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A CONVENIENT METHOD OF BLOOD COLLECTION FROM RAT FOR EXPERIMENTAL STUDIES

THE authors were doing preliminary investigation for lowering the blood sugar and serum cholesterol levels in rats. Generally the blood is taken either from the tail vein¹⁻³ or by killing the rats⁴⁻⁶. In the first method the amount of blood is quite meagre while in the second the rats are unnecessarily killed.

Heart being the large reservoir of blood, the authors adopted the way of bleeding heart without sacrificing the animal and taking blood in appreciable quantity, repeatedly from the same animal at a regular interval of one week or so as required.

Albino rats of either sex were taken during the study. They were given standard diet⁷ and water *ad libitum*. The blood was extracted from the hearts of rats through a syringe. The rats were found active even after the withdrawal of 2 ml of blood at a time. No anaesthesia was used. After a week blood was taken again from the same rats. Further bleedings were done after a gap of one week each time and no visible harm was caused to the rats. There was no change in the weights of the rats. Their general condition, appetite and behaviour were normal. Their mortality rate was below 10%.

Bleeding of rats by this method prevents the conventional killing⁴⁻⁶ of the animal. It also affords an economic measure as the same animal can be bled again and again. Therefore the need for the control group may be eliminated. This method will make the studies more reliable. Though, to a little extent, the small amount of blood from caudal vein¹⁻³ of the rat has been restraining the killing of the animal, yet by the above technique larger amounts of blood can be taken for investigating many biochemical parameters.

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Department of Biochemistry,
M.L.B. Medical College,
Jhansi 284 001,
March 19, 1979.

L. D. JOSHI.
P. C. SINGHAL.
R. K. GUPTA.*

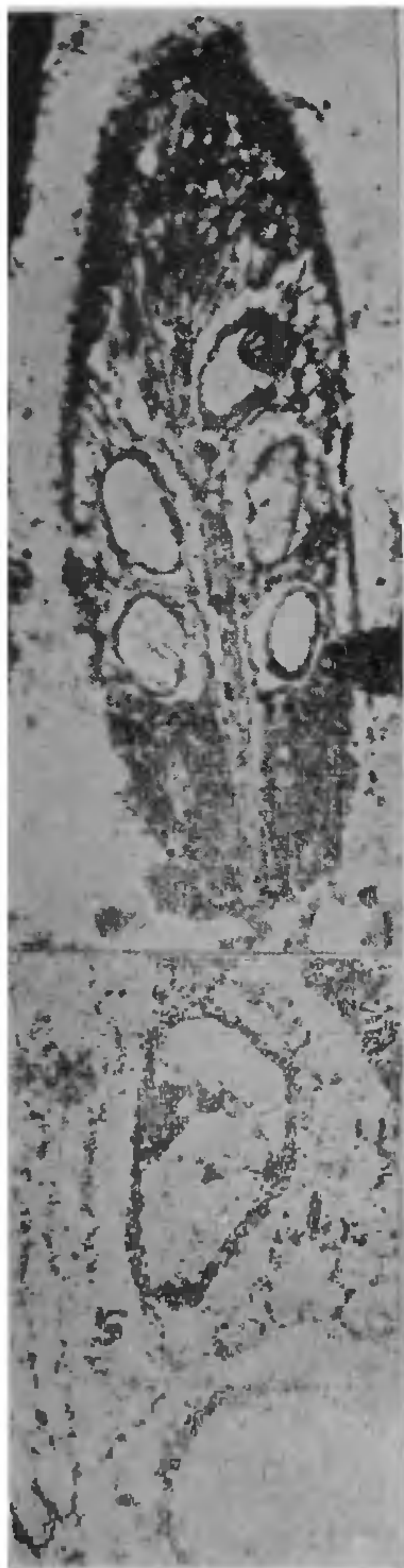
* Indian Grassland and Fodder Research Institute, Jhansi.

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A PETRIFIED STROBILUS OF SELAGINELLA

ONE of the cherts of our collection from Mohgaonkalan, M.P., India, on breaking exposed a shortly stalked structure 3.5 mm in length and 1.14 mm in diameter which on observation under the microscope appeared like a strobilus (Fig. 1). It showed a central axis on which laterally are present two rows of the sporophylls. The sporophylls gradually became smaller towards the tip of axis. The proximal end of each sporophyll is broader with which it is attached to the axis while the distal end narrows and covers the lower lateral part of upper sporophyll. In the axil of each is present a shortly stalked sporangium (Fig. 2). Only the basal sporangium is comparatively smaller in size. A distinct ligule like outgrowth is seen in between the sporangium and sporophyll. The wall of each sporangium is distinct and one of the sporangium shows a vertical split of dehiscence. The basal younger sporangium shows a parenchymatous layer below the sporangial wall which may be tapetal in nature. The uppermost sporangium shows 1-2 large spores looking like megaspores. These structural details are only shown by living *Selaginella* strobilus. Fossil pteridophytes belonging to Hydropteridinae like *Salvinia intertrappea* (Mahabale¹), *Azolla intertrappea* (Sahni²) and *Rodeites* (Sahni³) are known from this locality. But, all these are aquatic in nature. Thus the present specimen resembling *Selaginella* strobilus is the only record of the fossil lycopod

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



FIGS. 1-2. Fig. 1. L.s. of strobilus showing sporophylls and sporangia, $\times 20$. Fig. 2. Part of strobilus in l.s. showing ligule (l) and stalk (s), $\times 60$.

Department of Botany,
Institute Science,
Nagpur,
August 13, 1977.

R. B. SINGH.
G. V. PATIL.

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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. 1a) and show a single virion (Fig. 1b).

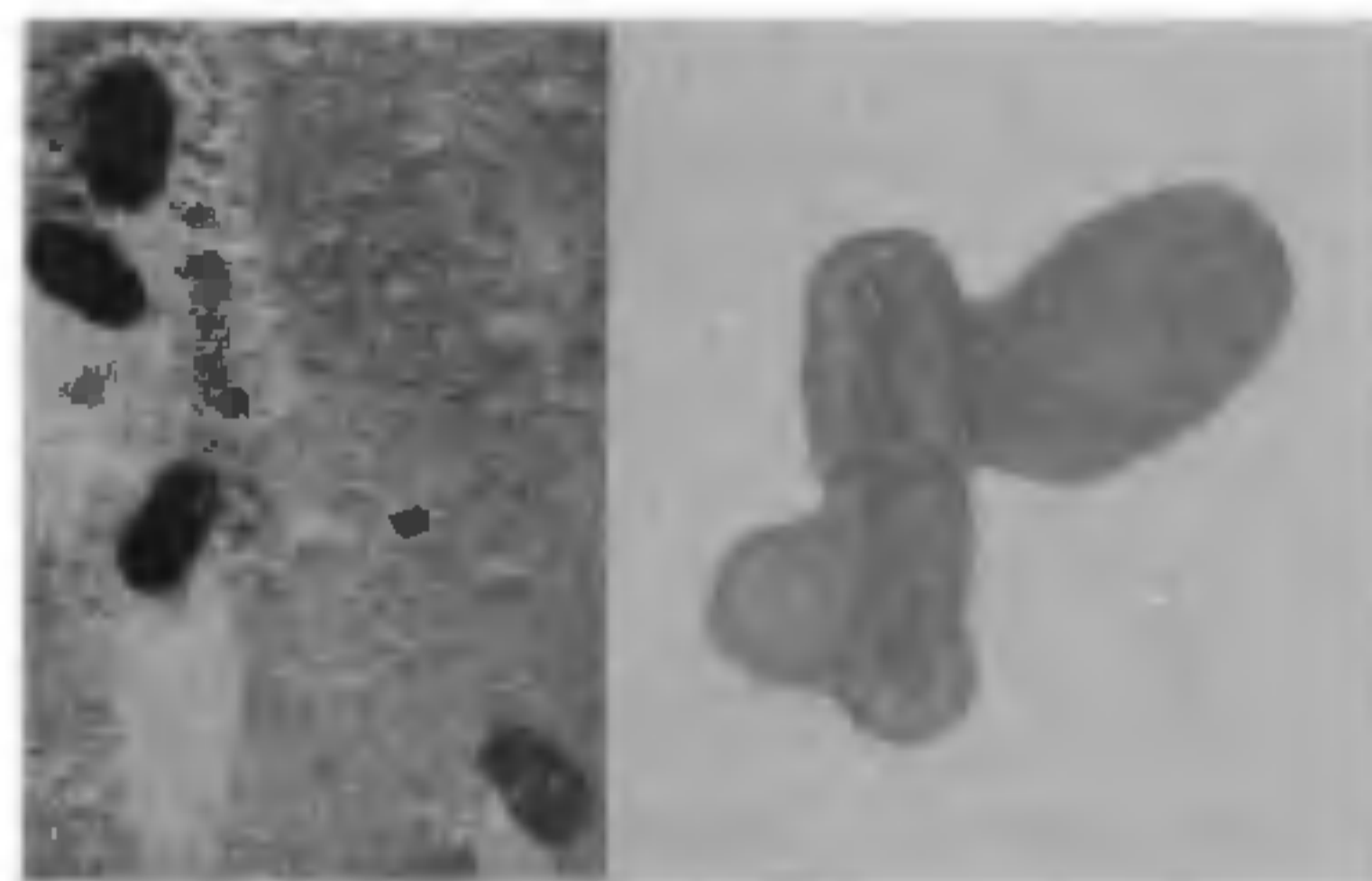


FIG. 1a-b. a. Electron micrograph of capsules ($\times 41,000$). b. Electron micrograph of sectioned capsule showing the occluded virus rod ($\times 1,19,700$).

A suspension obtained from 200 caterpillars was purified partially by differential centrifugation³ 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.