3-1-5. Fine Structural Analysis of the Central Nervous System in the Spider

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Central nervous system (CNS) of arachnids is still mysterious and has a rich unexplored field compare to what is known in insects and crustaceans. The CNS of the spider consists of a dorsal brain or supraesophageal ganglion and circumesophageal connectives joining it to the subesophageal mass. As the segmentation of the arachnid brain is still under discussion, we classify the brain as a protocerebral and tritocerebral ganglion depending on the evidences which generally accepted. The subesophageal nerve mass underneath the brain is the foremost part of the ventral nerve cord. All of this nerve mass is totally fused together, and forming subesophageal ganglia in this spider. In the brain, the nerve cells are packed in the frontal , dorsal, and lateral areas, but are not absent from the posterior and ventral regions. In addition, the nerve cells of the subesophageal and abdominal ganglia are only restricted to the ventral and ventolateral regions.