Z203 **Fine Structural Analysis of Prehemocytes of Heart Lumen in a Spider, *Araneus ventricocus***

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Fine structural characteristics of the prehemocytes in heart lumen of a spider have been investigated by light and transmission electron microscopes. The heart wall of the spider was composed of deeply folded muscularis which has no intima at inner margin. Numerous prehemocytes were accumulated among the myocardial projections which were stretched toward heart lumen. At this layer, a few kinds of matured hemocytes also appeared: the granular hemocytes which have electron dense granules within the cytoplasm, and the hyaline hemocytes. The cellular dimension of the prehemocytes was comparable to that of oenocytoids, the most big hemocytes ever reported in spider hemolymph. The prehemocytes have cartwheel-shaped nucleus, and filled with low electron-dense substances in the cytoplasm as matrix, typically. Each prehemocyte has no special cellular junctions along the plasma membranes.

Z204 **Fine Structural Changes of the Tubuliform Silk Glands during the Cocoon Production in the Spider, *Nephila clavata***

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Fine structural changes of the tubuliform silk gland during the period of cocoon production in the orb-web spider, *Nephila clavata* were studied with light and electron microscopes. Three pairs of tubuliform glands produce special silky materials used for the cocoon production. The secretory epithelial cells before cocoon formation, well developed rough endoplasmic reticula and numerous secretory granules were distributed throughout the whole cytoplasm. Whereas, after cocoon production, total volume of the tubuliform glands were dramatically diminished, and some morphological features such as synthesis, transportation and granular fusion of the secretory granules were not observed. Moreover, some of the epithelial apoptotic cells also appeared at this stage.