Again, pollen of ribwort plantain (*Plantago lanceolata*, an almost invariable concomitant of agriculture from Neolithic times onwards)[9] plays an important part in analyses of pollen to-day. It is, next to grass and nettle pollen, the largest constituent of the N.T.P. precipitated on the Brecknockshire mountains, giving values (in terms of T.T.P.) of 10·6 per cent at Storey Arms, 13·2 per cent at Grwyne Fawr, and an average of 12·2 per cent for the two taken together. Godwin[10] obtained similar counts of plantain pollen (up to 10 per cent of T.T.P.) from Neolithic or post-Neolithic lake deposits on the edge of the East Anglian Breckland; the same author's analyses of peat datable between the Middle Iron Age and the middle of the Roman period in Somerset[11] gave much higher values (up to 60 per cent of T.T.P.). Since deforestation and the spread of agriculture can scarcely have been more general in Somerset around A.D. 0 that it is in South Wales to-day, the figures last quoted would seem to be due to quite local influences.

It is hoped to publish the results of this research more fully elsewhere. This work received generous aid in the form of Government grants voted by the Royal Society.

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Detachment of Conidia by Cloud Droplets

It has been found by experiment that conidia may be detached from conidiophores by the impact of minute water droplets in a moving mist or cloud. A preliminary report of this is given since it appears to be a mechanism of spore detachment which has not yet been described.

In an initial experiment, an open Petri dish of nutrient agar was held behind a culture of *Verticillium albo-atrum*, and the colony sprayed with water droplets from a simple atomizer so that some of the droplets swept the colony and were impacted on to the surface of the agar in the dish beyond. The dish was then covered with a lid and incubated. When examined, a number of *Verticillium* colonies were found among the numerous common air-borne mould fungi which developed. No *Verticillium* colonies appeared on control plates when a culture was subjected to puffs of air (with no water droplets) from the same atomizer. Spore detachment was therefore concluded to have been due to the impact of the minute water droplets.

Following this observation, pieces of grass culm and cotton thread soaked in nutrient agar were inoculated with dense spore suspensions of mould fungi and incubated at 100 per cent relative humidity. When the conidiophores were developed, the cultures were placed in air streams into which a continuous stream of water droplets was introduced when required. These droplets were in the size-range 8–210μ diameter with a modal diameter of 78μ.

Table 1. Numbers of Spores removed from *Cladosporium* Colonies during 1-min. Exposures to Streams of Air and Air-carrying Cloud Droplets Respectively

Colony	Air speed (m.sec.)	Spores detached by air current	Spores detached by air current plus droplets
1	0·5	350	4,800
2	0·7	200	67,000
3	2	250	51,000
4	5	3,000	18,000
5	10	4,000	32,000

In a series of experiments, each colonized stem or thread was supported across the prongs of a simple wire fork and placed before the intake orifice of a Gregory[1] spore trap. An air stream of known velocity was then drawn over the colony for 1 min., and the spores removed sucked on to the sticky surface of the slide in the trap. After changing the trap slide, the air was turned on again for another minute with cloud droplets being simultaneously directed into the stream flowing over the colony so that the conidiophores were bombarded with the water droplets carried by the moving air.

The results for *Cladosporium* are typical, and show that larger numbers of spores are detached by air currents containing minute water droplets than by air currents of the same velocity without droplets.

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New Members of the British Marine Bottom Fauna

A study is being made of the smaller members of the fauna of marine gravels on the sea-bed in the Plymouth area. One aspect of the results so far obtained is concerned with the array of pygmy species encountered, several of which, as might have been expected, are new to the British fauna.

A bucket of shelly gravel from near the entrance to Plymouth Sound below about 7 fathoms of water (collected by Mr. G. R. Forster during an aqua-lung dive) produced three species of Acochlidiacea, a sub-order of Gastropoda not hitherto recognized as British (though all three have been found near Heligoland). These are *Microhedyle lactea* Hertling, *Hedylopsis suecica* Odhner, and *Philinoglossa helgolandica* Hertling. These animals are shell-less and do not exceed 2 mm. in length, and are scarcely detectable if they cannot be examined alive. A specimen of the small holothurian *Leptosynapta minuta* (Becher) was also obtained from this sample: a species not on the British list, but, as I have since been informed by Dr. D. J. Crisp, discovered at Bangor by Dr. B. Swedmark in 1956.

Chief attention, however, has been given to the Eddystone shell gravel, a well-known source of *Amphioxus lanceolatus* (Pallas), and producing a macrofauna, dominated by lamellibranchs, long familiar to workers at Plymouth[1]. The position sampled is between 1 and 2 km. north-west of the Eddystone Rock, some 15 km. from the nearest mainland, and the depth of water above it is 23–28 fathoms.

This gravel also has given *Microhedyle lactea* and *Leptosynapta minuta* in small numbers. One oligo-