

LIVE FOOD

Introduction

1. Livefood is essential in the normal diet for many softbills (including frugivorous and nectarivorous birds) and button-quail. A regular supply of live food is essential for breeding these birds and is also an important part of the diet of quail chicks. Increasing the supply of livefood at the right time of the year may stimulate breeding.
2. It is important to ensure that the size of the live food is appropriate to the size of the bird/chick as birds can choke themselves trying to swallow large worms or insects (or even large numbers of small worms/insects).
3. Fast moving insects may be placed in the freezer for about an hour to slow them down and make it easier for the birds to catch them.
4. A variety of livefood should always be offered to birds.
5. Livefood should be fed at least once daily but Brown states "the most successful button-quail breeders will have a continuous supply of livefood available." This may involve feeding several times daily or using a method which produces a slow but steady supply e.g. vinegar fly trap (see below), fly trap (see below) or a jar/plastic container with a days supply of mealworms or other livefood and with small (5-10mm) holes in the lid. When suspended upside down the insects will slowly crawl out the container throughout the day.
6. Insects have 3 stages in development:
 - the larvae or worm
 - the pupae or pre-adult phase
 - the adult beetle/fly which emerges from the pupaeAs the insect matures through these stages, the amount of fat and protein in the insect changes. Larvae have the most fat and least protein; the adult insect has the most protein and least fat.

Livefood may be:

- Cultivated or collected away from the aviary and introduced when needed
- Attracted into the aviary.

Cultivated Livefood

1. FLY PUPAE

2. GENTS

These may be purchased from bait shops or may be cultivated from flytraps. The latter consist of a piece of meat (e.g. lung heart or liver) hung in a wire basket inside a PVC pipe which is approx. 1metre long with a cap on the bottom end and a removable lid. The cap has several 6mm holes drilled through it. The top of the pipe opposite the wire basket has a number of 2.5cm holes through which the flies can enter and blow the meat. The lower part of the pipe is filled with bran to a depth of 10cm. The trap is hung in the aviary. As the gents hatch, they drop out of the meat onto the bran. As they crawl downwards through the bran, the meat is removed from their gut. The cleansed maggots drop out of the lower cap, perhaps onto a small dish placed below the trap. Whether purchased or cultivated, gents should not be fed to birds while they show a black central strip as this can cause salmonella poisoning in birds. The chrysalides may also be fed to birds.

3. MEALWORMS

The mealworm is the larvae of the beetle *Tenebrio molitor*.

For cultivation, they need ventilation, darkness, warmth and food. A wooden box, rubbish bin or aquarium which provides 15mm² surface area per worm is suitable. Therefore a box of 255mm by 200mm (height 180mm) will hold 255 beetles. A tight fitting lid is needed with ventilation holes covered with fly-mesh. Basic requirements for breeding are a temperature of 25°C, humidity of 50%, a layer of bran plus pollard to a depth of 50 to 75mm which is then covered with white paper or hessian. These layers are repeated to the top of the container. Vegetable peelings such as carrot or potato will provide moisture and damp paper or bread placed on the top will encourage the worms to collect here allowing easy removal for feeding. Pupae should be removed to a separate container and beetles separated again when they emerge as mealworms are cannibalistic. If the worms are turning into pupae faster than you can use them, the excess can be stored in the 'fridge with a small amount of bran. They will then remain in a dormant state until warmed. At 27 degrees Celsius, it takes about 10 to 12 weeks for an egg to

develop into an adult beetle. The lower the temperature, the longer development takes.

Many breeders recommend feeding mealworms in limited quantities, as they are very high in fat and birds can become "addicted" to them. Brown recommends feeding the mealworms a diet high in calcium (e.g. dog biscuits, Wombaroo Insectivore or calcium powder) for 1-2 days before feeding to birds. Mealworms could also be dipped in vitamin powder or other supplementary foods.

4. EGYPTIAN MOTHS. (Flour Moths)

The Egyptian Moth will readily grow in flour, bran or any unprotected food, including birdseed. They can take over mealworm cultures if allowed to grow unchecked but birds appreciate both the moths and their larvae. In aviaries with dirt or grit floors, the larvae can often be found underneath bricks, rocks etc. and turning these over can provide birds with extra tit-bits.

5. WHITE ANTS.

These can be kept in a 10 gallon drum which is greased around the top (to keep black ants out and termites in). Sand is placed in the base of the drum to a depth of 100mm, topped by billets of wood. Sand and wood are then moistened. The whole nest should be dug up and put on this foundation, then sand poured around the perimeter of the nest and moistened. The nest must be kept out of the sun. A colony prepared this way is now self-sufficient and can be maintained for as long as 6 to 12 months.

To extract termites, place moistened pieces of timber on top of the mound and termites will congregate on these billets. The termites should be fed to the birds in a small bowl inside a larger container filled with water so that a shallow moat is formed. This prevents escape by the termites and attack by black ants.

6. CRICKETS

Crickets may be cultivated, or they can be bought from commercial breeders. It is not a good idea to keep them in the house as their loud chirping rapidly becomes annoying.

To raise crickets you will need:

- A terrarium at least 30cm high with the top covered by fly wire.
- Egg cartons stacked one upon the other to provide hiding places.
- Water supplied in dispensers, like those used for cage birds. Do not use dishes as small crickets can drown.
- Food dishes. Dry pet food or pellets mixed with fruit and vegetables.
- A pot of damp fresh earth, about 10 cm tall, for the crickets to lay eggs in.
- Temperature of 20 to 25 degrees Celsius.

The crickets will take 2 to 3 weeks to hatch, longer at lower temperatures. At two week intervals take out the breeding pot and replace with a fresh one. The eggs should hatch in a second terrarium and fed to the birds when they have grown to the appropriate size.

7. COCKROACHES

American cockroaches, bred in clean conditions, may be purchased from specialised suppliers. They can be kept in similar conditions as described for crickets.

Wild Livefood.

Insects can be attracted to the aviary in a variety of ways

1. SLATERS

May be found under rocks and leaf litter in moist areas of the garden or aviary. Slaters are high in calcium and protein but low in fat.

2. VINEGAR FLIES

These can be attracted to the aviary by a Vinegar-fly trap, which consists of a container full of vegetable matter and fruit with mesh lid over the top (to prevent the birds eating the rotten fruit). Over-ripe tomato, citrus fruit, damp pea-straw and wet bran seem especially effective. These flies are especially appreciated by the smaller soft-bills and quail/button-quail. For ground dwelling species, the trap should be buried so that the wire lid is at ground level. To prevent birds contaminating the culture with their faeces (and any

worm eggs contained within), some recommend a solid lid be used with holes drilled into the sides of the bucket to allow the flies to enter and leave.

3. COMPOST HEAP

A compost heap can be easily created inside the aviary using fruit and vegetable scraps, seed, lawn clippings, leaf litter etc. It should be kept well watered and turned over regularly and is a good source of slaters, earthworms and earwigs. However, there is a risk of introducing fungal infections into the aviary through the rotting vegetable matter.

4. FLOWERS

Flowering shrubs and creepers attract a constant supply of insects, especially aphids. Aphid ridden plants can also be put into the aviary, but take care to ensure that the plant is not poisonous.

5. INSECT TRAPS

A 15W globe left on in the shelter of the aviary will attract night insects for the birds to feed on the next day. It also provides additional warmth in winter and a "night-light" for the birds in case of nocturnal disturbances.