SHORT COMMUNICATION

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ON THE LARVAL CASTS AND FORMATION OF PUPAE FROM INCOMPLETELY MOULTED LAST INSTAR LARVAE OF *SITOTROGA CEREALELLA* (OLIVIER) (LEPIDOPTERA : GELECHIIDAE)

The Angoumois grain moth, *Sitotroga cerealella* (Olivier), is a pest of stored cereals in India. Cotes (1891-93) recorded it for the first time. Infestation was noted to rise with the return of favourable conditions more so during the summer spell followed by rains, chiefly at places where adequate control measures were not undertaken.

For the purpose of studies the moths were reared in the laboratory for a number of generations on fresh and dry maize grains *Zea mays*.

Observations were made on the casts of the larvae which have been shed by them during moulting. For this purpose, 397 maize grains were picked up from the laboratory culture of the moth. To be sure that the moultings are over, only those grains which comprised exit windows with their covers intact or sometimes open were collected (Pl. VI A & B). The grains were then cut into two halves one by one by means of a fine razor blade into different planes as needed (longitudinal or transverse or oblique) depending on the positions of the exit-windows ; precisely under which were found the heads of the pupae. Care was taken that the immature stages resting inside are not damaged or displaced. Out of 397 grains 365 contained pupae, 7 of which were dead and the rest of the grains had live prepupae.

The casts found within, almost always entangled themselves with the frass and the silk material which was dumped compactly inside minute cavities of the infested grains, the cavities being excavated by the larvae while feeding The number of the casts varied from 3 to 6 per grain signifying the number of times the larva had moulted. This obviously did not all the time concur to the description given by Crombie (1943) "Four larval instars were found, followed by a pupa, from which the adult eventually emerged".

It was noticed that the moults of all the larval instars were shed as two separate pieces (the head cast and the body cast, the latter being fragile, mostly indistinct and embarassing to find) except that the last instar where whole of the moult parted as one-piece structure (Pl. VI C). In certain cases though rare (9 instances out of 358) the last instar larvae did not shed the complete moult as one-piece, but only the body cast was given up and the head cast remained firm and its place (Pl. VI D & E). The caterpillars, nevertheless, changed themselves to pupae which were then isolated for observations.

It was found, however, from those pupae in due course that incomplete moulting did not have any ill effect on these stages except that it prolonged the normal emergence of

moths and they maintained their standard contour (Pl. VI F).

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