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AFRICAN ARMYWORMS

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INTRODUCTION

Every few years, usually in the months February to April, large numbers of caterpillars may be noticed feeding on areas of grass. These caterpillars are called African armyworms. They are the young stages of a moth, *Spodoptera exempta*.

They are called armyworms because these caterpillars often feed in such large numbers that they eat all the available food in an area. They then move like a marching army to find more food.

DESCRIPTION

Armyworms vary in colour. They are usually noticed as an 'army'. They are black on the back and pale greenish underneath. When looked at closely, the dark back is seen to consist of a series of dark and light stripes. The head is black with an upside down white V-shaped mark on it.

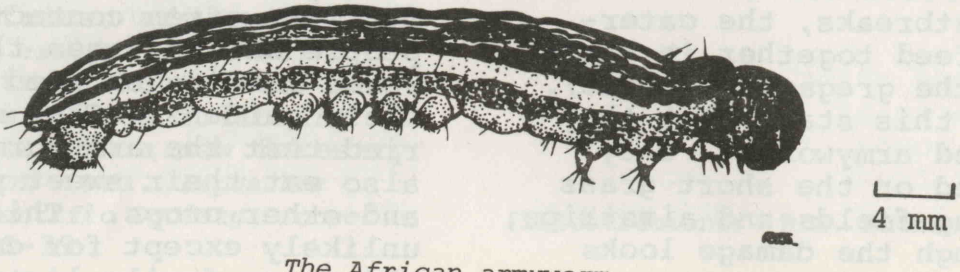
Fully grown armyworms vary in length from 35 to 50 mm.

BIOLOGY

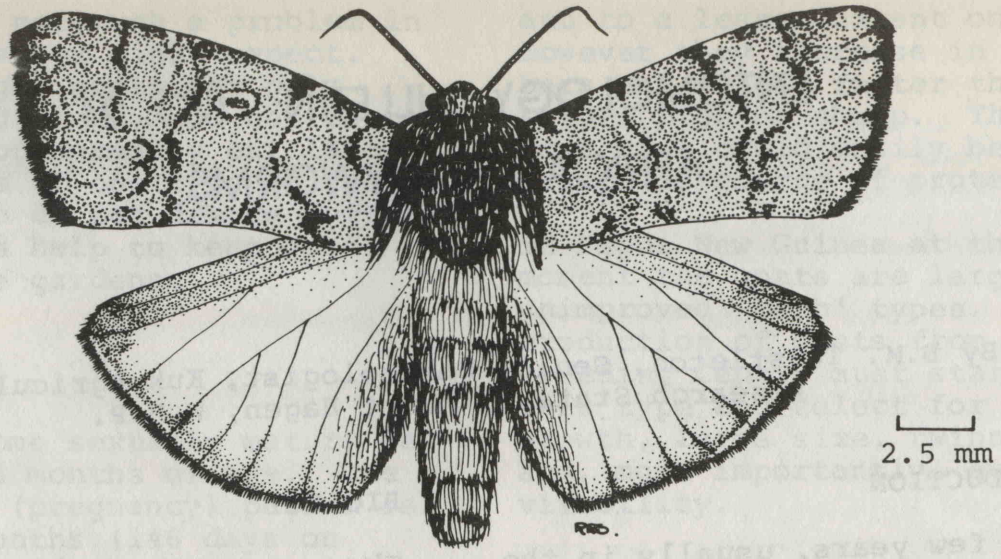
The caterpillars or armyworms which hatch from the eggs vary greatly in colour. Their colour depends on the density of the population (how many of them are living closely together). Armyworm caterpillars growing singly (the solitary phase) are mostly green or brown. When they grow together in large numbers (the gregarious phase) they become darker as they change their skins and grow. Armyworms live for 2-5 weeks before they pupate (enter the resting stage).

Mature armyworms pupate in the soil. The pupa is about 17 mm long, and has a smooth skin. At first it is greenish brown but it later turns dark brown, almost black. It is enclosed in a cocoon of soil loosely held together by silk. After 1-3 weeks the adult moth emerges.

The adult moth has a wingspan of 25 to 35 mm. The forewings of the male are dull brown coloured and are indistinctly



The African armyworm



Spodoptera exempta - *the adult stage of the African armyworm*

spotted with yellow or white. The forewings of the female are more evenly dark brown. In both sexes, the hindwings are white or pale brown, with the veins usually standing out as a dark brown.

The female moth lays eggs in masses on leaves or sometimes on other surfaces. The masses are 1 to 3 layers thick, and are covered with black hairs from the female's abdomen. The eggs are almost spherical (round like a ball), but slightly flattened at the ends.

The length of the life cycle varies but usually lasts from 4 to 7 weeks from egg to adult.

ECONOMIC IMPORTANCE

Armyworms feed on a wide variety of Gramineae (the grasses) and Cyperaceae (the sedges). They are usually found in the solitary phase feeding singly and causing very little damage.

During outbreaks, the caterpillars feed together in large groups (the gregarious phase). It is at this stage that they are called armyworms. They often feed on the short grass of playing fields and airstrips. Even though the damage looks bad, the grass soon recovers.

Sometimes they feed on crops of the grass family, such as maize (corn), rice, sorghum and edible pitpit. With these crops, the armyworms appear to prefer to eat young plants. Older plants are often not attacked. They do not seem to like sugarcane. The total economic damage is therefore often low.

Every few years, however, large numbers suddenly appear. It is not known what causes this, but it is likely that conditions during the few months before the outbreak (including the weather) have an effect. The moths are known to migrate, so that outbreaks may begin a long way from where the armyworms are seen.

Economic damage sometimes occurs to pastures. This is usually most serious where there is a high stocking rate and when all available pastures are required for grazing.

During the 1981 outbreak, didimen were often contacted by people who had seen the armyworms feeding on weed grasses in their gardens. They were worried that the armyworms would also eat their sweet potatoes and other crops. This is most unlikely except for crops in the grass family listed above.

CONTROL

When an outbreak occurs, the armyworms usually go through only 1 or 2 generations before the numbers decline rapidly. This decline is probably caused by diseases which spread quickly through the dense population by parasites, by other natural causes, or by the adults migrating to a new area. Unless economic damage is occurring to crops, no other control measures need be taken.

Chemical control

When damage is occurring to rice, maize, sorghum or edible pitpit, or when these crops are threatened by large numbers of armyworms in the area, control can be achieved by spraying with 0.1% malathion. This can be prepared by mixing 20 ml of malathion 50% EC with 10 litres of water.

If control is required on pastures, insecticides with a short waiting period (number of days after spraying before it is safe to graze livestock) must be used.

FURTHER READING

Baker, G.L. (1978). An outbreak of *Spodoptera exempta* (Walker) Lepidoptera: Noctuidae) in the highlands of Papua New Guinea. *Papua New Guinea Agricultural Journal 29* (1-4):11-25.

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Gray, B. (1972). Observations of the African armyworm, *Spodoptera exempta* (Walker) (Lepidoptera: Noctuidae) in Papua New Guinea following an outbreak in a new forestry plantation area. *Papua New Guinea Scientific Society Proceedings* 23:36-39

Kranz, J. Schmutterer, H. and Koch, W. (1977). *Diseases, Pests and Weeds in Tropical Crops.* Verlag Paul Parey: Berlin and Hamburg.

FURTHER INFORMATION

If damage from armyworm is occurring or expected, please get advice from your nearest D.P.I. entomologist or didiman. Entomologists are based at:

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