

is usually all that is necessary. Mould must never be allowed to appear in any container for pupae.

**A FEW DIFFICULT SPECIES.**—Some hawk moths as *Celerio lineata* and *C. gallii intermedia* frequently die in the pupal stage. To winter these therefore is difficult and Dr. H. Guard Knaggs in his valuable work "an Entomologist's Guide" recommends forcing.

The pupae are placed in a suitable receptacle on moss and lightly covered with more. This is then well damped and the container placed in a warm room, or better still over the hot pipes in a greenhouse, when the moths should shortly appear. The temperature should be about 70°F.

Some of the prominents too may be found a little difficult. It would appear that the larvae of certain species of *Dicentria (Ianassa)* and *Schizura* though making their cocoons in the fall remain "resting" during the winter months, only pupating a few weeks before the time for the appearance of the imago. Any break in the cocoon, which consists of a more or less transparent substance, seems to be fatal to the larva within. Cocoons of the species of *Cerura* must always be preserved unbroken.

**PREPARATION FOR IMAGINES.**—It is necessary to make some preparation for the safe arrival of imagines in perfect condition, otherwise disappointment will result through malformations.

(1) The inside of the breeding cages and containers should be somewhat rough to enable the newly emerged insects to crawl to a suitable place and dry their wings. A few twigs are helpful.

(2) When the larva has cocooned in a sleeve, it is often best to open the cocoon a week or two before the insect is expected to appear. The pupa may be left in the cocoon provided that free access to the outside world is assured, or may be removed and placed on a bed of moss. If this is not done, it is likely that the insect will be deformed or even fail to get free from the cocoon. This commonly happens with many species of *Acronicta*. It is sometimes

advisable also to open the cocoons of *Platysamia euryalus*.

**CONCLUSION.**—The requirements for the successful rearing of Lepidoptera may be briefly summed up as follows:

- (1) The careful observation of all matters of interest and the due recording of the same.
- (2) A plentiful use of a somewhat rare commodity often spoken of as "common sense."
- (3) An unlimited supply of patience.

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Also written works by the following:

- H. Guard Knaggs**—The Lepidopterist's Guide for the use of the Young Collector of Butterflies and Moths. Revised and enlarged edition, 1901. Gurney & Jackson.
- Richard South**—The Butterflies of the British Isles. 1906. Frederick Warne & Co. The Moths of the British Isles, Part I. 1907. Frederick Warne & Co. The Moths of the British Isles, Part II. 1908. Frederick Warne & Co.
- L. W. Newman & M. A. Leeds**—Text Book of Butterflies and Moths. 1913. Gibbs and Bamforth Ltd.

**NOTE ON DALOPIUS TRISTIS AND D. INSULANUS** (Coleoptera, Elateridae). Little is known of the habits of our native *Dalopius*; the following note deals with *tristis* Brown, the commonest species in the southern interior of British Columbia, and *D. insulanus* Brown from the coast.

During the last week of September, 1943, adults of *tristis* (det. W. J. Brown) were found in numbers in the duff under western larch trees two miles south of Needles, B.C. Many of the beetles were still teneral and in their pupal cells; a majority of those fully colored and hardened were males, and some of these had already left their cells. The latter were loosely constructed, unlined, and consisted of dead needles and associated forest litter held together by a few silken threads. They were placed about two inches below the top of the duff. *D. tristis* is one of the first elaterids to appear in the spring, and at Salmon Arm is common on the flowers of Rocky Mountain maple, *Acer glabrum*, in April.

Professor G. J. Spencer found *D. insulanus* (det. H. B. L.) hibernating at Vancouver, B.C., on November 3, 1942. The beetles were between boards in the back yard of his city lot, congregated in numbers up to 30 at a time. None was found on an examination of the same area in late January, 1944.—Hugh B. Leech, Vernon, B.C.