

## Care guide

### Dermestid Beetles (*Dermestes maculatus*)



*Adult beetle and final instar larva pictured*

Dermestid Beetles (also known as Hide Beetles) are widespread throughout the world. In nature they are associated with animal carcasses where they arrive to feed as the carcass is in the latter stages of decay. They feed on the tough leathery hide, drying flesh and organs, and will eventually strip a carcass back to bare bone. Due to their bone cleaning abilities they are used by museums, universities and taxidermists worldwide to clean skulls and skeletons. Their diet also has made them pests in some circumstances too. They have been known to attack stored animal products, mounted specimens in museums, and have caused damage in the silk industry in years gone by.

The adult beetles are quite small and the larger females measure around 9mm in body length. Adult beetles can fly, but do so rarely. The larvae are very hairy and extremely mobile. Both the adults and larvae feed on the same diet, so can be seen feeding side by side at a carcass.

Each female beetle may lay hundreds of tiny eggs, and are usually laid on or near their food source. The larvae go through five to 11 stages of growth called instars. If conditions are not favourable they take longer to develop and have more instars.

Due to their appetite for corpses at a particular stage of decay, these beetles have forensic importance and their presence and life stage can aid forensic scientists to estimate the time of death, or the period of time a body has been in a particular place.

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**Food:** Dry or partially dry animal material. The most important rule when feeding is not to over feed and allow food to rot and spoil the enclosure. Build up the volume of food slowly over time and allow the strength of the colony and its 'eating power' to dictate how much food to provide. If you are not cleaning bones/skulls the colony can be maintained on dry materials sold in pet stores for dog food (pigs ears, roo tails etc). Dermestid beetles will consume some moist flesh, but it should be kept to a minimum.

**Water:** Very little water is required and it is important not to allow your enclosure to become damp. Supply water in a small bottle-cap filled with cotton wool to prevent drowning and spillage.

**Enclosure:** Plastic tubs make ideal enclosures. Choose a tub to suit the size of the colony you wish to cultivate. Although this species cannot climb smooth surfaces they can fly, so a well ventilated lid is required. Simply cut an opening in the plastic lid and replace it with insect-mesh.

**Substrate: (Temperate regions)** Bran is the substrate of choice in areas of low humidity. Several centimetres of dry bran is all that is required for beetles to shelter within, and it provides an excellent medium for eggs to be laid into. **(Tropical/humid regions)** Bran becomes mouldy in humid conditions and will kill the beetles. For this reason we recommend dry coco-peat. Coco-peat can be purchased in brick-form from most garden supply outlets. Follow the directions to expand it, then allow it to dry out so that you have a light-weight dry material. Several centimetres of this is required in the bottom of the tub.

**Temperature:** The ideal working temperature for these beetles is 25 – 30°C although they will tolerate cooler conditions and operate more slowly. Heating can be achieved via a heat mat, but only place the mat under half of the enclosure to ensure that they do not overheat.

**Life span:** About 60-70 days. (They can complete their life-cycle in 5-7 weeks at temperatures of 25-30° C)

**Handling:** Move beetles and larvae from one tub to another by scooping them up along with the substrate. A spoon is a good way to do this. You may 'seed' new colonies by moving food items covered in beetles/larvae to a new enclosure.

**Reproduction:** These beetles will breed continuously all year round in warm conditions. As long as food, ample dry substrate and warmth are provided your colony should continue to grow. Adult females will lay hundreds of tiny eggs within the substrate and in crevices on the food source (bones etc). You will not see these. Tiny larvae will hatch and begin feeding soon after. As the larvae grow they will cast off their old exoskeletons. These empty skins will become obvious as your colony size increases. Larvae pupate after reaching around 10-12mm in body length. They will remain within the substrate during this stage, and emerge as an adult beetle.

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