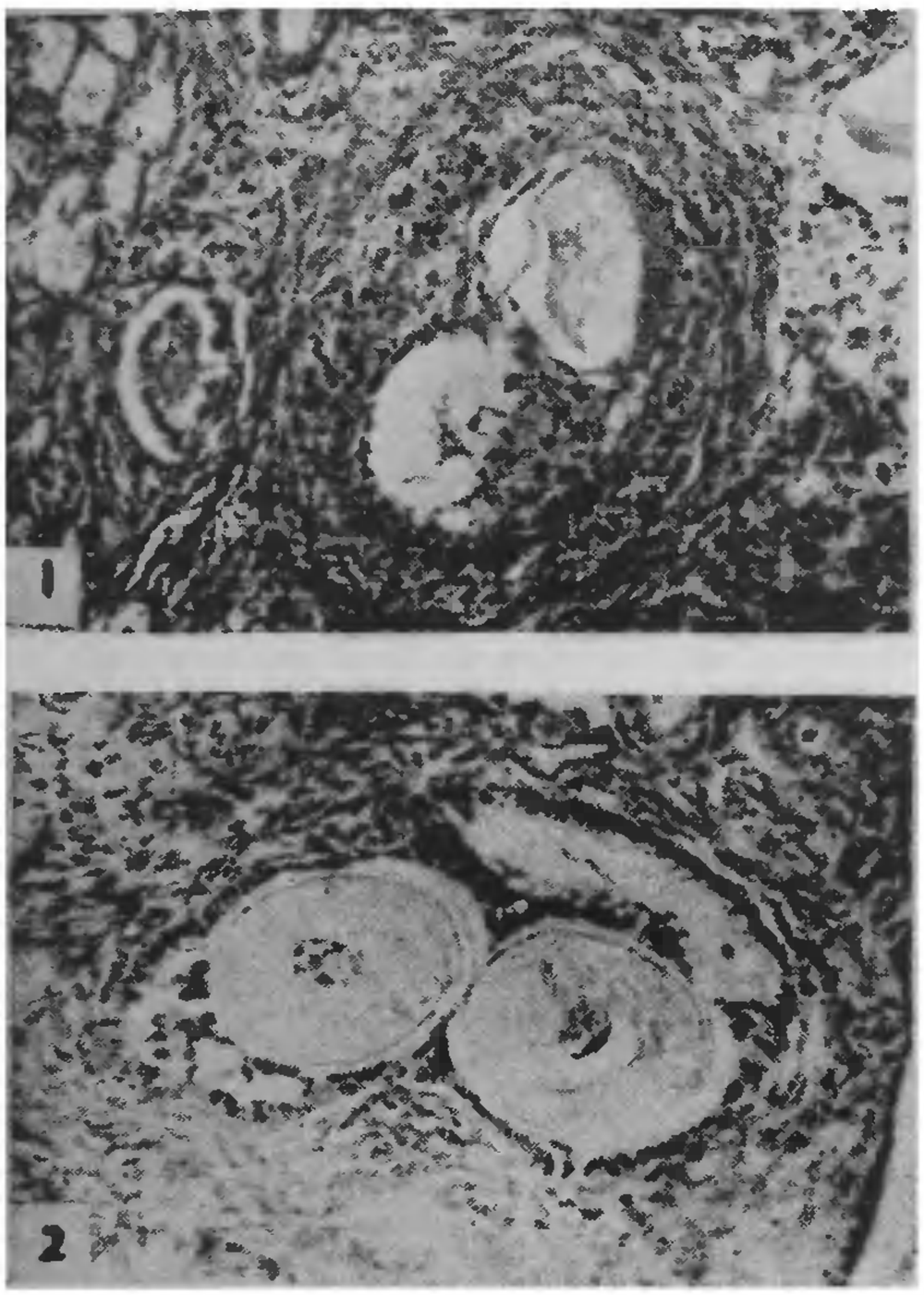
two oocytes of the biovular follicle (Fig. 2) lie in direct contact with each other and are of equal size. Each oocyte of the biovular follicle has a centrally placed nucleus.



FIGS. 1–2. Fig. 1. Photomicrograph of a biovular follicle of *Herpestes javanicus*. Magnification on × 220. Fig. 2. Photomicrograph of a biovular follicle of *Nycticebus coucang*. Magnification, × 250.

In both these animals, biovular follicles are not seen beyond multilaminar follicular stage. It is likely that these follicles may undergo atresia. Whereas in *Herpestes javanicus* the two oocytes of the biovular follicle are separated by the cells of membrana granulosa, in *Nycticebus coucang* the two oocytes of the biovular follicle lie in direct contact with each other.

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1. Bhatanagar, G. and Thapliyal, J. P., *Curr. Sci.*, 1961, 30, 304.
2. O'Donoghue, C. H., *Anat. Anz.*, 1912, 41, 353.
3. Parkes, A. S. (Ed.), *Marshall's Physiology of Reproduction*, Vol. I, Part I, Longmans and Co., London, 1962.

ON THE NUCLEAR POLYHEDROSIS OF *PLUSIA CHALCYTES* ESP. (LEPIDOPTERA : NOCTUIDAE)

NUCLEAR polyhedrosis has been reported in *Plusia gamma* L. by Lepine *et al.* (1953) and *P. chalcytes* Esp. by Laudeho and Amargier (1963). The present communication deals with the occurrence of nuclear polyhedrosis in larvae of *Plusia chalcytes* Esp. (= *P. eriosoma* Dbl.) feeding on groundnut (*Arachis hypogaea* L.) and *Flaveria australasica*. This appears to be the first record of nuclear polyhedrosis in *P. chalcytes* from India.

Infected caterpillars exhibited typical symptoms of nuclear polyhedrosis with rupturing of integument. On inoculation, the polyhedral suspension was found to be highly infective to third and fourth instar caterpillars. The incubation period of the virus in fourth instar caterpillars ranged from five to seven days. The inclusion bodies were somewhat triangular in shape (Fig. 1) and ranged from 0·64 to 1·35 μ in diameter with a mean of 0·98 $\mu \pm 0{\cdot}01$.

FIG. 1. Electron micrograph of polyhedra isolated from *P. chalcytes*. Line = 0·674 μ.

Paraffin sections of infected caterpillars revealed the presence of polyhedra in the nuclei of fat body, hypodermis, tracheal matrix, muscles, nerve sheath, hind gut, malpighian tubules and testicular epithelium. The nuclei of the midgut epithelial cells were found to be hypertrophied with some dark stained particles. This may indicate replication of the virus in the nuclei of the epithelial cells of the midgut as reported by Laudeho and Amargier (1963) in *P. chalcytes* but it requires confirmation electron microscopically.

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1. Laudeho, Y. and Amargier, A., *Rev. Pathol. Vegetale Entomol. Agr. France,* 1963, **42**, 207.
2. Lépine, P., Vago, C. and Croissant, O., *Ann. Inst. Pasteur (Paris)*, 1953, **85**, 170.

CROSS INFECTIVITY OF NUCLEAR POLYHEDROSIS OF *AMSACTA ALBISTRIGA* WALK. TO OTHER SPECIES OF LEPIDOPTERA

RESULTS of recent work on possible cross infection of polyhedrosis between closely related and unrelated Lepidoptera have been reviewed by Aizawa[1], Huger[2] and Smith[3] and it appears that insect viruses are far from being species specific as was once thought. Knowledge of the cross infectivity of insect viruses is of theoretical and practical importance especially in the area of virus epizootiology and microbial control. This paper presents the results of inoculation tests with NPV of *Amsacta albistriga* Walk. (Arctiidae) on thirteen species of Lepidoptera.

Apparently virus free larvae of 1 to 5 days old were fed with NPV of *Amsacta albistriga* as inclusion bodies by contaminating the foliage of respective host plants with 10^6 polyhedra per ml. The insects tested were *Pericallia ricini* Fab. (Arctiidae), *Euproctis fraterna* Moore., *Notolophus posticus* Walk. and *Porthesia scintillans* Walk. (Lymantridae), *Earias vitella* Fab., *Spodoptera litura* Fab., *Heliothis armigera* Hub., *Orthago exivanacea* M. and *Cosmophila erosa* F. (*Noctuidae*), *Hyblaea purea* Cramer (Hyblaeidae), *Eupterote mellifera* Walk. (Eupterotidae), *Papilio demoleus* L. (Papilionidae) and *Sylepta derogata* Fab. (Pyralidae). The inclusion bodies were from semipurified stock of 5 to 7 months old. However, 100% infectivity was retained even after one year on *Amsacta albistriga*. The cause of death of test insects was diagnosed microscopically with squashed preparation. Cadavers having inclusion bodies in tissues were scored as virus-infected and those lacking inclusion bodies as negative.

It was evident from the results that nuclear polyhedrosis virus of *Amsacta albistriga* was not cross infective to the 13 species of Lepidoptera tested. Most of the test species died of bacterial infection and of other unknown causes. The rest pupated normally without any pathological changes. No natural incidence of viruses were reported for the species tested except in *Spodoptera litura* (Nuclear polyhedrosis[4]), and *Pericallia ricini* (Nuclear polyhedroses and granuloses[5]). Since these two species were not cross infective to NPV of *Amsacta albistriga* the possibility of induction of latent virus infection was ruled out. The negative results agree with older view of Steinhaus[6] that a high degree of host specificity is a characteristic of insect viruses.

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1. Aizawa, K., "The nature of infections caused by nuclear polyhedrosis virus," In: *Insect Pathology,* (E. A. Steinhaus, Ed.), Vol. I, Academic Press, New York, 1963, p. 381.
2. Huger, A., "Granuloses of insects," *Ibid.*, p. 531.
3. Smith, K. M,. "The cytoplasmic virus diseases," *Ibid.*, p. 457.
4. Jacob, A. and Subramaniam, T. R., *Curr. Sci.*, 1972, **41**, 536.
5. —, Thomas, M. J. and Chandrika, S., *Agri. Res. J. Kerala,* 1972, **10**, 65.
6. Steinhaus, E. A., *Principles of Insect Pathology,* McGraw-Hill, Book Co., Inc., New York, 1949, p. 757.

EFFECT OF CROP AGE ON FIBRE QUALITY (TENACITY) IN JUTE (*CORCHORUS* SP.)

ALTHOUGH the jute crop is generally harvested soon after formation of pods, earlier harvesting is often found necessary, particularly for fitting it in a suitable crop rotation. While there is evidence of reduction in fibre yield when early harvesting is resorted to, not much information is available with regard to its effects on fibre quality. The present study was undertaken at the Block Seed Farm, Singur, Hooghly, in 1972, with a number of *C. olitorius* types and was repeated at the Seed Multiplication Farm, Chinsurah, in the same district, in 1973, to ascertain how far the tenacity of fibre, a very important quality character, is affected by advancing the date of harvest. The layout and different cultural operations were similar in both the years, but the retting conditions were a little different, stagnant water being used in the former and slow moving water in the latter. In the second year, a similar separate experiment was undertaken with types of *C. capsularis*.

In 1972, 23 types of *C. olitorius* were sown in two replications, each unit plot consisting of a single row of 1 metre length having 15 plants. Three plants were harvested at random from each