

representative of average conditions in the relatively constricted passage through Cook Strait. It is reasonable to infer from this that the animals can maintain their position on the bottom despite the current. It may well be that the occurrence demonstrated a positive reaction in *Pyrosoma atlanticum* towards the least rapidly moving water in their immediate vicinity, since the whole water column above them would be moving at a greater rate.

The photographs for this work were taken by Mr. G. R. T. Clacey, of the New Zealand Electricity Department, with an underwater camera, developed in consultation with the New Zealand Oceanographic Institute and the Photographic Section of the Department of Scientific and Industrial Research.

D. E. HURLEY

D. G. MCKNIGHT

New Zealand Oceanographic Institute,  
Department of Scientific and Industrial Research,  
P.O. Box 8009,  
Wellington, New Zealand.

<sup>1</sup>Thompson, Harold, "Pelagic Tunicates of Australia" (Commonwealth Council for Scientific and Industrial Research, Australia, Melbourne, 1948).

### Inhibitory Effect of Colchicine upon the Transplantable Fibroma of the Skin in the Newt *Triturus taeniatus*

RECENTLY, we described a multiple fibroma of the skin in the newt *Triturus taeniatus* which was characterized by an enlargement of the adepidermal reticular network<sup>1-4</sup> and appeared to be transplantable in the same animal<sup>3,4</sup>. The preliminary transplantation experiments were continued to establish the effect of a colchicine treatment. The material for these experiments was obtained by breeding the normal animals of the first litter in which the tumour was observed<sup>3,4</sup>. Fragments of tumour tissue from the surroundings of small tumours, in which an enlargement of the nodular swellings of the adepidermal reticular network could already be expected, were transplanted to a perfectly tumour-free area of the same animal, preferably in the tail base region. In 105 of the 128 cases a distinct tumour developed after about 3 weeks at the location of the transplantation, whereas in the 23 negative cases the transplanted material had been almost completely resorbed. After 3 weeks in 83 of the 105 tumour cases treatment with colchicine was applied, the remaining 22 animals being used as controls. This colchicine treatment consisted in giving once a week an intraperitoneal injection of colchicine-saline solution (0.0017 mgm. colchicine). The method of preparing the solution for injection was as usual<sup>5-7</sup>. The experiment lasted 70 days.

Comparing the area diagrams which were made of the tumours, it was clear that the colchicine had an inhibitory effect on the growth of this fibroma.

The tumours of the colchicine-treated animals as well as of the control animals were examined histologically, and particularly the adepidermal reticular network was studied with the aid of Pap's ammoniacal silver method as modified by Mitchell and Wislocki<sup>8</sup> (counterstain paracarmine) and Bodian silver-proteininate (counterstain orange G).

The tumours of the control animals showed the normal development of this fibroma, in which the following stages already described<sup>3,4</sup> were observed: (1) enlargement of the nodular swellings of the adepidermal reticular network; (2) continued en-

largement of the nodular swellings and concentration of fibroblasts in their surroundings; (3) formation of new fine fibrils radiating from the enlarged nodular swellings, a densely structured network thus being formed around the concentrated fibroblasts; (4) fusion of the concentrated masses of fibroblasts to larger complexes. The enlarged nodular swellings are probably induction centres which, with the aid of certain chemical substances, cause the local concentrations of the fibroblasts.

In the tumours of the colchicine-treated animals particularly the enlargement of the nodular swellings and the concentration of the fibroblasts appeared to be disturbed. The inhibitory effect of the colchicine is consequently in all probability an inhibition of these processes. The fact that in the colchicine-treated animals these processes, as well as the tumour growth, had come to a stop is an important argument for the assumption that these processes of the adepidermal reticular network play an important part in the development of this skin fibroma.

A. STOLK

Histological Laboratory,  
The Free University,  
Amsterdam. Dec. 20.

<sup>1</sup>Singer, M., and Andrews, J. S., *Anat. Rec.*, **109**, 346 (1951).

<sup>2</sup>Singer, M., and Andrews, J. S., *Acta Anatomica*, **28**, 313 (1956).

<sup>3</sup>Stolk, A., *Experientia*, **14**, 243 (1958).

<sup>4</sup>Stolk, A., *Proc. Kon. Akad. Wet.*, **61**, 610 (1958).

<sup>5</sup>Bergner, A. D., *Cancer*, **3**, 134 (1950).

<sup>6</sup>Fleischmann, W., and Ulyot, G. E., *Cancer*, **3**, 130 (1950).

<sup>7</sup>Goldberg, B., Ortega, L. G., Goldin, A., Ulyot, G. E., and Schoenbach, E. B., *Cancer*, **3**, 124 (1950).

<sup>8</sup>Mitchell, A. J., and Wislocki, G. B., *Anat. Rec.*, **90**, 281 (1944).

### Effect of Infection with Myxomatosis Virus on the Endoparasites of Rabbits

THE widespread and common occurrence of endoparasites in free-living Australian wild rabbits, *Oryctolagus cuniculus* (L.), prompted an investigation into any effect they might have on the severity of infectious myxomatosis in partially resistant animals, or in cases due to attenuated strains of the virus. Although the results so far obtained are based on a small number of rabbits and are insufficient to answer this complicated problem fully, results collected simultaneously on the behaviour of parasites, especially *Graphidium strigosum*, in virus-infected hosts are interesting and worth recording.

Rabbits infected naturally with *Eimeria* spp. (coccidia), *G. strigosum*, and *Trichostrongylus retortaeformis* were caught in the field at the approximate age of six weeks for the purpose of testing for the degree of genetic resistance to myxomatosis. Prior to inoculation with *K.M.* 13 attenuated strain of virus<sup>1</sup> at about five months, they were kept in the laboratory under conditions which excluded the possibility of re-infection. For one week before inoculation, and then throughout the course of the disease, faecal counts of oocysts and nematode eggs were carried out at 2-day intervals in 12 rabbits.

Statistical analysis of the results showed that after generalization of the virus in the host, seven days after inoculation, a significant ( $P < 0.05$ ) reduction in the numbers of oocysts and ova occurred, which lasted for approximately 2 weeks—a period coinciding with the acute stage of the disease. The reason for this was not studied specifically, and it is only suggested that the changing metabolism in the host or its increasing body temperature may have induced