

# Biology and Bionomics of Ginger and Turmeric Scale *Aspidiotus hartii* Green

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## ABSTRACT

A brief description of morphology and biology of *Aspidiotus hartii*, an important pest of turmeric in the field and under storage is given. Due to the infestation by the scale, plants look pale and ultimately dry up. Two hymenopteran parasites *Physecus* sp. and *Adelencyrtus moderatus* were found to attack *A. hartii*.

*Aspidiotus hartii* Gr. (Diaspididae: Homoptera), is an important pest of ginger and turmeric both in the field and storage (Ayyar, 1940; Nair, 1975). The adult insect is minute, apterous, circular, light brownish to grey, with a thin pale membrane. Inside the scale, there is a light yellowish to deep yellowish round, tapering or crescent, apodous, sessile insect with a few obscure segmentation. The insect fixes itself on the host by means of thread like rostrum. In the initial stages of infestation in storage, the white coloured scales are seen scattered on rhizomes and later they congregate near the growing buds. The initial white colour of the insect is changed to brown or grey at this stage. In the case of severe infestation, the buds shrivel and ultimately the entire rhizome dries. Similarly, in the field, in severe cases of infestation, plants look devitalised, pale and withered before drying completely. In

such cases, at the time of harvest minute yellowish crawlers can be seen moving in large numbers and this is the potential stage for dissemination.

The scale reproduces ovoviviparously and sometimes parthenogenetically. The transparent eggs are oval and yellowish measuring 0.25mm in length and 0.17 mm in breadth. About 100 eggs are laid by a single female and the crawlers emerge from the eggs usually within a day. During eclosion, the aristate antennae of the crawler come out first followed by forelegs and then the entire body. The crawlers emerging from the egg are seen huddled near the mother scale. Within a day of emergence, the crawler searches out an appropriate spot on the rhizome and starts feeding.

The male crawlers when fully mature pupate and orange coloured

adult males with transparent wings, distinct head, thorax and abdomen emerge out. The adult males move among the colonies for mating.

A black ant *Paratrechina* sp. (Formicidae: Hymenoptera) and a pink mealy bug *Dysmicoccus brevipes* CKLL. (Pseudococcidae: Homoptera) are occasionally found in association with the scales.

*Amorphophalus companulatus* L. has been reported as an alternate host of

scale insects (Raghupathy et al. 1976) and in the present study, *A. hartii* has been found to attack *Dioscorea alata* and *Xanthosoma sagittifolium* (L.) Sch

Two hymenopteran parasites *Phaenocarpa* sp. (*Aphelinidae*: Hymenoptera) and *Adelencyrtus moderatus* Howard (*Encyrtidae*: Hymenoptera) were found attacking the population of the scales and are being reported for the first time. One pearl mite and an orange mite were also found feeding on the scales.

#### REFERENCES

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