

THE HANGENBERG EVENT (UPPERMOST FAMENNIAN) IN SOUTHERN BELGIUM (NAMUR–DINANT BASIN)

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The uppermost Famennian succession of southern Belgium consists of a relatively thick series of shallow water siliciclastic–carbonate deposits, which locally include stromatoporoid biostromes. This thick series permits a better understanding of the Famennian and Tournaisian transition than the condensed basinal sections, which are investigated usually. However, due to the absence of *Siphonodella sulcata*, the Devonian–Carboniferous boundary is drawn on the basis of conodonts of the *praesulcata* Zone and the extinction of the so-called Devonian fauna (e.g. quasiendothyrid foraminifers and ‘Strunian’ rugose corals). In the Namur–Dinant Basin, the Hangenberg Black Shale Event is generally not marked lithologically. This absence was interpreted by some authors as a stratigraphic gap on the basis of the non-recognition of the LN spore Zone but these anoxic facies, corresponding to a high sea-level event, probably never spread or only exceptionally into the shallow-water environments of the Namur–Dinant Basin, where carbonate facies rich in benthic fossils continued to develop. Indeed, few sections show dm to m-thick black shale horizons with impoverished marine faunas in the uppermost part of the Strunian Comblain–au–Pont Formation that can be considered as inputs of dysoxic–anoxic waters from deeper areas where Hangenberg Shale developed. Contrarily, the following Hangenberg Sandstone Event, which most probably reflects a strong sea-level drop, is easily recognizable and traceable from the Aachen (Germany) to the Dinant areas, except for the most distal part of the Dinant sedimentation area. It corresponds to dm to m-thick sandstone and siltstone levels that frequently include reworked Strunian brachiopods, foraminifers and rugose corals. Therefore, in the Namur–Dinant Basin, the extinction event perfectly fits the sudden sea-level drop reflected by the deposition of sandstone and more or less sandy limestone, but not the development of black shale facies as usually observed in deeper water settings and absent here. This sea-level drop and the extinction event may be related to a single short ice-age as suggested by some authors. The diachronic Hangenberg Black Shale (corresponding to the whole of the Middle *praesulcata* Zone or only to a thin bed of short duration) caused only local, but not definitive, extinctions, as was also the case with the diachronic development of the upper Frasnian dysoxic–anoxic Matagne Black Shale, whose range spans the interval of the early *rhenana* Zone to the *linguiformis* Zone, and caused local extinctions before the end Frasnian Upper Kellwasser Event.

