

Structure of the leech nerve cord: Distribution of neurons and organization of fiber pathways

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The abdominal nerve cord of the leech *Macrobdella decora* was studied under the light and electron microscopes. The ganglionic cortex consists of six hemicone-shaped packets of neuronal perikarya and apical processes regularly assembled in bilaterally symmetric rows. The orderly projection of the apical processes into the hilum of the packets is also followed by an orderly distribution of their branches across the neuropile. This part of the ganglion is made of two symmetrical halves or hemineuropiles enclosing two types of nerve tissue: coarse and fine neuropiles. The coarse neuropile has seven longitudinal and four commissural tracts of fibers and a distinctively segregated synaptic zone. Nerve processes in this neuropile mostly proceed from neurons in the ganglia and some are the branches of giant afferent axons. The fine neuropile includes several longitudinal tracts of fibers and a non-segregated synaptic zone. Most nerve processes in this neuropile are small afferent axons and som