## THE CLOVER CASE-BEARER

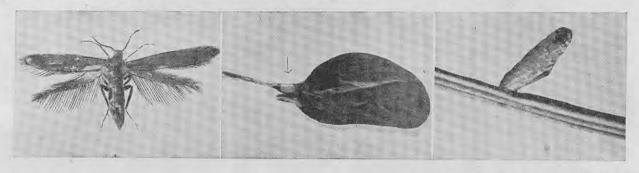


Fig. 1.-Adult moth of clover casebearer with wings spread (enlarged).

Fig. 2.- Egg at base of clover petal (enlarged).

Fig. 3. - Portable case (enlarged) sheltering caterpillar of clover case moth. Case formed from withered petals of clover flower.

## Insect Injurious to White Clover Seed

IN the production of clover seed in white eggs (Fig. 2) in a single open New Zealand any insect that at-unfertilised clover flower or floret. New Zealand any insect that attacks the plant must be looked upon as of likely economic importance. Recently a small moth (the clover casebearer) has been found attacking the developing seed of white clover in North Auckland, Hastings, Nelson, Blenheim, Ashburton, Timaru, Waimate, and Oamaru, and is probably

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widely distributed throughout the country. It is found frequenting white clover on roadsides, in grazed paddocks, and in fields held for seed, but so far has only been observed in large numbers in localised areas.

## Life Cycle of Moth

The moth has been accidentally introduced into New Zealand. It is known as the clover case-bearer (Coleophora spissicornis), owing to the fact that the caterpillar makes a case out of the withered flowers of the

The moths (Fig. 1) are about a quarter of an inch long with shining brassybronze wings, becoming coppery towards the tip. Therefore on bright, sunny mornings they are very conspicuous vihen settled on the clover flower heads which they frequent for feeding and egg-laying. The female moth lays one or two minute, shining, About 89 eggs were laid by one moth.

Later, in from nine to 11 days' time, and after the flowers have withered and drooped, a small caterpillar emerges from the eggs and enters the developing seed-pod. This caterpillar having eaten all the seeds in one pod makes a hole through to the next flower and begins feeding upon its seeds. Later, the insect makes itself a portable case out of the withered petals of a flower by weaving them together with silk and severing them from the stalk. These cases (Fig. 3) are approximately 3-16ths of an inch long, of leaf-like texture and dark brown in colour, and tend to be spindle shaped.

Thus the caterpillar spends the remainder of its life within the protecting walls of the case, leaving it only when feeding upon the seeds. When the food supply on one clover head is becoming scarce the caterpillar with its case can drop to a fresh head. These cases are pulled into the clover head among the withered flowers and fastened while the insect bites into a new pod. Therefore they are extremely difficult to find, owing to their similarity to the rest of the withered flowers on the clover head, but often a trail of silken thread is observed leading from a damaged flower. The caterpillar feeds upon the clover seeds during late summer and autumn, then probably retreats into its case and over-winters among the clover plants, or on the surface of the ground. However, it is possible that it will feed again in the spring before changing to the adult moth.

When removed from its case the caterpillar, which is approximately 3-16th in. long (Fig. 4), is found to be light yellow in colour, with a dark



Fig. 4.-Caterpillar removed from case (enlarged).



Fig. 5. — Clover floret or flower showing hole made by caterpillar on its way to the seed pod.