

A SERIOUS PEST OF CARDAMOMS.

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Year after year for the past four or five years swarms of caterpillars have appeared on cardamom in Sakleshpur, Mudigere and neighbouring taluks, causing heavy loss to the growers. They were not noticed during the hot weather, but after the rains they were first seen in small numbers which, later during the cold weather, swelled into many millions. They start apparently in the forest, multiply there and defoliate practically every tree in the locality and when there is nothing more left to feed on, descend by long threads on to the cardamom and strip the leaves to the midribs. They do not appear to feed in the day-time when most of them may be found congregating in masses on the trunk of the trees, in the hollows of decayed logs or in other shelters to be found elsewhere. As soon as it darkens—sometimes a couple of hours earlier—they scatter, work their way back to the crop and feed on it all night.

The caterpillars are all of them woolly and more or less slaty or dark blue in colour with lac-red heads, stripped or mottled yellow. The body markings vary but usually there are lateral stripes with dark blotches on the back. These are, however, obscured by the numerous hairs, grey, or dark blue. These hairs are easily detached when touched and are poisonous causing irritation of the skin but nothing more serious. It is these hairs that give to the collections of worms the appearance of a blanket.

The caterpillars when full grown spin a thin dirt-coloured cocoon and turn into shining black inside. The moths emerge out of these. Very few have been successfully reared out. It is not possible, therefore, to determine their correct identity. Possibly they are *Euptorte minor* that appeared in similar swarms in Burma several decades ago. At any rate the habits are similar.

The havoc caused is extremely severe and since it has appeared several years in succession something has to be done to control the pest. The start that it has in forest areas makes it difficult to locate it in the initial stages when control should be easy. The only resource left until more information can be obtained is to deal with it when it appears on the cardamom crop or in the immediate neighbourhood. Since the caterpillars remain together in masses in the day-time it should not be difficult to deal with them there. They could be burnt off with torches but there are obvious objections to the use of torches in estates with plenty of dry leaves and logs about. Two other methods were tried—one by spraying the colonies with kerosene and strong kerosene emulsion. A small tin syringe provided with a fine rose which can be made at a cost of eight annas would do or a hand syringe of brass strongly made could be obtained at a cost of about Rs. 7. The operation is easy and enormous numbers can be killed off easily. The other method is to dust the caterpillars with cyanide powder mixed with cyanide dust, chalk powder or any other fine carrier. The powder will lodge easily amidst the numerous hairs and the gas evolving would kill off caterpillars quickly. Both these methods have been tried and found effective but there are some difficulties. Not all caterpillars leave the cardamom to congregate in the situations described. Some remain in the under-side of the leaves where kerosening is out of the question, and dusting would be tedious without a duster but the number of such caterpillars is small and injury they may do may not be serious if caterpillars elsewhere have been accounted for. The more serious difficulty is that the invasion is sometimes in such countless hordes that even if all the masses in accessible situations have been killed off, there may be still many millions left on the trees above which may descend and complete the havoc. Spraying the cardamom with a stomach poison will avail little, for a whole crop so sprayed may poison but a fraction of the caterpillars. A repellent which when sprayed would keep them off the crop would be all right. But several were tried and found useless. There is some hope of one proving useful, but further tests have to be made to prove its worth. Even if it is found satisfactory it is not many owners who can find the labour to distribute it over the plants. It is likely, furthermore, that rains may not allow it to retain its property long. It seems, therefore, almost impossible in the present state of our knowledge of the pest to do anything useful if the caterpillars invade in many millions. But if they are in less formidable dimensions, as fortunately they are usually, the simple remedies described above of kerosening or dusting would suffice. For a few days when the damage threatened appears imminent the watchman usually stationed to look after the crop should be instructed to deal with the masses of caterpillars in the way described. Those that are found to remain on the cardamom may be dusted with cyanide or may be disturbed off when they also will try to congregate in situations where they can be more easily dealt with. It is possible also that thinning out the shade above the crop may make the shelter of cardamom leaves unattractive to the caterpillars by the greater heat and light which it would let in. This, however has yet to be tested.

The Department is continuing its investigations of the pest and further trials with repellents and other remedies will be made as soon as opportunity offers. In the meanwhile, it would urge on such of the members of the Union as own cardamom to test the remedies described and report results to the Department. A limited quantity of cyanide and carrier will be distributed free to them on request with full instructions as to how it should be used—The Journal of the Mysore Agricultural and Experimental Union, Vol. VI. Nos. 2 and 3.