

## Fine Structure of Nucleoli in Cells of Encysted *Hymenolepis diminuta*

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Studies of the fine structure of 5 day old cysticercoids of *H. diminuta* revealed nucleoli with well-formed lamellae in germinal cells within the body of the encysted worm. The nucleoli were located centrally in the nucleus and appeared not to be attached to the chromosomes, chromatin, or to the nuclear envelope.

A few nucleoli possess nucleolar material attached at their surfaces as lamellae (Fig. 1). The lamellae measure about 60 to 80  $m\mu$  in diameter and may arise by splitting from the central bodies of the nucleoli. Occasionally a lamella is branched and appears to communicate with the scattered pars amorpha.

Porter (1954, *J. Histochem. Cytochem.* 2: 346-355; 1960, Fourth internat. Conference on Electron Microscopy, eds. Bargmann Mollenstedt, Niehrs, Peters, Ruska and Wolpers, Berlin-Göttingen-Heidelberg: Springer) reported lamellae in striated muscle of *Ambystoma* larva, and Beams and Seklon (1968, *Zeit. f. Zellforsch.* 85: 237-242) found lamellae in oöcytes of centipedes and crayfish. The latter

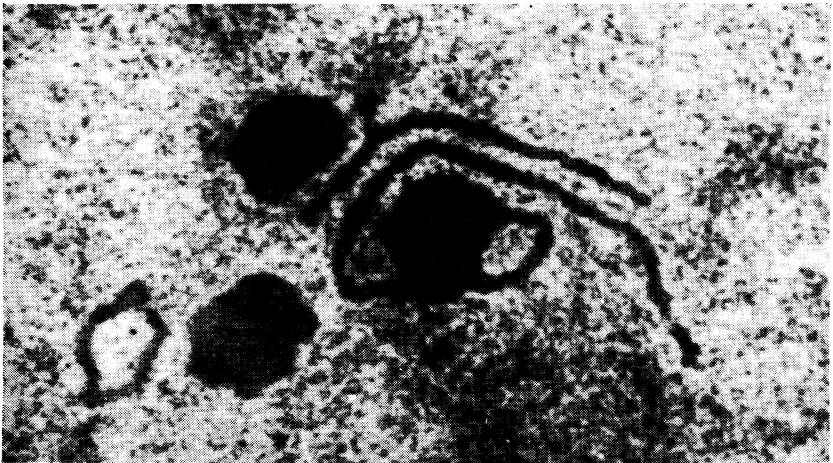


FIG. 1. Nucleoli from germinal cell of 5 day old cysticercoid *Hymenolepis diminuta*.

authors suggested that the lamellae may function to transfer material between nucleoli.

Nucleoli are believed to function as depositories for ribonuclear genetic materials that are reworked and elaborated for cytoplasmic use. They appear to originate in association with certain chromosomes and they are more or less constant in number for given somatic cell types (Moses, 1964, *Cytology and Cell Physiology*, ed. by Bourne, 3 ed. Academic Press, New York).

Kaulenas, Foor and Fairbairn (1969 *Science* 163: 1201-1202) reported the presence of nucleoli in 4-celled *Ascaris* embryos that were associated with the synthesis of rRNA. These authors showed an increase in the numbers of nucleoli and the nucleoli exhibited lamellae.

The above evidence indicates that the presence of lamellae, like the increased numbers of nucleoli, are more related to increased RNA production than to transferring of materials between nucleoli.

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