Mealworms-Background Information

Introducing Tenebrio molitor, otherwise known as the mealworm, the darkling beetle, or the stinkbug. Mealworms are part of the very large beetle family of insects. Of the three million species of insects, one million are some type of beetle. An amazing 25% of all species on earth are beetles. The darkling beetle is related to the well-known ladybug and firefly. The darkling beetle is found worldwide, but is more common in warm, dry climates. In nature, they are found under the bark of decaying logs and trees. They are also found in towns and cities, usually infesting flour, cereals and grains. Although they are not common in homes, they are often present in flour mills or barns where livestock feed is stored. Like all insects, the darkling beetle goes through a metamorphosis or change during its life cycle. Like all organisms that go through metamorphoses, the darkling beetle does not initially look like its parent organism. Its life cycle is a sequence of changes from egg to adult. The darkling beetle goes through the following four stages of development:

The egg. The eggs of the mealworm are too small to see with the naked eye. The hatching of these eggs marks the beginning of the larval stage.

The larva. Most of this insect 's life is spent in the larval or food finding stage. The larva stage of the darkling beetle is commonly known as the mealworm. Although it looks very much like a worm, it is not one. It is an immature darkling beetle in the larva stage. Several other organisms also go through a worm-like larva stages. For example, maggots are the larvae of flies, and caterpillars are the larvae of butterflies. Most animals have specialized structures that help them collect information about their environment. Humans use their senses of smell, touch, hearing, sight, and taste to perceive their surroundings. Mealworms have simple eyes that can sense changes in light brightness but cannot give the mealworm a clear picture of its surroundings. It seems mealworms mainly use their senses of touch to find their way around. They crawl with their legs and appear to sense an edge with both their legs and antennae. A mealworm 's survival depends on its finding sufficient food and hiding from predators. Its ability to assess its environment and move depends on its body form and the senses it possesses. Mealworms will shed their skin (molt)several times during the larval stage in order to grow larger. How often they molt depends on the temperature of their environment.

The pupa. During this stage the darkling beetle is relatively inactive and is going through the final change between larva and adult. Some insects ' pupa stage is spent in a cocoon, but this is not true of the mealworm. The pupa stage lasts about 1-3 weeks. The pupa is inactive but will move if touched. The head structure and other adult body parts can be seen developing.

The darkling beetle. As the pupa first changes into an adult darkling beetle it is beige in color. As it matures, it turns brown and then black. The beetles have wings which are protected by a hard covering. The adults mate and the female can lay about 500 eggs, which begin the life cycle of the next generation.