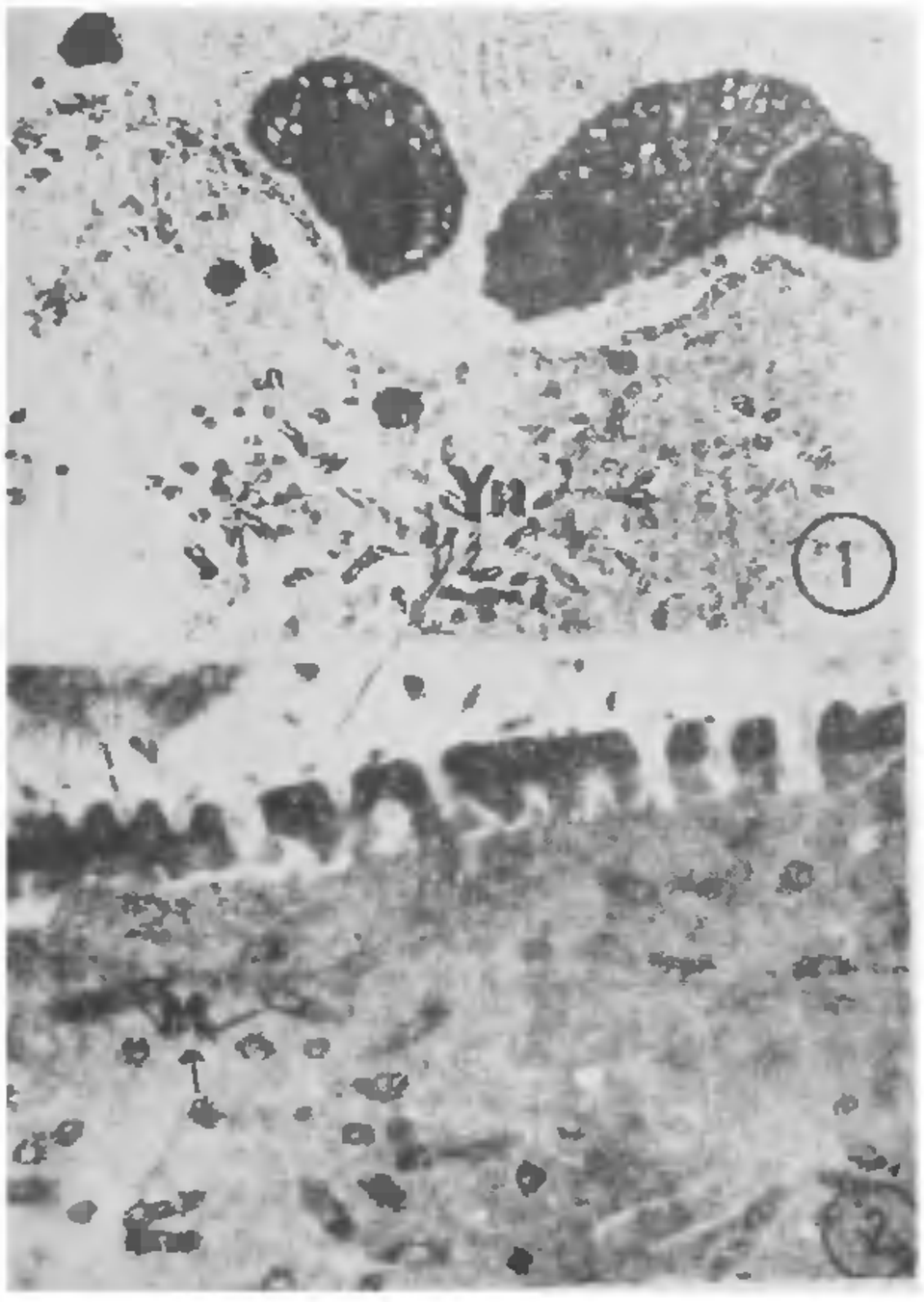
PAS positive substances. A negative reaction to PAS is recorded for the yolk nucleus of *Channa* and *Heteropneustes*[13].

Under electron microscope the yolk nucleus is seen to contain a cluster of mitochondria and a few electron dense granules (Fig. 1). Often extruded nucleolar material is present closely associated with the mitochondria. During further growth of the oocyte all the mitochondria and electron dense granules move to the cell periphery (Fig. 2). At this stage the cell periphery reveals several small micropinocytotic vesicles. The



FIGS. 1–2. Fig. 1. Electronmicrograph of the yolk nucleus consisting of cluster of mitochondria and electrondense granules, 13,000. Fig. 2. potrion of peripheral ooplasm consisting of mitochondria 25,000.

RNA and protein content of the yolk nucleus merge with cortical ooplasm whereas ultrastructurally the mitochondria appear still very distinct. There is no evidence for any direct involvement of mitochondria either in the formation of cortical alveoli or in the formation of yolk. The latter in fact appears to be derived from outside the oocyte and the oocytes may simply sequester the yolk into the peripheral ooplasm. This view is strengthened by the observation that the peripheral ooplasm is rich in micropinocytotic vesicles. It is clear from the present study that the yolk nucleus merely acts as a center for the accumulation of mitochondria without any precise role in the production of yolk It is also obvious that with regard to the yolk nucleus there exists a basic similarity between fish and amphibian oocytes.

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Institute of Endocrinology, Gunma University, Maebashi, Japan, *February* 8, 1978.

N. H. GOPAL DUTT*.
SAKAE INOUE.
KAN KOBAYASHI**.

* Post-graduate Department of Zoology, University of Mysore, Manasagangotri, Mysore 570 006, India.
** Associate Professor of Anatomy, School of Medicine, Gunma University, Maebashi, Japan.

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TOBACCO STEM BORER SURVIVES ON DATURA

A NUMBER of workers[1-8] tried to locate an alternate host of tobacco stem borer *Scrobipalpa heliopa* (Low). (Lepidoptera : Gelechiidae). Fletcher[1] and Broadley[2] suggested *Solanum melongena* (Brinjal) as the host. But Corbett[3] and Mohr[4] failed to breed them on brinjal plants. We also could not breed them on a number of varieties of brinjals. Allcton[5] recorded *S. heliopa* on *Nicotiana shaveolens* and *N. glauca*, two

wild tobacco plants of Australia. The present note records this important pest of tobacco completing its life cycle on *Datura innoxia* (Miller)[6].

Freshly hatched first instar, second instar and third instar larvae of *S. heliopa* were inoculated on 20–40 days old datura seedlings, on the leaf, terminal bud, and, inside the stem near the growing bud. All the above larvae were observed penetrating and developing to adult moths in the inoculated locations. But its survival ratio was poor as compared with tobacco plants. The leaves were relatively resistant to the penetration where only one larva out of 102 inoculated could survive and make a gall on the petiole but keloids were seen on many. Terminal bud seemed more susceptible to the infestation. The growth retardation, galls, suckers and the exit holes caused by *S. heliopa* on the datura were similar with those made on the tobacco plants. The larval period ranged from 12–18 days and the moths emerged in 9–12 days. The active growth of healing tissue, developed in the galls after pupation reduced the size of the exit holes resulting difficulty in the moth emergence. Moths were found laying eggs on the datura when confined on them. The oviposition and incubation period of eggs were 4–5 and 3–4 days respectively. Thus the tobacco stem borer completed its life cycle on *D. innoxia* in 28 to 39 days.

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S. A. JACOB.
V. S. R. DAS.

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RECORD OF A NEW HOST FOR *OLIGONYCHUS COFFEAE* (NIETNER)

THE red spider mite *Oligonychus coffeae* (Nietner) is a serious pest of tea and jute in north-east India. It is widely distributed and attacks a variety of plant species belonging to different families (Gupta[1]). Recently *Moghania macrophylla* (Willd.) O. Ktze was raised at the Jute Agricultural Research Institute, Barrackpore (West Bengal), for the maintenance of lac insect cultures and it was found that, on maturity of the late sown jute during November 1976, *O. coffeae* migrated from jute to *M. macrophylla* plants infesting the ventral surface of preferably the lower leaves. This infestation lasted till the first showers in April, 1977. The severely infested plants showed yellowing of the leaves which subsequently dried up affecting adversely the health of the plant. This is the first record of *M. macrophylla* serving as a host for *O. coffeae*.

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S. N. MUKHERJEE.
N. S. CHAUHAN.

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AFLATOXIN CONTAMINATION OF GRAINS IN FLOODED AREAS OF MATHURA, UTTAR PRADESH

AFLATOXINS are hepatoxic metabolites produced by certain strains of *Aspergillus flavus* Link ex Fries[1,2]. High moisture content in grains and/or atmosphere favours the growth and aflatoxin production by *A. flavus*[3-7]. During the rainy season of 1976 several villages in the Mathura district (U.P.) were badly flooded causing excessive wetting of food grains. On the advice of Director General, I.C.A.R., a survey of these areas was conducted during November 1976. Thirty-six samples of pure wheat, mixed wheat and barley and wheat and gram were brought from these areas for determining their aflatoxin content which is the most dangerous of all the mycotoxins.

Fungi associated with the samples were isolated on 2% agar. For assay of aflatoxins, the samples were first observed under UV-light and those giving bluish green fluorescence were assayed by the procedure of Thomas *et al.*[6]. Samples were ground and 50 g of the ground sample was blended with 250 ml methanol : water (60:40) in Waring blender for 2 min at high speed. Sample extract was collected into a 250 ml separating funnel to which was added 30 ml saturated sodium chloride solution and 50 ml hexane. The filtrate was extracted for 1 min and the lower aqueous methanol layer was transferred to another separating funnel. This was extracted with 50 ml chloroform and the chloroform layer was collected into 100 ml flask containing 5 g of cupric carbonate. It was again