and dorsad to each gland. Each reservoir empties into a cuticular duct which proceeds antero-medially until they unite to form a common duct at the anterior end of the alitrunk. This common salivary duct passes through the cervical region into the head capsule, ventrad of the brain and terminates in the labium. The salivary duct orifice provides a marker for the boundary between the hypopharyngeal and premental regions of the labium (Gotwald 1969).

The metapleural glands are located in the posterior third of the alitrunk, one on each side. Each gland is composed of numerous ellipsoidal cells with conspicuous nuclei (Fig. 10). Each cell gives rise to a small duct intracellular in origin. These ducts unite in each gland to form a bundle of ducts. The cell products are secreted through these ducts onto sieve plates located at the apex of an accessory metapleural structure, an invagination of the metapleuron (Tulloch et al. 1962). The accessory structures open on the posterior-lateral margins of the metapleuron.

The poison filaments arise from the poison duct anterior to the sting bulb. These ribbon-like structures are unbranched and are randomly distributed in the area of the poison sac (Gotwald 1971).

Distinct dorsal abdominal glands were not identified in the histological preparations, although a cluster of small gland-like cells was discovered in dissection attached to the membrane of the anterior margin of the 7th abdominal tergite.

Dufour's gland is situated in the last two visible segments of the gastral cavity at the apex of the joining ovarioles (Gotwald 1971). The duct of this small, spherical gland enters the sting bulb ventrad to the poison sac duct. The wall of the gland is composed of a profuse number of small cells detectable only through the presence of their conspicuous nuclei.

A gland-like tube, ventrad and histologically similar to the Dufour's gland is distinguishable in section, but has not been located in gross dissection.

Nervous System.—In the head, the nervous system consists of a supraesophageal and a subesophageal ganglion. These ganglia are fused into a single mass of nervous tissue, or brain, penetrated by the esophagus and its associated musculature (Fig. 11–12). Several structures and regions can be distinguished histologically within the supraesophageal ganglion. These structures include the four corpora pedunculata, two within each half of the protocerebral area of the ganglion. Each corpus pedunculatum, or "mushroom body," is composed of a calyx at one end of a "stem" or pedunculus of nerve fibers. The corpora pedunculata of each side consist of a medial calyx and pedunculus and a lateral calyx and pedunculus (Fig. 11–12). The two peduncula fuse and then divide to form an α and a β lobe (see Vowles 1955). The antennal lobes, one to each half of the deuterocerebral area, are located ventrad of the corpora pedunculata. A reduced optic center is situated laterad of each antennal lobe (Fig. 11). The central body is located between the antennal lobes.

The ventral nerve cord of the alitrunk, petiole, and gaster consists of six ganglia successively connected by paired interganglionic connectives. These connectives enter the alitrunk from the subesophageal ganglion and join the first of the three ganglia located in the alitrunk. The first ganglion is housed, in part, by portions of the prosternum and is connected to the second ganglion which, with the third ganglion, is situated in the posterior half of the alitrunk. There is a single ganglion contained in the petiole and two in the gaster. The first of the gastral ganglia is located in the first gastral segment, and the second extends through parts of the next two segments. Histologically, the connectives and peripheral nerves are composed of nerve fibers, while the ventral ganglia consist of a core of fibers surrounded by conspicuously nucleated neuron cell bodies. The last ganglion of the ventral nerve cord is conspicuously compound.

Reproductive System.—The worker reproductive system, when present, consists of two ovaries, each consisting of a single, polytrophic ovariole (Gotwald 1971), and a common oviduct. Located in the terminal segments of the gaster, the ovarioles extend anteriorly from the common oviduct and end in the terminal filament. Each ovariole consists of a series of oocytes (the largest of which is less than 0.25 mm in diameter) separated from one another by groups of polyhedral trophocytes.

Poison Apparatus.—The poison apparatus consists of a poison sac and duct, poison filaments, and sting bulb and associated sclerites. Dufour's gland is also associated with the sting apparatus. Hermann and Blum (1967), Hermann (1969), and Gotwald (1971) discussed the poison apparatus of *C. morosus* morphologically and histologically, so it is not included in detail here.

DISCUSSION

All worker ants of the subfamily Dorylinae are polymorphic, except the genus *Aenictus,* some species of the genus *Neivamyrmex,* and *Eciton rapax* Fr. Smith. The size differential, in terms of total length, between the smallest and largest *C. morosus* workers in the series measured, is 4.12 mm. Differentials calculated from data presented by Schneirla (1971) for a variety of doryline species are: 8.1 mm for *Eciton burchelli* (Westwood); 8.0 mm for *Dorylus (Anomma) wilverthi* Emery; 2.8 mm for *Neivamyrmex nigrescens* (Cresson); and 0.5 mm for *Aenictus gracilis* Emery. Thus the degree of polymorphism exhibited by *C. morosus* lies midway between the quasi-monomorphic (*sensu* Topoff 1971) *Aenictus* and the strongly polymorphic *Eciton.* While it is convenient to refer to individuals of a worker-polymorphic species as belonging to major, media, and minor subcastes, such designations are often arbitrary since workers may form a continuous gradient size series. This is true of *Cheliomyrex,* of most *Eciton* (Schneirla 1971), and of the *Dorylus* subgenus *Anomma* (Huxley 1927, Hollingsworth 1960, Raignier and van Boven 1955). Wilson (1953) considered worker polymorphism as a special adaptive character that resulted "in various types and degrees of division of worker labor." There are many examples in the ants