



Mealworm Allergy Information for Bat Carers

Background

It has been shown that some people who work with insects such as mealworms can develop allergic reactions. As mealworms are the primary food source for bats in care, bat carers are an at risk group from developing allergies to mealworms - specifically insect frass (waste) and scales. Microscopic fragments can become airborne through insect movement or through handling substrates and remain suspended in the room air. If these particles are inhaled they can stimulate an allergic response in some people.

This most often causes nuisance conditions such as allergic conjunctivitis, rhinitis or eczema but potentially exposure can also cause more serious conditions such as asthma (which may remain a problem even if the person ceases to work with insects) or in rare situations an anaphylactic shock (a severe form of shock and collapse).

It is not possible to predict who will run into these sorts of problems. Everyone working with insects must consider themselves vulnerable. The risk of becoming sensitised – the first stage in the development of an allergy – is related to exposure: the greater the degree of exposure, the higher the likelihood of sensitivity developing. Once an allergic response is established this relationship no longer holds – serious allergic reactions can be provoked by even slight exposure to the allergic material.

People who already have a respiratory condition, such as asthma, and those who smoke may be at slightly greater risk of becoming sensitised.

Symptoms of Allergy

Allergic reactions can affect the eyes, the nose, the lungs and the skin. Symptoms usually occur at the time of exposure, but especially with asthmatic symptoms, there may be a delay of some hours before these appear. The list below is not exhaustive:

- **Eyes** - Itching, watering, redness, swollen eyelids
- **Nose** - Itching, watering, sneezing
- **Lungs** - Coughing, chest tightness, wheeze, difficulty in breathing
- **Skin** - Itching, cracks, chapping, small blisters, wheals or nettle rash.

Action if Symptoms Develop

If you think you are developing an allergy, it is recommended that you seek advice from a medical professional as soon as possible so that an appropriate risk assessment can be performed. An early assessment of the problem may mean that specific advice can be given on how to further reduce or avoid exposure to prevent allergic problems from progressing.

It is however important to note that steroids or other immunosuppressive medications, which may be suggested, may affect a person's response to vaccines. This could therefore compromise your rabies protection. This will depend on how the medications need to be taken, for example inhaled steroids do not have an effect on the immune system and so should not interfere with vaccinations. It is therefore strongly recommended that anyone who develops an allergy to mealworms discusses the situation fully with their GP and carefully considers whether continuing with bat care is appropriate.

Good practice for dealing with mealworms

It is always best to address potential problems by prevention; this means taking steps to reduce exposure to the hazard before becoming sensitised, as opposed to trying to treat the problem once it has arisen. BCT recommends that bat carers take precautions to limit exposure to mealworm dust and frass. Masks and gloves should be worn at all times when in contact with mealworms.

Handling mealworms

Try to limit handling of mealworms as much as possible. Where handling is necessary, do not rub your eyes as the fine material can have an adverse reaction and cause strong eye irritation. Wash hands and any exposed areas to minimize the risk of skin irritation after you finish your tasks.

If removing the head of the mealworm, hold it well away from you to avoid contact with any mealworm juice that may come out during this process.

Storage and maintenance

Where possible, mealworms should be stored in a room or area that is not in regular use, and contact with mealworms limited to when bats require feeding. Mealworms are often provided in a small plastic tub with ventilation holes. It is recommended that these tubs are double bagged on purchase for transport home. You may also want to consider transferring the mealworms into a more secure container such as a small plastic faunarium.

Special care should be taken when cleaning out or disposing of containers that contain mealworms. As a minimum ensure this is carried out in a well ventilated area (for example outside) and that masks are worn to avoid inhaling dust.

Rooms used for bat care should be hoovered regularly to remove any mealworm remains. When removing bat furnishings for cleaning, wear gloves and a dust mask and wash any bat related items separately from all other household washing.