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Recent refinements of the palynological stratigraphic scheme around the Devonian-Carboniferous Boundary in southern Belgium result in new questions on the effect of the Hangenberg Biocrisis on spores and on the validity of some 'biozones'. *Verrucosisporites nitidus*, the guide taxa of the last Devonian palynozone (LN zone) is lacking in many sections and its presence is only acknowledged in proximal settings. Hence the LN zone is considered as an ecozone rather than a biozone and its biostratigraphical value is considered as null in the studied area and questionable elsewhere. Moreover, investigation of the uppermost part of the Uppermost Famennian shows that the palynological assemblages is dominated by abnormal forms of *Retispora lepidophyta*, notably by *R. lepidophyta* var. *tener* which seems to be characteristic of this interval in Western Europe. Other markers are abnormal forms of *Raistrickia variabilis*. On the Belgian neritic shelf, the *tener* event extends on a c. 2 m-thick interval situated 1.5 m below the Hangenberg Sandstone equivalent (lowermost bed of the Hastière Formation) but above dysoxic shaly beds interpreted as equivalent to the Hangenberg Black Shale. Stratigraphically, it thus occurs in during the uppermost part of the transgressive pulse that spread anoxia on shelves.

It is thus proposed to introduce the global *tener* event as a potential marker of the Hangenberg Biocrisis on land and in proximal marine settings. This profusion of abnormal spores is thought to be related to climatic variation possibly in link with droughts and global cooling below the Devonian-Carboniferous Boundary.