sures which restore the normal geometrical relation between the mitotic apparatus and the surface.

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1969 #31

THE MICROCIRCULATION IN THE TAIL FIN OF Fundulus heteroclitus

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As a continuation of the work started in the summer of 1968, the microcirculation of the tail fin of Fundulus heteroclitus was studied in vivo by means of light microscopy.

The fish was mounted on the microscope stage in a special lucite cradle, designed in such a way that the gills were submerged and the tail resting horizontally in a shallow pool of circulating seawater. An ordinary Zeiss microscope was used for the observation, and the objective lenses used were 10x, 25x, 40x, and 100x oil immersion. In the case of the oil immersion, the seawater was drained from the tail, and drops of immersion oil were applied directly on the tail. This provided an excellent image of the vasculature.

Attached to the microscope was a television camera GPL 990, a videotape recorder Ampex VR 5100, and a television screen TV Setchell Carlson Model 2100 SD. While the various parts of the tail fin microvasculature were observed, an instant recording of the field was obtained, and at the end of the experiments, an instant replay of the recording was possible. The findings are presently being analyzed.

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1969 #32

THE CIRCULATION OF THE SPLEEN IN Squalus acanthias

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The structure and ultrastructure of the circulatory system of the dogfish spleen has not been investigated before. In order to gain some knowledge of the vascular system in this particular organ, particularly in view of some recent investigations by this author of mammalian spleens, the spleens of several dogfish were preserved for electron microscopy. A specially designed technique of perfusion was utilized. The dogfish was anesthetized with Nembutal, using a dosage of 20 mg per kg dogfish, and given intravenously. The abdomen was opened and a cannula inserted into the splenic artery. The perfusion of glutaraldehyde, followed by osmium tetroxide was started at the same time as the splenic vein was opened in order to obtain an immediate drainage of the spleen. The glutaraldehyde perfusion washed out the splenic blood, and the subsequent osmium tetroxide blackened the splenic tissue, indicating the success of the perfusion. Specimens are now being analyzed with the aid of the light and electron microscopes.

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