](#)
- Merlemont Dolomitic Facies – Faciès dolomitique de Merlemont – Dolomitische Facies van Merlemont – Dolomitische Merlemont-Fazies: [Upper Devonian](#)
- Mirwart Formation – Formation de Mirwart – Formatie van Mirwart – Mirwart-Formation – MIR: [Lower Devonian](#)
- Mondrepuis Formation – Formation de Mondrepuis – Formatie van Mondrepuis – Mondrepuis-Formation – MON: [Lower Devonian](#)
- Mont d’Hairs Formation – Formation du Mont d’Hairs – Formatie van Mont d’Hairs – Mont d’Hairs-Formation – MHR: [Middle Devonian](#)
- Montfort Member – Membre de Montfort – Lid van Montfort – Montfort-Member – MFT: [Upper Devonian](#)
- Moulin Boreux Member – Membre du Moulin Boreux – Lid van Moulin Boreux – Moulin Boreux-Member – MBO: [Middle Devonian](#)
- Moulin de la Foulerie Formation – Formation du Moulin de la Foulerie – Formatie van Moulin de la Foulerie – Moulin de la Foulerie-Formation – MFL: [Lower Devonian](#)
- Moulin Liénaux Formation – Formation du Moulin Liénaux – Formatie van Moulin Liénaux – Moulin Liénaux-Formation – MLX: [Upper Devonian](#)
- Muno Facies – Faciès de Muno – Facies van Muno – Muno-Fazies: [Lower Devonian](#)
- Najauga Sandstone Facies – Faciès gréseux de Najauga – Zandsteen Facies van Najauga – Najauga-Sandsteinfazies: [Middle Devonian](#)
- Naninne Conglomerate – Conglomérat de Naninne – Conglomeraat van Naninne – Naninne-Konglomerat: [Middle Devonian](#)
- Neuville Member – Membre de Neuville – Lid van Neuville – Neuville-Member – NEU: [Upper Devonian](#)
- Névremont Formation – Formation de Névremont – Formatie van Névremont – Névremont-Formation – NEV: [Middle Devonian](#)
- Nismes Formation – Formation de Nismes – Formatie van Nismes – Nismes-Formation – NIS: [Upper Devonian](#)
- Nonceveux Member – Membre de Nonceveux – Lid van Nonceveux – Nonceveux-Member – NON: [Lower Devonian](#)
- Oignies Formation – Formation d’Oignies – Formatie van Oignies – Oignies-Formation – OIG: [Lower Devonian](#)
- Ombret Conglomerate – Conglomérat d’Ombret – Conglomeraat van Ombret – Ombret-Konglomerat: [Lower Devonian](#)
- Our Formation – Formation de l’Our – Formatie van Our – Our-Formation – OOU: [Lower Devonian](#)
- Paliseul Facies – Faciès de Paliseul – Facies van Paliseul – Paliseul-Fazies: [Lower Devonian](#)
- Parensart Member – Membre de Parensart – Lid van Parensart – Parensart-Member – PAR: [Lower Devonian](#)
- Pepinster Formation – Formation de Pepinster – Formatie van Pepinster – Pepinster-Formation – PER: [Middle Devonian](#)
- Pèrnelle Member – Membre de Pèrnelle – Lid van Pèrnelle – Pèrnelle-Member – PRN: [Lower Devonian](#)
- Pesche Member – Membre de Pesche – Lid van Pesche – Pesche-Member – PES: [Lower Devonian](#)
- Petigny Member – Membre de Petigny – Lid van Petigny – Petigny-Member – PTG: [Middle Devonian](#)
- Petit-Mont Member – Membre du Petit-Mont – Lid van Petit-Mont – Petit-Mont-Member – PTM: [Upper Devonian](#)
- Petites Tailles Formation – Formation des Petites Tailles – Formatie van Petites Tailles – Petites Tailles-Formation – PET: [Lower Devonian](#)
- Philippeville Formation – Formation de Philippeville – Formatie van Philippeville – Philippeville-Formation – PHV: [Upper Devonian](#)
- Pondrôme former member – ancien membre de Pondrôme – vroegere lid van Pondrôme – ehemalige Pondrôme-member: [Middle Devonian](#)
- Pont d’Avignon Horizon – Horizon du Pont d’Avignon – Horizon van Pont d’Avignon – Pont d’Avignon-Horizont: [Upper Devonian](#)
- Pont de la Folle Formation – Formation du Pont de la Folle – Formatie van Pont de la Folle – Pont de la Folle-Formation – PFL: [Upper Devonian](#)
- Pouleur Member – Membre de Pouleur – Lid van Pouleur – Pouleur-Member – POU: [Upper Devonian](#)
- Prée Member – Membre de la Prée – Lid van Prée – Prée-Member – PEE: [Upper Devonian](#)
- Presles Facies – Faciès de Presles – Facies van Presles – Presles-Fazies: [Upper Devonian](#)
- Quareux Conglomerate – Conglomérat de Quareux – Conglomeraat van Quareux – Quareux-Konglomerat: [Lower Devonian](#)
- Reinhardtstein Facies – Faciès de Reinhardtstein – Facies van Reinhardtstein – Reinhardtstein-Fazies: [Lower Devonian](#)
- Remouchamps Sandstone Facies – Faciès gréseux de Remouchamps – Zandsteen Facies van Remouchamps – Remouchamps-Sandsteinfazies: [Middle Devonian](#)
- Reugnies Member – Membre de Reugnies – Lid van Reugnies – Reugnies-Member – REU: [Upper Devonian](#)
- Reumont Dolomitic Facies – Faciès dolomitique de Reumont – Dolomitische Facies van Reumont – Reumont-Dolomitfazies: [Middle Devonian](#)
- Rhisnes Formation – Formation de Rhisnes – Formatie van Rhisnes – Rhisnes-Formation – RHI: [Upper Devonian](#)
- Richelle Facies – Faciès de Richelle – Facies van Richelle – Richelle-Fazies: [Upper Devonian](#)
- Rivage Facies – Faciès de Rivage – Facies van Rivage – Rivage-Fazies: [Upper Devonian](#)
- Rivière Formation – Formation de Rivière – Formatie van Rivière – Rivière-Formation – RIV: [Middle Devonian](#)
- Robiewez Member – Membre de Robiewez – Lid van Robiewez – Robiewez-Member – RWB: [Upper Devonian](#)
- Roche à l’Appel Member – Membre de la Roche à l’Appel – Lid van Roche à l’Appel – Roche à l’Appel-Member – RAA: [Lower Devonian](#)

- Roche Trouée Facies – Faciès de la Roche Trouée – Facies van Roche Trouée – Roche Trouée-Fazies: [Middle Devonian](#)
- Rochers de Frênes Member – Membre des Rochers de Frênes – Lid van Rochers de Frênes – Rochers de Frênes-Member – RFR: [Upper Devonian](#)
- Rocq Member – Membre de la Rocq – Lid van Rocq – Rocq-Member – RCQ: [Upper Devonian](#)
- Roisin Member – Membre de Roisin – Lid van Roisin – Roisin-Member – ROI: [Middle Devonian](#)
- Rouillon Member – Membre de Rouillon – Lid van Rouillon – Rouillon-Member – RLL: [Middle Devonian](#)
- Royeux Facies – Faciès de Royeux – Facies van Royeux – Royeux-Fazies: [Upper Devonian](#)
- Ruisseau de Deluve Member – Membre du Ruisseau de Deluve – Lid van Ruisseau de Deluve – Ruisseau de Deluve-Member – RDV: [Lower Devonian](#)
- Ruisseau d’Hanzinne Member – Membre du Ruisseau d’Hanzinne – Lid van Ruisseau d’Hanzinne – Ruisseau d’Hanzinne-Member – RHZ: [Lower Devonian](#)
- Ruisseau de la Forge Formation – Formation du Ruisseau de la Forge – Formatie van Ruisseau de la Forge – Ruisseau de la Forge-Formation – RDF: [Lower Devonian](#)
- Ruisseau des Roches Member – Membre du Ruisseau des Roches – Lid van Ruisseau des Roches – Ruisseau des Roches-Member – RDR: [Lower Devonian](#)
- Sains Member – Membre de Sains – Lid van Sains – Sains-Member – SNS: [Upper Devonian](#)
- Saint-Hubert Formation – Formation de Saint-Hubert – Formatie van Saint-Hubert – Saint-Hubert-Formation – STH: [Lower Devonian](#)
- Saint-Joseph Member – Membre de Saint-Joseph – Lid van Saint-Joseph – Saint-Joseph-Member – STJ: [Lower Devonian](#)
- Saint-Remy Facies – Faciès de Saint-Remy – Facies van Saint-Remy – Saint-Remy-Fazies: [Middle Devonian](#)
- Sainte-Anne Facies – Faciès de Sainte-Anne – Facies van Sainte-Anne – Sainte-Anne-Fazies: [Upper Devonian](#)
- Sainte-Marie Formation – Formation de Sainte-Marie – Formatie van Sainte-Marie – Sainte-Marie-Formation – STM: [Lower Devonian](#)
- Sainval Facies – Faciès de Sainval – Facies van Sainval – Sainval-Fazies: [Lower Devonian](#)
- Samme Group – Groupe de la Samme – Group van Samme – Samme-Gruppe – SAM: [Upper Devonian](#)
- Schuttbourg Member – Membre de Schuttbourg – Lid van Schuttbourg – Schuttbourg-Member – SCH: [Lower Devonian](#)
- Senzeille former formation or member – ancienne formation ou ancien membre de Senzeille – vroegere formatie of lid van Senzeille – ehemalige Senzeille-formation odder Senzeille-member: [Upper Devonian](#)
- Sohier Limestone – Calcaire de Sohier – Kalksteen van Sohier – Sohier Kalkstein: [Middle Devonian](#)
- Solières Member – Membre de Solières – Lid van Solières – Solières-Member – SOL: [Lower Devonian](#)
- Sourd d’Ave Member – Membre du Sourd d’Ave – Lid van Sourd d’Ave – Sourd d’Ave-Member – SAV: [Upper Devonian](#)
- Souverain-Pré Formation – Formation de Souverain-Pré – Formatie van Souverain-Pré – Souverain-Pré-Formation – SVP: [Upper Devonian](#)
- Staneux Member – Membre de Staneux – Lid van Staneux – Staneux-Member – STN: [Lower Devonian](#)
- Station Member – Membre de la Station – Lid van Station – Station-Member – STA: [Middle Devonian](#)
- Stolzembourg Member – Membre de Stolzembourg – Lid van Stolzembourg – Stolzembourg-Member – STO: [Lower Devonian](#)
- Su Wary former formation – ancienne formation de Su Wary – vroegere formatie van Su Wary – ehemalige Su Wary-formation: [Upper Devonian](#)
- Tailfer Conglomerate – Conglomérat de Tailfer – Conglomeraat van Tailfer – Tailfer-Konglomerat: [Middle Devonian](#)
- Tchaforis Member – Membre des Tchaforis – Lid van Tchaforis – Tchaforis-Member – TCH: [Upper Devonian](#)
- Terres d’Hairs Formation – Formation des Terres d’Hairs – Formatie van Terres d’Hairs – Terres d’Hairs-Formation – TRH: [Middle Devonian](#)
- Thy-le-Bauduin Member – Membre de Thy-le-Bauduin – Lid van Thy-le-Bauduin – Thy-le-Bauduin-Member – THY: [Upper Devonian](#)
- Tienne Sainte-Anne Member – Membre du Tienne Sainte-Anne – Lid van Tienne Sainte-Anne – Tienne Sainte-Anne-Member – TSA: [Middle Devonian](#)
- Tréko Member – Membre du Tréko – Lid van Tréko – Tréko-Member – TRK: [Lower Devonian](#)
- Trois-Fontaines Formation – Formation des Trois-Fontaines – Formatie van Trois-Fontaines – Trois-Fontaines-Formation – TRF: [Middle Devonian](#)
- Valisettes Member – Membre des Valisettes – Lid van Valisettes – Valisettes-Member – VAL: [Upper Devonian](#)
- Verviers Member – Membre de Verviers – Lid van Verviers – Verviers-Member – VER: [Upper Devonian](#)
- Vicht Member – Membre de Vicht – Lid van Vicht – Vicht-Member – VIC: [Lower Devonian](#)
- Vierves Member – Membre de Vierves – Lid van Vierves – Vierves-Member – VRV: [Middle Devonian](#)
- Vieux Moulin Member – Membre du Vieux Moulin – Lid van Vieux Moulin – Vieux Moulin-Member – VXM: [Middle Devonian](#)
- Villé Formation – Formation de Villé – Formatie van Villé – Villé-Formation – VIL: [Lower Devonian](#)
- Villers-la-Tour Member – Membre de Villers-la-Tour – Lid van Villers-la-Tour – Villers-la-Tour-Member – VLR: [Middle Devonian](#)
- Vireux Formation – Formation de Vireux – Formatie van Vireux – Vireux-Formation – VIR: [Lower Devonian](#)
- Waimes Member – Membre de Waimes – Lid van Waimes – Waimes-Member – WAI: [Lower Devonian](#)
- Wamme Member – Membre de la Wamme – Lid van Wamme – Wamme-Member – WAM: [Middle Devonian](#)
- Wancennes Formation – Formation de Wancennes – Formatie van Wancennes – Wancennes-Formation – WAN: [Middle Devonian](#)
- Warche Group – Groupe de la Warche – Group van Warche – Warche-Gruppe – WCH: [Lower Devonian](#)
- Watiamont Member – Membre de Watiamont – Lid van Watiamont – Watiamont-Member – WAT: [Upper Devonian](#)
- Watissart Member – Membre de Watissart – Lid van Watissart – Watissart-Member – WTS: [Upper Devonian](#)
- Wellin Formation – Formation de Wellin – Formatie van Wellin – Wellin-Formation – WEL: [Middle Devonian](#)
- Wépion Formation – Formation de Wépion – Formatie van Wépion – Wépion-Formation – WEP: [Lower Devonian](#)
- Wérin former member – ancien membre de Wérin – vroegere lid van Wérin – ehemalige Wérin-member: [Upper Devonian](#)
- Wiltz Formation – Formation de Wiltz – Formatie van Wiltz – Wiltz-Formation – WIL: [Lower Devonian](#)