This work will be published later with special reference to its ecological aspect. I am grateful to Dr. C. G. Johnson for criticism, and to Dr. J. P. Doncaster and Dr. H. L. G. Stroyan for help in identifying a number of species.

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Formation of the Infection Bulb in *Arthrobotrys oligospora* Fresenius

IN network- and knob-forming Hyphomycetes which are predacious on nematodes, it has long been considered that the structure known as the infection bulb is in some way instrumental in bringing about the death of the prey.

This structure, a kind of internal appressorium, can be observed in the early stages of infection, that is, soon after the capture of the eelworm, as a bulbous extension of the hypha of the attacking fungus within the body of the nematode, just at the point of

invasion. It is from this bulb that the trophic hyphae grow out and extend throughout the body of the worm.

Drechsler¹ refers to the bulb as a 'mortiferous' structure and considers that it is a mechanical action by which the nematode is killed, the bulb filling the diameter of the body to such an extent that death is brought about because of the virtual severance of the body which results. Duddington² regards this view with some uncertainty.

From observations made on the formation of the infection bulb in *Arthrobotrys oligospora* Fres., the whole development of the bulb was traced from the early stages of capture, when the nematode was moving vigorously, to the final stage when the nematode had ceased to move, being either dead or paralysed. The fungus was observed while growing on maize-meal agar in a Petri dish. A cover-glass was placed over a drop of water on the surface of the agar and an oil immersion objective used with $\times 7$ oculars. The resulting light intensity was not sufficient to permit the use of the camera lucida, the accompanying figures being free-hand drawings of the observed stages (Fig. 1).

The noticeable features of these observations were first, the rapidity with which the haustorium and infection bulb were formed when once invasion had started, the bulb reaching its maximum size within 45 min. of the inception; secondly, the rate at which movements of the nematode were reduced very soon after the invasion occurred, becoming considerably inhibited as soon as the haustorium had penetrated the cuticle (stage 3, Fig. 1), and ceasing completely shortly afterwards (stage 5). It is also of interest that, in this particular instance, the infection bulb never reached a size greater than about half the diameter of the worm. It is questionable whether the partial obstruction of the body cavity thus produced could, in itself, bring about such a rapid death of the host.

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Fig. 1. *Arthrobotrys oligospora*. Observed stages in the development of the infection bulb. a, Adhesive substance; b, infection bulb; c, cuticle of nematode; i, intestine; n, primary branch of network

Electron Diffraction Pattern of Mica of Various Thicknesses

N-PATTERNS of spots from thin crystals, and Kikuchi-lines from comparatively thick ones, have been observed by several workers¹ as electron diffraction patterns from mica. In this study a flake of mica having various thicknesses was stuck on a mesh of 0.1 mm. diameter by means of methyl alcohol and was then placed on the projection lens of an electron microscope so that electron micrographs and electron-diffraction patterns of the mica might be taken. First the electron image of the mica (Fig. 1a) was observed, then the incident electron beam was converged on it (the least area illuminated