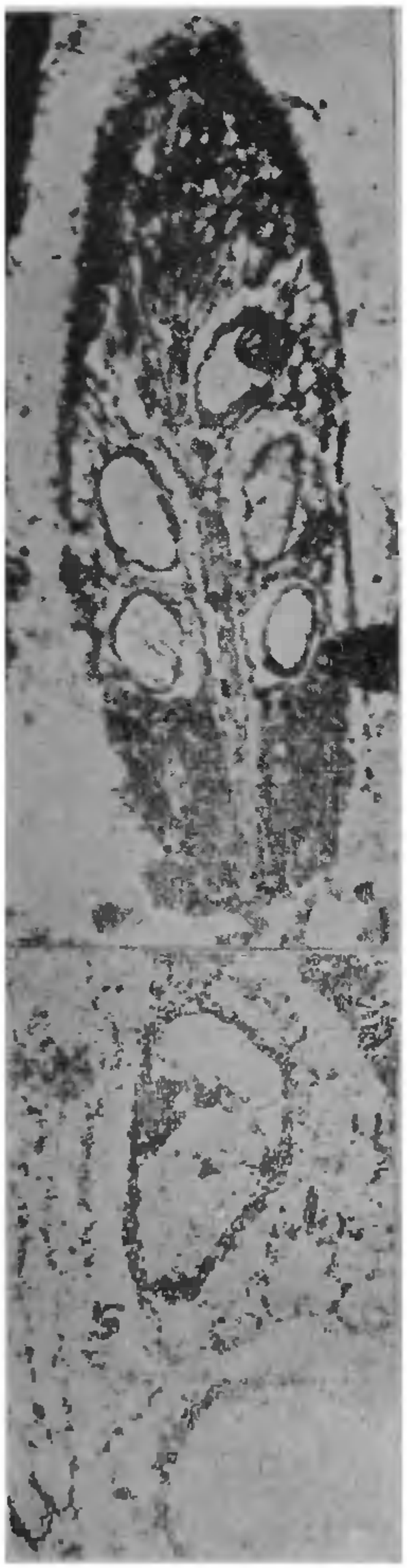
from Intertrappean exposures of India. Further work is in progress.



FIGS. 1–2. Fig. 1. L.s. of strobilus showing sporophylls and sporangia, × 20. Fig. 2. Part of strobilus in l.s. showing ligule (l) and stalk (s), × 60.

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## A GRANULOSIS VIRUS OF SUGARCANE SHOOT BORER, *CHILO INFUSCATELLUS* SNELL. (LEPIDOPTERA: CRAMBIDAE)

IN the field and during mass rearing of *Chilo infuscatellus* Snell., many larvae are found dead. Microscopic examination of haemolymph and tissue smears of the dead larvae, under phase contrast revealed the presence of a granulosis, the identity of which was confirmed by Dr. Y. Tanada. This is the first record of a granulosis on *C. infuscatellus*. Granulosis has been recorded on *Chilo sacchariphagus indicus* (Kapur)[1] and *Chilo suppressalis* (Walker)[2].

The infected caterpillars showed loss of appetite and sluggishness and as the disease progressed, the larvae became opaque and chalky white. The body of the dead caterpillar was soft and slightly bloated. The skin was, however, not fragile. The virus particle is oval (Fig. 1*a*) and show a single virion (Fig. 1*b*).

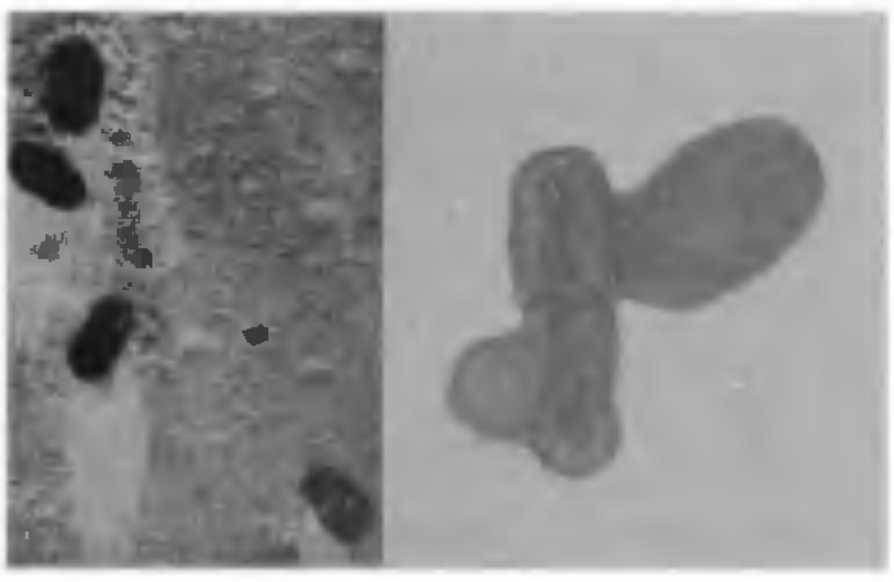

FIG. 1*a–b*. *a*. Electron micrograph of capsules (× 41,000). *b*. Electron micrograph of sectioned capsule showing the occluded virus rod (× 1,19,700).

A suspension obtained from 200 caterpillars was purified partially by differential centrifugation[3] and a suspension containing 50 larvae per litre of water was used. The third instar larvae, when fed either with sugarcane shoot dipped in virus suspension or orally using a micro syringe, died after sixty days. Koch's postulates were proved.

Field collected larvae were reared on sugarcane shoot bits and incidence of the disease was assessed over a period of one year at monthly intervals (Table I). The disease incidence ranged from 3·0 to 11·9 per cent with a mean of 5·9 per cent. The disease intensity was higher during June (11%) and October (11·9%) at the end of the peak period of the borer incidence of the main and special season of planting.

TABLE I

*Virus infection in field populations of shoot borer*

| Month | Number of larvae examined | % larvae infected with granulosis | Mean maximum temperature | Mean minimum temperature | Mean R.H. |
|---|---|---|---|---|---|
| October 1977 | 1635 | 11·9 | 29·5 | 21·3 | 80 |
| November | 1848 | 8·3 | 28·5 | 20·9 | 82 |
| December | 3605 | 3·0 | 28·5 | 17·4 | 69 |
| January 1978 | 1872 | 3·7 | 29·7 | 17·5 | 65 |
| February | Not observed | | 31·4 | 19·5 | 65 |
| March | 885 | 3·3 | 34·0 | 21·2 | 60 |
| April | 2395 | 3·6 | 35·8 | 22·5 | 60 |
| May | 3003 | 4·0 | 34·5 | 23·0 | 66 |
| June | 2104 | 11·0 | 30·8 | 22·6 | 65 |
| July | 2358 | 6·5 | 31·3 | 22·2 | 68 |
| August | 2658 | 4·9 | 31·0 | 22·8 | 66 |
| September | 2563 | 4·7 | 32·1 | 21·7 | 71 |

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## CHROMOSOME NUMBER IN SOME SANSEVIERIA SPECIES

SANSEVIERIA Thunb, a genus of the family Agavaceae is native to Africa and Asia and contains more than 60 species[2]. Chromosome numbers of only 25 species have been reported so far[1] and many of the counts are contradictory. In the present communication, results on cytological analysis of 15 species are reported. The chromosome numbers of 4 species, *viz.*, *S. caulescens* N. E. Brown, *S. intermedia* N. E. Brown, *S. pearsonii* N. E. Brown (all $2n = 40$) and *S. powellii* N. E. Brown ($2n = 120$) have been reported for the first time. The count for *S. cylindrica* Bojer ($2n = 112$) is new to the species.

Chromosome counts were made from pollen mother cells and root tip cells following the usual technique of iron-acetocarmine squashes and feulgen reaction respectively. Eleven species were found to be diploids ($2n = 40$), which invariably formed 20 bivalents at metaphase I (Figs. 1–3). Few bivalents were found to disjoin early in most of the species. Anaphase I and subsequent division was regular. Chromosome number determined for the diploid species such as *S. deserti* N.E. Brown, *S. ehrenbergi* Schweinf, *S. metallica* Ger. et Labr. *S. senegambica* Baker, *S. suffruticosa* N. E. Brown, *S. trifasciata* Prain and *S. zeylanica* Willd is in agreement with the earlier reports (Menzel and Pate[8], Sharma and Chaudhuri[13]. Sati[12], Harvey[4], Miege[9], Takagi,[14] and Matsuura and Suto[7]). However Dewet[3] reported $2n = 28$ for *S. deserti* and Sharma and Chaudhuri[13] found $2n = 36$ in *S. trifasciata*. Janaki Ammal[6] showed $2n$ as 42 in *S. zeylanica*. Parker[10] and Menzel and Pate[8] established a somatic number $2n = 42$ for *S. gracilis* N. E. Brown while present study showed only 20 bivalents ($2n = 40$) in the PMC's.

Meiotic studies in higher polyploids were rather difficult due to the extreme stickiness and small size of the chromosomes, however, anaphase I was clear and in *S. subspicata* Baker ($6x$) 120 chromosomes could be counted. The presence of 4 III + 33 II + 2 I in *S. canaliculata* carr (Fig. 4) probably reveals the segmental alloploid nature of the species. Chromo-