

Notes on Rearing Caterpillars – By Peter Williams

Breeding butterflies and moths can be a very rewarding experience.

If this is your first time don't worry too much, as many species are easy to rear using the simple guidelines below.

Of course they are only guidelines and as you get more experienced you will adjust to your own techniques. Make sure that you have the correct equipment, cages, jars, gauze etc. in preparation (see our links page for suppliers). Don't try to rear too many at your first attempt, ten to twenty eggs is a good manageable number for most species. Enjoy the whole experience, hopefully at the end of which you will witness the moth or butterfly emerging from its pupa, a truly magic moment indeed.

1. Before you decide whether to rear caterpillars make sure that you have enough of their particular food plant to rear them through successfully.
2. Don't try to rear too many, remember that in some species the caterpillars get very large, which will mean they need a large cage (or cages) and plenty of fresh food.
3. Choose only those species where the caterpillars can be reared in a single season. Rearing species where the caterpillar overwinters is much more difficult and should be left to more experienced breeders.
4. Cages, especially glass containers should never be placed in direct sunlight. They should be well ventilated (gauze or fine netting as a top cover is good) and at all stages of development they should be made secure from all predators.
5. Keep eggs in a small container so that you can easily see when they hatch. Check them daily as different species hatch at different rates, also the weather conditions may well have an influence on hatching.
6. Never put newly hatched or very small caterpillars in a large cage, they may wander off their food plant and die very quickly as a result. A ventilated plastic ice cream carton is a good idea for very small caterpillars. Also don't put too much food plant in with the larvae at this stage as they will never eat it all before it wilts or gets old and small caterpillars will suffer in this environment.
7.
 - a) Supply fresh food on a daily basis, some species will die if they feed on cut food that is standing in water; other species are O.K. with this, so it is important to know the feeding requirement of your species. As a general rule, woody plants can be stood in water e.g. tree species but herbaceous species, especially those species with fleshy stems, must not. A good idea is to pot these herbaceous species up, water the pot and let it drain through before giving it to the caterpillars.
 - b) Change the water for your food plant regularly.
 - c) Food plant standing in jars, bottles etc must be sealed in some way (e.g. kitchen towel) around the neck to prevent caterpillars from drowning.
8. Never try to remove caterpillars from the old food plant to the fresh food as you may damage them doing this, just place the fresh food next to the old food and they will find it when they are ready.
9. All caterpillars moult (five or six times) this is how they grow. In the process of moulting, a caterpillar attaches itself to a stem, becomes inert and stops feeding from two to four days. They cannot re-attach so it is very important that you do not move them off their food plant or handle them in any way during this process.

10.
 - a) When caterpillars are ready to pupate they will generally change colour slightly and start to wander around the cage. At this point you must know whether a particular species pupates below the soil or spins a cocoon above ground, eg., all hawk moth caterpillars pupate under the soil, most caterpillars with hairs create a cocoon above ground on twigs and stems or carefully pull leaves together to pupate within.
 - b) If it pupates below the soil remove them at stage 10a to another cage with approximately 10cm of peat (garden soil may contain predators or harmful organisms), to enable cleaning and food changing for the remaining caterpillars. Don't put too many in one cage as overcrowding at this stage may well cause deformed pupae.
 - c) If your species spins a cocoon above ground, you can leave them in situ or move them to another cage for cleaning ease. But, whatever you decide, ensure that you supply them with enough twigs, moss or leaves etc. so they can build their cocoon in the most natural way.
 - d) Never disturb them during the above process as this may well damage the specimen or the adult may be deformed.
11. After three or four weeks, subterranean pupae can be gathered up from the peat and placed on a bed of damp moss and sprayed occasionally with water to prevent any desiccation. The species that spin cocoons can either be left in situ or gathered together and placed in one cage, these do not need to be sprayed as their immediate humidity is controlled by their cocoon.
12. Make sure that you know when your species is due to emerge and check the cage regularly. Release all moth species after dark during their natural flight time. Butterflies can be released during the day.
13. It is a good idea to keep notes of the whole process as this may well help you with any future rearing, and if possible keep a photo album of all stages of development.

A more detailed account of rearing all species can be found in: "Breeding Butterflies and Moths" by Ekkehard Friedrich. ISBN 0 946589 11 9.

Wishing you success,

Peter Williams.