

MIOSPORES FROM THE OBERRÖDINGHAUSEN RAILWAY CUT (after HIGGS & STREEL, 1984)

Spore assemblages have been obtained from most of the Hangenberg Schiefer (by Paproth & Streel, 1970) and the base of the Liegende Alaunschiefer, immediately above the Hangenberg Kalk. Spore assemblage has also been recovered from the Hangenberg Schiefer in a borehole core drilled about 200 m to the type section (see figs. 36 and 38).

LL Biozone

All the assemblages recorded by Paproth & Streel 1970 from the type section and by the authors from the Oberrödinghausen Core n° 1 are assigned to the LL Biozone. However, they are slightly different in composition to the Irish LL assemblages in that they contain species such as *Vallatisporites verrucosus* and *Lophozonotriletes triangulatus*. Also the typical *Diducites* complex of spores is absent.

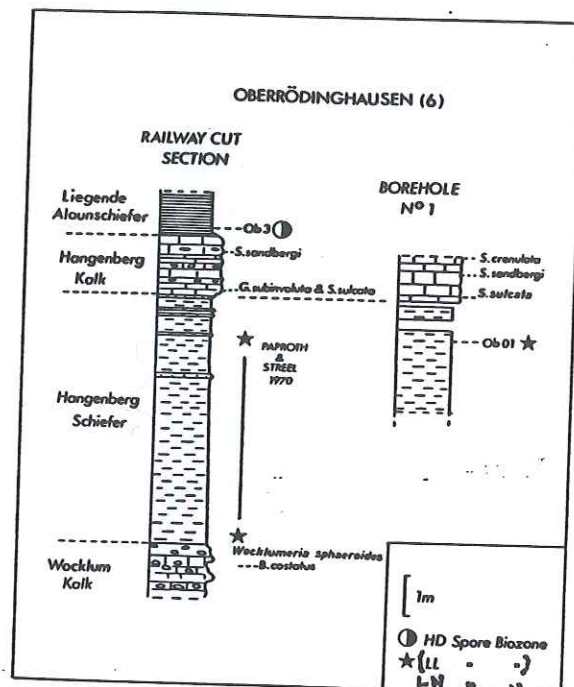


Fig. 36.- Stratigraphic position of spore assemblages in the section and borehole of Oberrödinghausen (after Higgs & Streel, 1984)

In both the type section and in the borehole the uppermost metre of the Hangenberg Schiefer did not yield any spores.

HD Biozone

A fairly diverse miospore assemblage was obtained from the base of the Liegende Alaunschiefer which succeeds the Hangenberg Kalk. The presence of *Kraeuselisporites hibernicus* in the assemblage indicates a position in the HD Biozone. The assemblage is associated with the lower *Siphonodella crenulata* conodont Zone.

K. Higgs has recently found *V. nitidus* in 2 samples (0-10 cm and 10-30 cm) above the base of the Hangenberg Shales and confirms the reworked character of these assemblages which has to be placed now in the LN Zone.

THE OBERRÖDINGHAUSEN BOREHOLES 1 AND 2

In 1979, two boreholes (Oberrödinghausen 1 and 2) have been drilled in order to provide fresh material for research purposes. The core material has been studied for spores by K. Higgs & M. Streel, for conodonts by W. Ziegler. A sedimentological description of the Hangenberg or *Gattendorfia* limestone has been done by M. Van Steenwinkel (1984). The highest spore sample (core 1 : 25 m 16 to 25 m 20) contains the following list of species, corresponding to a LL zone :

Ancyrospora sp.
Apiculiretusispora verrucosa
Asperispora acuta
Convolutispora vermiformis
Corbulispora cancellata
Dictyotriletes trivialis
Grandispora echinata
Lophozonotriletes sp. (aff. *malevkensis* type)
Punctatisporites irrasus
P. minutus
Retispora lepidophyta
Retusotriletes avonensis
R. incohatus
R. sp. A in HIGGS 1975
Rugospora radiata
Schopfites sp.
Vallatisporites hystricosus
V. pusillites
 and *V. verrucosus*, corresponding to a LE zone

