**About the age of the Strud locality (Southern Belgium): late or middle Famennian?**

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The Strud locality (Namur Province, Belgium) has yielded an outstanding fossil assemblage, consisting of a diverse flora, crustaceans, various fish types, as well as a possible insect and remains of one of the earliest tetrapods (Clément et al. 2004; Olive et al., 2016, and references therein). In the Strud area, the following lithostratigraphic units are represented, ranging from early to late Famennian: (Fig. 1). The beds at the Strud locality itself belongs to the Evieux Formation. Becker et al. (1974) demonstrated the diachronic character of the Evieux Fm, whose alluvial – lagoonal facies range from the GF miospore zone (mid to late Famennian) in the northern part of the classical Ourthe Valley to the VCo miospore zone (late Famennian) elsewhere. Nevertheless, probably because chronostratigraphy and lithostratigraphy are often confused (Thorez et al. 2006), the Evieux Fm is generally given a late Famennian age. For example, the Evieux Fm at Strud (Clement et al. 2004) was attributed to the “Upper Famennian; *expansa* conodont Zone” despite the lack of biostratigraphic data. Subsequently, Prestianni et al. (2007) published a preliminary report about the quarry of Strud which was densely sampled for miospores. Two samples provided a miospore association indicative of the GF miospore biozone (Higgs et al. 2000).

Recently, Denayer et al. (2016) described a new spore assemblage from Strud including: *Aneurospora greggsii*, *Auroraspora hyalina*, *Convolutispora major*, *Corbulispora cancellata*, *Grandispora gracilis*, *Grandispora famennensis* var. *minuta*, *Grandispora famennensis* var. f*amennensis, Diducites versabilis*, *Diducites mucronatus*, *Diducites plicabilis*, *Diducites poljessicus*, *Plicatispora scolecophora*, *Plicatispora quasilabrata*, *Retusotriletes incohatus*, *Retusotriletes* sp., *Retusotriletes planus*, *Rugospora radiata*, *Teichertospora torquata*, *Verrucosisporites* sp.” These authors conclude that “this assemblage is more diverse than previously described, one important addition being the identification of *Rugospora radiata*”. Denayer et al. (2016) then state that “the Strud locality can now be attributed with confidence to the ‘rad’ interval zone that is Late Famennian in age”. They also note that the Strud material includes a relative abundance of *Diducites versabilis*, which, according to Denayer et al. (2016) marks the VCo miospore biozone.

The presence of *Rugospora radiata* in the Strud assemblage, and hence the Late Famennian age of the locality, are however questionable. The occurrence of *R. radiata* at Strud is based on one single specimen (Denayer et al., 2016, fig. 8c). The figure is reproduced here (Plate 1) for comparison with a specimen of *R. radiata* recovered from the level 55/4 of the classic section of Beverire (*R. flexuosa* in Becker et al. 1974, plate 21). The structures described by Denayer et al. (2016) as radially aligned ridges on the margin of the spore body could rather represent the microfolding characteristic of the third layer of *Diducites mucronatus*, also present at the locality*.* This casts doubt on the attribution of the samples to the VCo biozone, and hence on the Late Fammenian age of the Strud locality, since all the other species recorded in the new sampling are also known below that biozone. Also, even the caracteristic species (*Grandispora microseta*) of the ‘mic’ interval zone, immediately below the ‘rad’ interval zone (Fig. 1) is lacking. Besides, the abundance of *Diducites versabilis* which characterizes an acme zone (the first occurrence of this species characterizes the basal Famennian DV Zone in Blieck et al, 2010 ) is a local phenomena and therefore cannot be used alone to recognize the VCo Oppel Zone. Consequently, since the GF Zone in the classic Belgian chronostratigraphy covers partially the Middle Famennian and the Upper Famennian (Fig. 1 but See also Fig. 2 in Denayer et al. 2016), the age of the Strud locality remains still uncertain. Only the identification of a well characterized VCo Zone would allow to recognize specifically the Upper Famennian.

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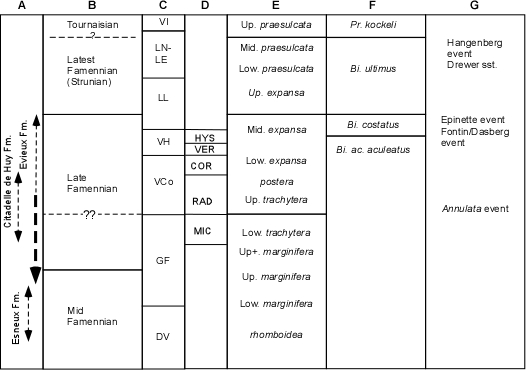
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Plate 1: 10 *Rugospora radiata* (syn. *Rugospora flexuosa* in Becker et al. 1974, plate 21)

C *R. radiata* in Denayer et al. 2016, fig. 8c

Fig. 1 **Stratigraphic chart of the higher part of the Famennian in the type area of eastern Belgium**



**A**: --------selected lithostratigraphy after Denayer et al. 2016, ----------/------extension of the Evieux FM after Becker et al. 1974. **B**: Chronostratigraphy after Thorez et al. 2006, -----?----- suggested limit of the D/C Boundary (after Streel & Korn 2016), ----??----- suggested new base for the Late Famennian substage (Streel 2016). **C**: miospore assemblage zones after Blieck et al. 2010 and Higgs et al. 2013. **D** : miospore interval zones after Higgs et al.2013. **E**: Standard conodont zonation. **F**: Conodont zones after Corradini et al. 2016. **G**: events after Streel 2015, 2016.