

become amoeboid in outline and histolysis of the larval Malpighian tubules is observed only in those larva which have become enclosed in cocoons (i.e. are in the prepupal period of metamorphosis).

In the large larvae of the ninth and tenth nomadic days, the anlagen of the adult Malpighian tubules are arranged in a small cluster around the larval intestine just posterior to the point of attachment of the larval Malpighian tubules (fig. 15).

C. The nervous system.—The larval nervous system of *Eciton burchelli* is composed of the central and the stomatogastric nervous systems. The central nervous system consists of the *supra-esophageal ganglion* or *brain*, and a series of twelve, ventrally located, paired *ganglia* of the nerve cord with their respective nerves (figs. 6 and 12). The *stomatogastric nervous system* consists mainly of a median, bean-shaped, frontal ganglion with its anterior bilateral and posterior median nerves (fig. 12).

The *brain*, a pair of large, roughly egg-shaped ganglia, is located in the head segment. These ganglia are almost completely separated medially by a deep, antero-posterior sulcus, across which they are held together by connecting nerve fibre tracts. This *median commissure* is located in the posterior part of the brain just dorsal to the esophagus. At the anterior, ventral region of the brain, three pairs of nerves are evident. The most anterior pair extend to the region of the labium; the middle pair serves as a ventral, interlobular commissure and lies just ventral to the pharynx (fig. 10). The posterior pair extends ventrally and forms the circum-esophageal connectives which join together the supra-esophageal and sub-esophageal ganglia. The ventral interlobular commissure together with the dorsal interlobular commissure form the *circumpharyngeal nerve ring* through which pass the pharynx and esophagus.

The first ganglion of the ventral nerve cord is the *sub-esophageal ganglion*, located ventrally between the head and prothoracic segments (figs. 6, 7, 16 and 17). This ganglion is connected with the second ventral ganglion of the nerve cord, the prothoracic ganglion, by two longitudinal connectives. All successive ventral ganglia are connected similarly, forming a *ventral nerve cord* which has a morphological pattern typical of insect larvae. In the twelfth segment, the last ventral ganglion is relatively large and the nerve tracts within this ganglion unite to form a single, terminal nerve. This nerve projects into the haemocoel of the posterior region of the larvae and branches of it may be clearly seen to reach the rectum and hindgut.

The brain and ventral ganglia are composed of neuroblasts and fibrous tracts. In larvae of early stages, the neuroblasts, which are actively dividing, basophilic-staining cells with dense, ovoid nuclei, are more prevalent than the fibrous tracts (fig. 6). As the larva approach maturity, the abundance of nerve tracts within the nervous system becomes more evident. In the last stages of larval development the brain lobes and ventral nerve cord are highly differentiated into central regions of nerve