

Fine Structure of Spermatheca and Accessory Gland in Female Mealworm Beetle, *Tenebrio molitor*

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The fine structures of spermatheca and reproductive accessory gland of the female mealworm beetle, *Tenebrio molitor* are studied with light and electron microscopes. The female genital organs of *Tenebrio molitor* consists of 2 ovaries, 2 oviducts, a common oviduct, a tubular accessory gland, and a spermatheca. The spermatheca is a small roundish organ that adheres to the vagina. The accessory gland is a simple tubular organ which composed of epithelial secretory cells, duct-forming cells, and cuticular intima. The lumen of the accessory gland is lined with a thin cuticle and filled with dense secretion materials. Each secretory cell has well developed rough endoplasmic reticula, mitochondria and secretory vesicles. The glandular secretions of the epithelial cells are synthesized via rER to Golgi apparatus, and are drained to the lumen through the end apparatus. Histochemical reactions reveals one of the major component of this glandular secretion is a mucopolysaccharide.