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Palynology of samples from Cwm Llwyd, Carmarthenshire

Internal Report IR/02/172

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INTERNAL REPORT IR/02/172

Palynology of samples from Cwm Llwyd, Carmarthenshire

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Summary

Four samples from the Carboniferous rocks of the Cwm Llwyd Outlier, Carmarthenshire were supplied by Dr Peter Walsh for palynological analysis. The samples yielded sparse organic residues and contained extremely poorly preserved palynomorph assemblages which were dark due to high thermal maturity and which contained evidence of pyrite damage. The assemblage from MPA 51095 (SO, SN 7104 1870) allows the most precise date. In this sample, the presence of *Lycospora pusilla* and *Crassispora kosankei* suggest a maximum age range of Namurian to Stephanian (NC to NBM Biozones, Clayton et al. 1977). The presence in MPA 51095 of a possible specimen of *Dictyotriletes bireticulatus* might suggest a slightly more precise age, within that range, of Namurian C (Yeadonian) to Westphalian C, but this must be considered tentative.

1 Introduction

Four samples from the Carboniferous rocks of the Cwm Llwyd Outlier, Carmarthenshire were supplied by Dr Peter Walsh for palynological analysis. Code and location details are as follows.

BGS MPA collection number	Collectors code	Location
MPA 51093	NO	SN 7116 1899
MPA 51094	NY	SN 7122 1900
MPA 51095	SO	SN 7104 1870
MPA 51096	SY	SN 7122 1874

2 Description of assemblages

2.1.1 MPA 51093, NO, SN 7116 1899

The organic residue is sparse and consists mainly of black fragments and very poorly preserved, dark coloured palynomorphs. The assemblage contains common *Lycospora pusilla.* Other taxa that may be present include: *Cristatisporites* sp., *Densosporites* sp., *Leiosphaeridia* sp. and *Crassispora kosankei*. Purely on the basis of the presence of *L. pusilla* a Viséan or younger age can be suggested.

2.1.2 MPA 51094, NY, SN 7122 1900

The organic residue is sparse and consists mainly of black fragments and very poorly preserved, dark coloured palynomorphs. The assemblage appears to contain common *Lycospora pusilla*, and therefore is likely to be of a broadly similar age to MPA 51093.

2.1.3 MPA 51095, SO, SN 7104 1870

The organic residue is sparse and consists mainly of black fragments though poorly preserved, dark coloured palynomorphs are quite common. Many of these appear to have been affected by pyrite growth deformation and are difficult to assign at either genus or species level. However the following assignments were made:

Lycospora pusilla (common)

Crassispora kosankei (common)

Saccate pollen grain indeterminate

Apiculatisporis sp.

?*Densosporites anulatus*

?*Grandispora* sp.

Zonate spore indeterminate

?*Cirratriradites saturni*

?*Dictyotriletes bireticulatus*

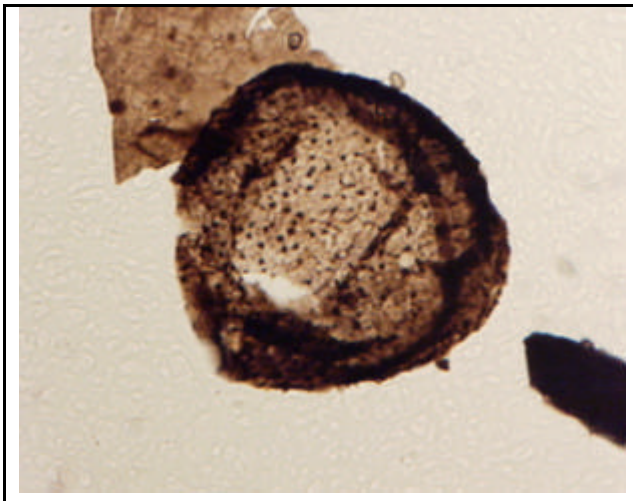
The presence of *Lycospora pusilla* and *Crassispora kosankei* suggest a maximum age range of Namurian to Stephanian (NC to NBM Biozones, Clayton et al. 1977). The presence in MPA 51095 of a possible specimen of *Dictyotriletes bireticulatus* might suggest a slightly more precise age, within that range, of Namurian C (Yeadonian) to Westphalian C (Clayton et al. 1977), but this must be considered tentative.

2.1.4 MPA 51096, SY, SN 7122 1874

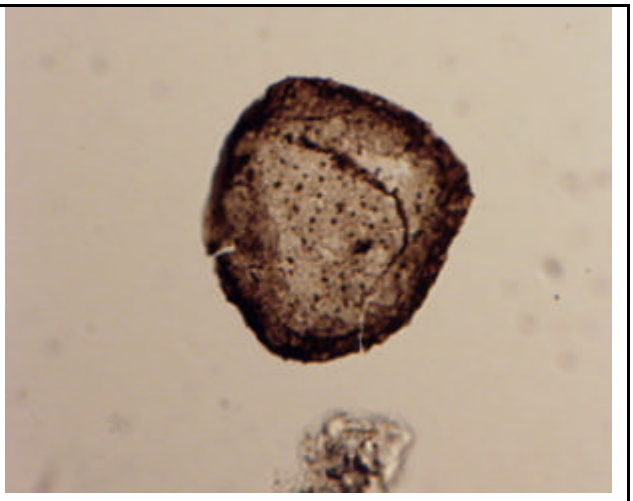
The organic residue is sparse and consists almost entirely of black fragments and very poorly preserved, dark coloured palynomorphs. The assemblage appears to contain *Lycospora pusilla*, and therefore only a broad Viséan or younger age can be suggested.

Appendix 1 Plate

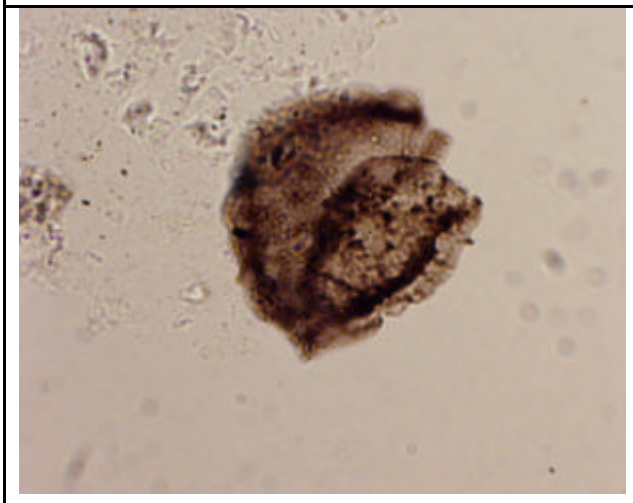
Photomicrographs of palynomorphs from MPA 51095.



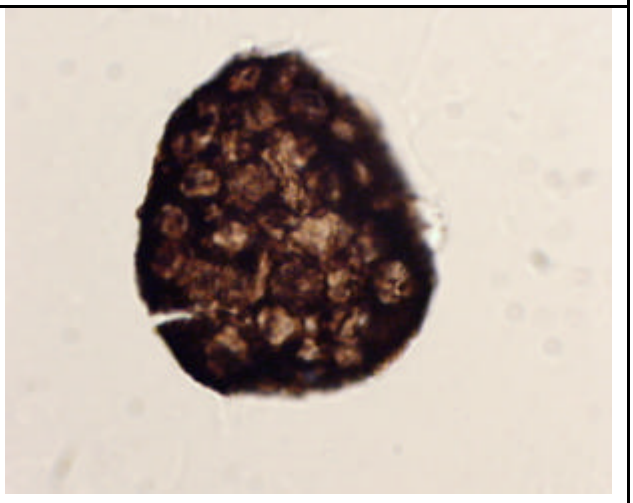
Crassispora kosankei, T29/3, 51095



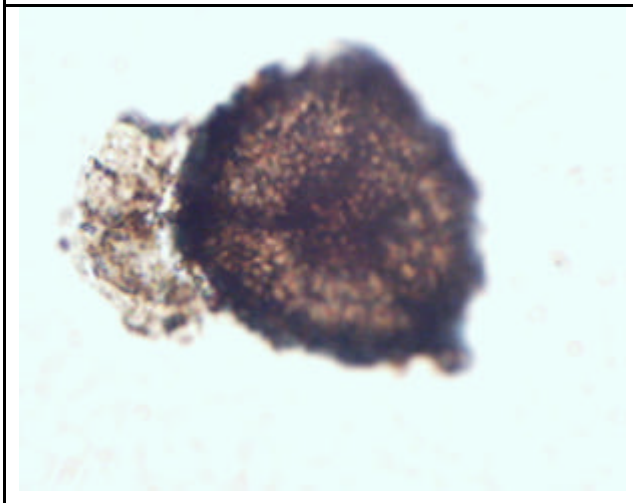
Crassispora kosankei, E17/3, 51095



Lycospora pusilla, G30/4, 51095



?*Dictyotriletes bireticulatus, F5, 51095*



?*Cirratriradites saturni, T28, 51095*

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