

ARMY CATERPILLARS ON EAST COAST

THE recent outbreaks described in this article were on a much bigger and more widespread scale than hitherto recorded in New Zealand.

Districts Affected

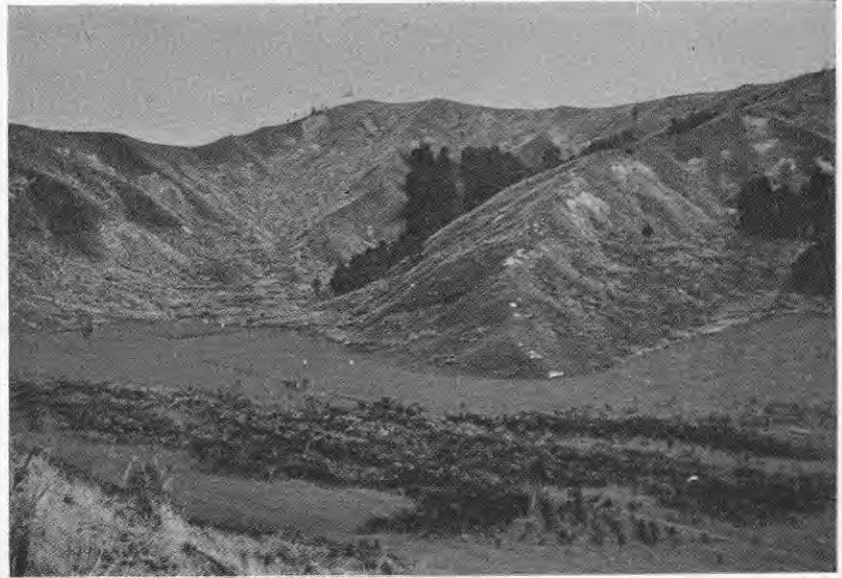
The caterpillars severely damaged some 3,000 acres of hill country pastures in Poverty Bay in 1956, but did not reappear in this area in 1957. Wairoa County, which experienced the most widespread infestation in 1956, when some 20,000 acres were ravaged, had less than 10,000 acres affected in 1957. In central and southern Hawke's Bay, however, where the damage in 1956 was confined to about 3,000 acres of coastal land, the area affected increased to some 30,000 acres in 1957, including many areas much further inland.

A few small isolated outbreaks were recorded in the Wairarapa in 1956, but in the autumn of 1957 more than 40,000 acres of coastal hill country was laid bare by very heavy infestations of the caterpillar. In line with the unpredictable nature of these appearances there were no reports of the presence of the caterpillar in large numbers in the autumn of 1958 anywhere on the east coast and it is quite possible that it may be a long time before they reappear in this country on the scale of 1956 and 1957.

Life History of Insect

Unfortunately the life history of the moths, of which the so-called army worm is the larval or caterpillar stage, has not been studied fully in the field nor have the origin and course of a typical army caterpillar outbreak been carefully followed and recorded. Two different insects appear to be involved, *Pseudaletia separata* and *Persectania aversa*, both of which belong to the very large family of night flying moths the Noctuidae.

The life cycle as far as is known is typical of this type of moth. The moths mate soon after emergence from the chrysalids in late spring and early



Sunny faces only were attacked and shady faces and improved pastures were left still green and thriving.

summer and the females lay up to 500 eggs in the folded blades of grass or cereal crops. The eggs under favourable conditions soon hatch, and the larvae, at first small greenish caterpillars, proceed to feed and grow in the area where they are hatched. They pass through a series of up to six moults, shedding the complete skin.

When the caterpillars occur in very large numbers it seems that their feeding activities foul the feed and this causes them to start moving as an army in search of fresh clean feed. They like to climb up the stems and leaves of the plants they are feeding on, and they eat mainly at night, hiding at soil surface during the day. Their food requirements are quite

small in the early stages, but when reaching maturity they can eat their own weight or more in a single night.

When fully fed the caterpillar goes into the chrysalis or resting stage, from which the adult moth emerges. Under favourable climatic conditions two or three full cycles are passed through in a summer and in the absence of, or when protected from, any or all of the natural controlling agents such as birds, insect parasites, bacteria, and fungous or virus diseases which attack the caterpillars, the population of moths can be built up enormously in a favourable season. When these moths proceed to lay eggs in hundreds the stage is soon set for a mass emergence of hungry caterpillars should favourable autumn weather cause these eggs to hatch. If the insects can overwinter successfully, the moth population at the beginning of the next season can again be very big and new massive caterpillar infestations likely.

The fact that two seasons of widespread damage such as those recently experienced have been followed by a year of freedom from the pest suggests that the controlling agents can be quick and very effective in keeping the pest from becoming an annual scourge.

Features of Infestations

The recent visitations, beside being the most widespread and heaviest infestations of pasture lands by the army caterpillar so far recorded in this country, were remarkable in several other respects. Before the 1956 outbreaks were started, apparently by favourable autumn weather causing a mass hatching of eggs, there must have



The caterpillars apparently did not like clover pastures, as they were undamaged.