The reductive cleavage of saccharo-humic acid, which is often discussed in humic acid studies, did not reveal any phenolic units. This confirms the widely accepted view that saccharo-humic acid is quite unrelated to soil humic acids. A native spruce lignin supplied by Dr. Handley, of Oxford, was readily reduced by the same technique to give a mixture of more than 30 phenolic compounds, including *p*-hydroxybenzoic acid, which indicates the probable existence of non-methylated phenol residues in soft-wood lignin, and a number of substituted phenyl residues with C_1, C_2 and C_3 side-chains.

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Presence of Ribonucleic Acid in the Initial Yolk Globules of Oocytes of *Aplysia depilans* L.

PREVIOUS work carried out with the electron microscope has indicated that the formation of yolk globules of some species of Mollusca and Echinodermata occurs by aggregation of protein particles[1,2]. Experiments have also indicated the possibility of obtaining in neoplastic cells an artificial aggregation of the particles[1-3]. Work on oocytes has shown the ribosomal nature of the particles, and it is thus possible that RNA is present in the product of protein synthesis.

Investigations have been carried out in order to solve this problem. The vitellogenesis of oocytes of *Aplysia depilans* L. (Mollusca, Opistobranchia), in which the final yolk globules (Fig. 2, *g*″) are formed by products coming from the transformation (Fig. 1, *g*′) of initial large yolk globules (Fig. 1, *g*), which are found in relatively young oocytes[4], has been examined.

The following stains were used for light microscopy: Unna-Pappenheim, Dominici, toluidin blue; for fluorescent microscopy, acridine orange. Control with ribonuclease ('Crystalline' of Light and Co.) for all methods was carried out. In this way observations of the presence of RNA in the aforementioned initial yolk globules was made possible. Einarson's method was also used; but it was not found to be suitable. With Unna-Pappenheim's method, there have been indications that a diminution of the pyroninophilia of the globules is due to digestion with ribonuclease. Clear-cut results have been obtained with Dominici's method and with treatment with acridine orange. In the final yolk globules the tests always gave negative results.

Further tests made on other material—whether germinal or somatic—could perhaps render it possible to generalize the idea that ribonucleoproteins, after the incorporation of amino-acids, are traceable, at least in an initial phase of formation, in the products of protein synthesis. More information on the function and destiny of cytoplasmic ribosomes ('cytoribosomes')[2] could therefore be obtained.

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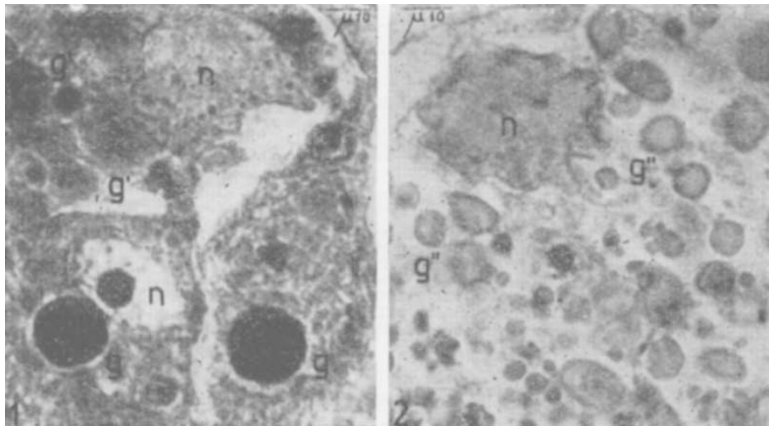

Fig. 1. Relatively young oocytes of *Aplysia depilans* in a preparation stained with Mallory's method. *g*, Initial yolk globules; *g*′, yolk globules in transformation; *n*, nuclei

Fig. 2. Portion of a fully developed oocyte of *Aplysia depilans* in a preparation stained as above; *g*″, final yolk globules; *n*, nucleus

Localization and Fractional Determination of Neutral Deoxyribonuclease Activity in Cat Serum

THE biological role, biochemical and enzymatic characteristics and cellular localization of DNases in higher mammals are still little understood. The existence of numerous isozymes suggests that the DNase activity manifested by most tissues could be related to one or several molecular forms of one or several enzymes or their inhibitors. In this respect we present a preliminary investigation concerning the localization of DNase activity in the serum of the cat fractionated on gelose and starch gel, and the concentration and fractional determination of this activity by chromatography on substituted celluloses. When compared with various mammalian sera, the cat's serum has a very high DNase activity and therefore constitutes good material for examination[1]. Blood was obtained by cardiac puncture from animals anæsthetized with ether. The serum was obtained immediately after retraction of the clot and kept in the refrigerator. It was fractionated by starch-gel electrophoresis according to Smithies[2,3] and by agar-gel electrophoresis according to Grabar and Burtin[4].

Running a DNA gel (200 μg DNA/ml. 1·5 per cent gelose solution) over the electrophoresis plates makes it possible to reveal directly the DNase activity of fractions after incubation for 16 h at 37° C., by staining of the non-hydrolysed DNA by a methyl green solution (1 per 1,000 in a *tris* buffer 0·1 M, *p*H 7·4).

It is also possible to prepare an electrophoretic gelose support containing 100 μg DNA/ml., in which case the protein migration is not disturbed, and enzymatic activities are revealed immediately after incubation for 2 h at 37° C by a methyl green reaction. This method ensures more exact separation and selection of the active zones (Fig. 1).

Serum chromatography is carried out on DEAE cellulose in a continuous gradient, and on CM cellulose in a discontinuous gradient, by the classical procedure of Sober and Peterson[5,6].

Every chromatographic fraction is lyophilized and dissolved in 0·5 ml. *tris* buffer 0·1 M,