

# On Her Majesty's Service

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# **The University of Newcastle upon Tyne**

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Northern Carbon Research Laboratories

17th October 1979

Dear Malcolm

Thank-you for your letter and the papers and photographs which have proved very useful. I apologize for the long delay in replying but I have been busy with the gunpowder project.

This week I have had Chris Evans and everyone else from the gunpowder project visiting me at Newcastle which reminded me that I had not sent you the results of the charcoal examination.

I cleaned the charcoal using an ultrasonic cleaner then examined it using the scanning electron microscope. I have identified it as *Frangula alnus*, the prime gunpowder charcoal which in past work has been referred to as dogwood. I have identified the charcoal and found it not be dogwood but another wood, *Frangula alnus* which has no common name.

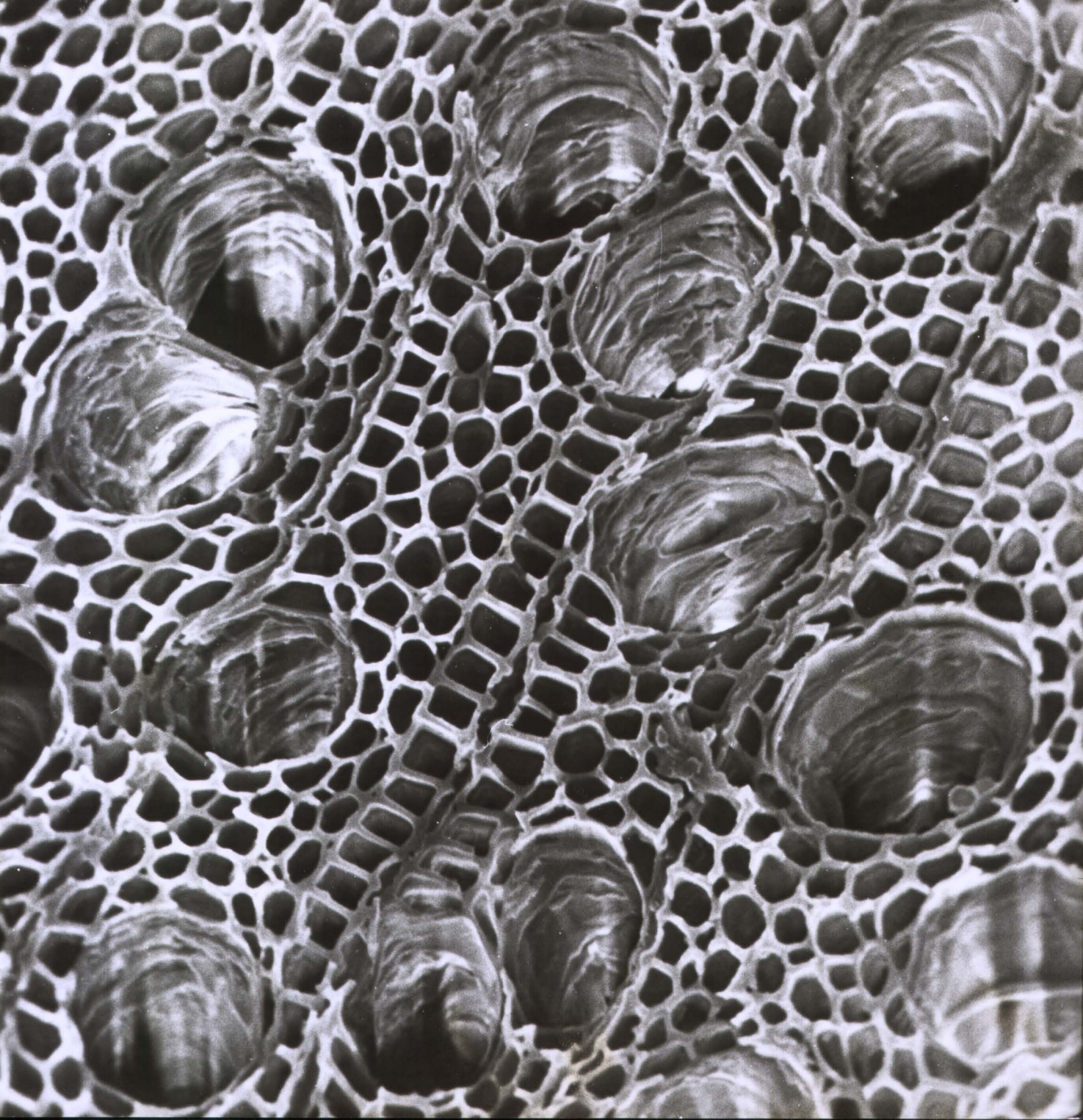
I enclose 2 copies of micrographs of

the charcoal which you may like to add to your gunpowder exhibition.

Thank-you again for the papers. If you require any further copies of the micrographs or more charcoal identified please do not hesitate to write. I will try to be more prompt in replying this time.

Yours Sincerely

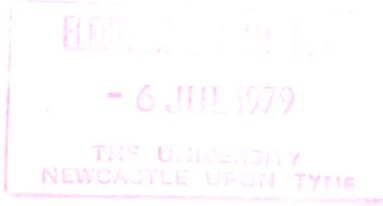
Eileen McAuliffe



WASC 1042-1



This way up



CR 18/450

x 960

Waltham Abbey. (Washed.)

F SEM micrograph of a fracture surface of *Frangula alnus* charcoal from the Waltham Abbey excavation. The surface showing a transverse view was ultrasonically cleaned then carbon and gold coated.

WASC 1042-1

SEM micrograph of a fracture surface of Fraxinus alnus charcoal from the Waltham Abbey excavation. The surface showing a transverse view was ultrasonically cleaned then carbon and gold coated

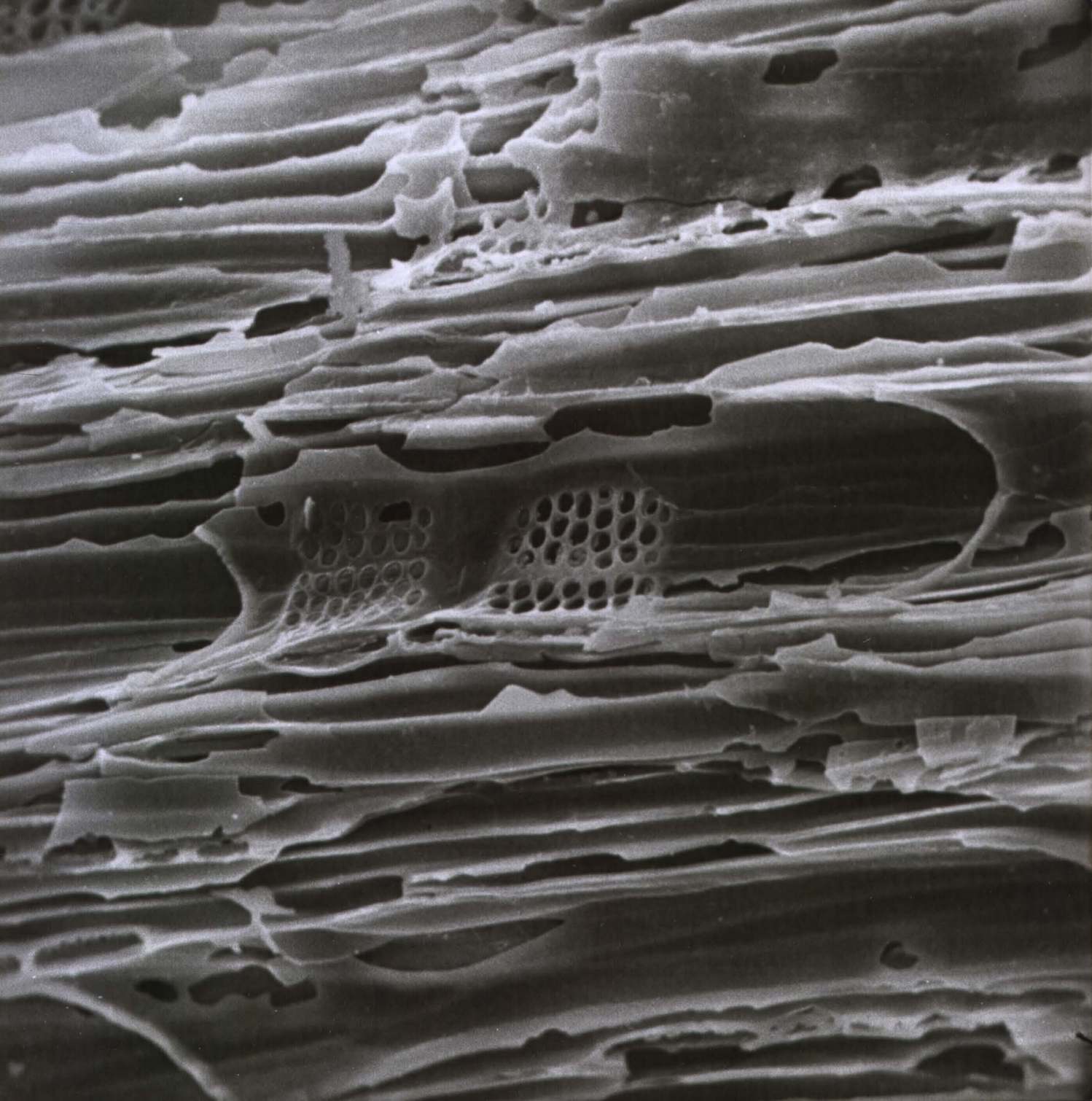
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Electron Microscopy  
- 6 JUL 1979  
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WASC 1042-2

SEM micrograph of a fracture surface of *Frangula*  
alnus charcoal from the Waltham Abbey excavation.  
The surface showing a longitudinal view was  
ultrasonically cleaned then carbon and gold coated.

ELECTRON OPTICAL UNIT

- 6 JUL 1979

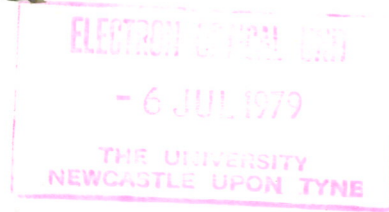
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X980

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SEM micrograph of a fracture surface of Frangula  
alnus charcoal from the Waltham Abbey excavation.  
The surface showing a longitudinal view had been  
Carbon and gold coated.



CR18/462

x 980

Waltham Abbey (washed)

WASC 1042-2

wai - 042 - 02(1) - wasc - 1042 - 02(1)