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Fine Structure of the Hemocytes of coleoptera, *Protaetia brevitarsis*

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The hemocytes of the last instar larve of *Protaetia brevitarsis* were studied with the aid of electron microscop. Six hemocytes are identified in the hemolymph; prohemocyte, plasmatocyte, spherulocyte, granulocyte, oenocytoid, coagulocyte. Prohemocytes are small round cells with large nucleus, poorly developed cytoplasmic organelles. Plasmatocytes are oval or spindle with numerous phagocytic vesicle, relatively well developed cytoplasmic organelles. Granulocytes characterized by various electron dense granules in cytoplasm. Golgi complex become well expressed and give rise to small secretory vesicles which fuse to large bodies, certain granulocytes contained foreign cellular fractions of various size and shapes. Spheruleocytes characterized by spherules composed of flocculent materials. They are round or oval shapes with few cytoplasmic organelles. Oenocytoids are large cells with a ratio of cytoplasm to nucleus. The nucleus is rounded with an eccentric location in the cell. The other cytoplasmic organelles very little developed. Coagulocytes are oval shaped and poorly developed cytoplasmic organelled, the nucleus are larger in cell size larger in cell size than other hemocytes.

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Fine Structure of Female Accessory Glands in the Mealworm Beetle,
Tenebrio molitor (Coleoptera: Tenebrionidae)

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Fine structure of the female accessory gland in the mealworm beetle, *Tenebrio molitor* is studied with light and electron microscopes. The female reproductive organs of this beetle are consisted of ovaries, branched oviducts, a common oviduct, and a pair of accessory glands. This accessory gland is simple tubular structure with average 60 μm in diameter, and 3 mm in length. Epithelium of this glands is mainly composed of simple columnar secretory cells. The cytoplasm of each secretory cell has abundant endoplasmic reticula(rER), Golgi apparatus, and numerous secretory vesicles. It has been observed that production of the secretory vesicles of various densities are first originated from the rER and next they are concentrated through the Golgi apparatus. Matured secretory vesicles are accumulated near the luminal surface, and finally released to inner lumen by the mechanism of merocrine secretion.