

These isolates have been recorded in other parts of the world in various habitats, and especially in decomposing vegetable matter<sup>2,3</sup>. A new species of *Thermomyces* was recently isolated from self-heating oil-palm produce in Nigeria<sup>4</sup>.

N. OKAFOR\*

Federal Department of Agricultural Research,  
Moor Plantation,  
Ibadan, Nigeria.

\* Present address: Department of Microbiology, University of Nigeria, Nsukka, Eastern Nigeria.

<sup>1</sup> Okafor, N., *Nature*, **208**, 1015 (1965).

<sup>2</sup> Apinis, A. E., in *Soil Organisms*, edit. by Doeksen, J., and van der Drift, J. (Amsterdam, 1963).

<sup>3</sup> Waksman, S. A., Umbreit, W. W., and Gordon, T. C., *Soil Sci.*, **47**, 37 (1939).

<sup>4</sup> Egginis, H. O. W., and Coursey, D. G., *Nature*, **203**, 1083 (1964).

### 'Polyspheroids' from American Soils

A RECENT electron microscopic examination of a soil sample from Texas revealed the presence of unusual forms of micro-organisms. As a result, a more extensive survey of North American soils was undertaken, to find whether the so-called 'polyspheroids' were more widely distributed, or restricted to limited areas.

Soil samples from New Jersey, Louisiana, Florida and New York yielded, on inoculation into selective culture media, mixed microbial cultures that were examined by electron microscopy. Among several unusual forms observed, some closely resembled the 'helicooidal polyspheroids' described by Nemeec and Bystricky<sup>1,2</sup> and Bystricky and Nemeec<sup>3</sup> and seemed to be identical to those encountered from Texas. These unusual forms (Fig. 1) were of the general size of bacteria, about 0.5 $\mu$  by 0.6 $\mu$ –1.5 $\mu$ . Electron micrographs revealed several strongly contoured, longitudinal rows of roughly spherical sub-units, with diameters of about 0.1 $\mu$ , in a maize cob-like arrangement (Fig. 2). The sub-units were not detected by light microscopy. A helicooidal arrangement of the sub-units

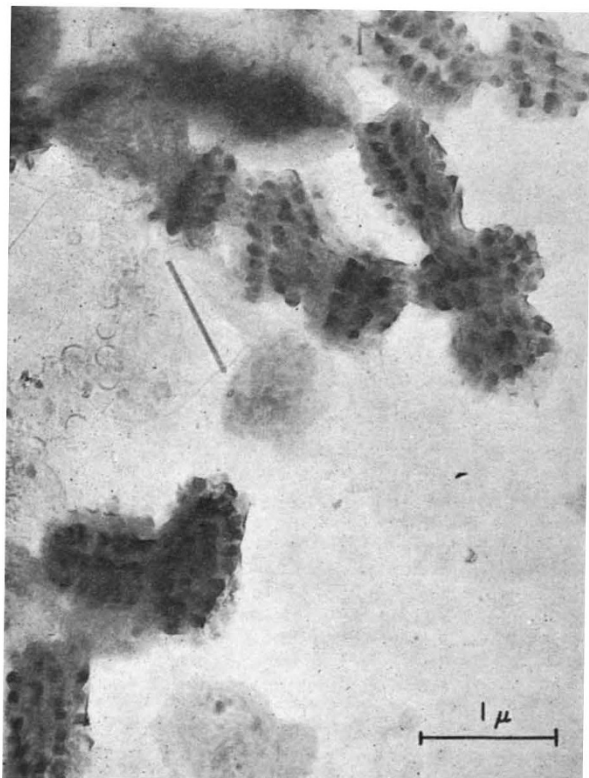


Fig. 1. Mixed culture of soil micro-organisms, with several polyspheroids

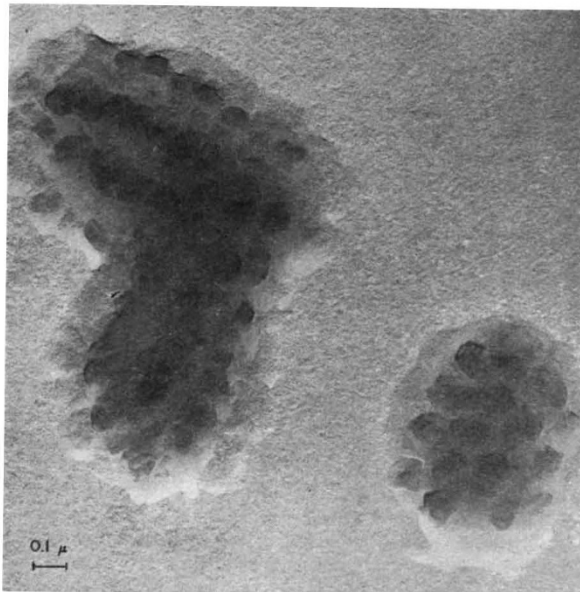


Fig. 2. Polyspheroids, at higher magnification

was suggested in some instances, but was less pronounced than in the forms described from Europe<sup>1-3</sup>.

As to the nature of the observed forms, the following interpretations are suggested: (a) they might represent a stage in the normal or abnormal life cycle of a bacterium, or of some other soil micro-organism; (b) they could be a hitherto undescribed soil bacterium, of unusual morphology; (c) they might belong to a new, hitherto undescribed group of micro-organisms. The latter interpretation is the most challenging, and seems very likely at present.

Attempts are at present being made to obtain enriched mixed cultures with a higher percentage of these forms, and it is hoped eventually to gain pure cultures of the micro-organisms. Their tentative designation as polyspheroids will be maintained.

This investigation was sponsored in part by a grant from the U.S. National Science Foundation and by a U.S. Public Health Service grant from the Institute of Allergy and Infectious Diseases, Bethesda, Maryland.

S. W. ORENSKI  
VOJTECH BYSTRICKY\*  
KARL MARAMOROSCH

Boyce Thompson Institute for  
Plant Research, Yonkers,  
New York.

\*On leave from the Slovak Polytechnic University, Chemical Faculty, Bratislava, Czechoslovakia.

<sup>1</sup> Nemeec, P., and Bystricky, V., *J. Gen. App. Microbiol.*, **8**, 121 (1962).

<sup>2</sup> Nemeec, P., and Bystricky, V., *Naturwiss.*, **49**, 335 (1962).

<sup>3</sup> Bystricky, V., and Nemeec, P., *Proc. Third European Reg. Conf. Electron Microscopy, Prague 1964*, 559 (Czechoslovak Academy of Sciences, Prague, 1964).

## GENETICS

### Genetic Control of Lipid Metabolism in *Tribolium*

GENE blockages of protein synthesis in micro-organisms are now classical to the study of gene action. While a few metabolic defects are well known to be under genetic control in higher organisms, including man, experimental evidence of genetic control of lipid metabolism is not known. Therefore, discovery of a gene in *Tribolium* which apparently influences the metabolism of fatty acids may be of general interest.

The mutant gene arose in a quantitative genetic study of selection response of 13-day larval weight in *Tribolium*