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.

The authors are grateful to Dr. N. C. Gopalachari, Director and Shri B. G. Joshi, Entomologist, Central Tobacco Research Institute, Rajahmundry, for their keen interest in the work.

Central Tobacco Research Institute, Rajahmundry-533 101, *November* 1, 1977.

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

1. Fletcher, T. B., *R.A.E.*, 1934, **22**, 235.
2. Broadley, R. H., *Queensland Agric. J.*, 1975, 105, 693.
3. Corbett, G. H., *R.A.E.*, 1934, **23**, 57.
4. Van-der Meer Mohr, J. C., *R.A.E.*, 1934, **23**, 118.
5. Atherton, D. O., *R.A.E.*, 1936, **24**, 568.
6. Avery, A. G., Satina, S. and Rietsema, J. Blakeslee *The Genus Datura*, The Ronald Press Company, New York, 1958, p. 28.

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*.

The authors are grateful to Dr. T. Ghosh, Director, Jute Agricultural Research Institute, Barrackpore, for the facilities.

Indian Lac Research Institute, Namkum, Ranchi, Bihar, *November* 26, 1977.

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

1. Gupta, S. K., *Oriental Insects*, 1976, **10** (3), 327.

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

filtered through filter-paper containing 5 g Na_2SO_4. Cupric carbonate was washed with 25 ml chloroform and filtered through Na_2SO_4. The combined chloroform layer was evaporaed to 0·5 ml and subjected to thin layer chromatography using chloroform : methanol (97:3) as solvent system. The position of aflatoxin spots was observed under UV-light and Rf values of standards and samples were compared.

For the determination of aflatoxin concentration the procedure of Nobney and Nesbitt's[5] was followed.

Aspergillus, *Penicillium* and *Rhizopus* were the main fungi associated with the samples studied. Thin layer chromatography showed that out of 36 samples 18 were aflatoxin positive. Since the samples were obtained from flood affected areas they had plenty of moisture to support fungal growth and mycotoxin production.

Aflatoxin B_1 wos found most abundantly in the positive samples. Very few samples contained aflatoxin B_2, G_1 and G_2. The typical strains of *Aspergillus flavus* that produce aflatoxins do not form G_1 and G_2[4]. The concentration of aflatoxin B_1 ranged from 6 ppb to 200 ppb. Among the various aflatoxins, B_1 is most toxic and produced in maximum amount. Food and Drug Administration of the United States has fixed the tolerance limit for aflatoxin at 20 ppb. In the present study four samples were exceeding this limit, the highest being 200 ppb. However, the condentrations of afflatoxin B_2, G_1 and G_2 were below 10 ppb in all the cases.

Nothing definite is known about toxicity levels of aflatoxins for man. Tulpule *et al.*[8] have reported that young monkeys develop liver lesions, very like bilary cirrhosis, when fed with 1 mg aflatoxin daily for 3 weeks. Monkeys were not, however, as susceptible as guinea pigs to the toxin. Scientists from CFTRI, Mysore, have reported the occurrence of liver cirrhosis, similar to Indian childhood cirrhosis, in a few children who were accidently fed aflatoxin contaminated peanut protein flour as part of their treatment for protein deficiency.

P.G. Department of Botany, R. S. MISHRA.
Bhagalpur University,
Bhagalpur 812 007, Bihar,
and
Department of Plant Pathology, R. S. SINGH.
G.B. Pant Univ. Agric. and
Technology,
Pantnagar, Naini Tal,
November 21, 1977.

1. Allcroft, R. and Carnaghan, R. B. A., *Chem. Ind.* (England), 1963, p. 50.
2. Carnaghan, R. B. A., *Nature*, 1965, 208, 308.
3. Dapis, N. D. and Diener, U. L., *Proc. First U.S.-Japan Conf. on Toxic Micro-organisms*, ed. M. Herzberg., 1970, p. 43.
4. Hesseltine, C. W., *et al.*, Paper presented at meeting of American Soc. Microbiol., Detioit, Mich., 1968.
5. Nabney, J. and Nesbitt, B. F., *Analyst*, 1965, 90, 115.
6. Thomas, R., Eppley, R. M. and Tricksess, *JOAC*, 1975, 58, 114.
7. Tripathi, R. K., *Indian J. Exp. Biol.*, 1973, 11, 361.
8. Tulpule. P. G., Mahadevan, T. V. and Gopalan, C., *Lancet*, 1964.

TWO NEW SPECIES OF HYPHOMYCETES

Two new species of Hyphomycetes, *viz.*, *Cercospora crotonicola* and *Phaeoisariopsis lagerstromeae* are being described here.

(1) *Cercospora crotonicola* spec. nov.

Leaf spots amphigenous, circular to oval, dull white. Conidiophores abdundant, epiphyllous, stroma of few brown cells, fasciculate, olivaceous brown, septate, unbranched, simple, straight or flexuous, sometimes distinct scar is present at the apex of conidiophore, 50–110 × 4–7 μ. Conidia hyaline, broader below tapering upwards, 3–13 septate, 26–82 × 3–4.5 μ.

On the living leaves of *Croton sparsiflorus* Morong. Jabalpur (M.P.), India, October, 1976, Leg. R.C. Rajak.

Type specimen has been deposited in herb. IMI, Kew, No. 214009.

There is no report of any *Cercospora* parasitising *Croton*. It is, therefore, being described here as a new species *C. crotonicola* sp. nov.

Cercospora crotonicola spec. nov.

Maculae folicolae amphigena, circulara vel ovala, albus pulveraceous, Conidinophora abundans, epiphylla, hypostromata minutum, fasciculata, olivacea—brunnea, septata, non ramus, simplicia, recta vel flexuosa, nonunquam cicatrice eminente ad apicem conidiophorum, 50–110 × 4–7 μ. Conidiis hyalina, latus infra fastigata sursum, 3–13 septata, 26–82 × 3–4·5 μ. (Fig. 1).

In foliis viventibus *Croton sparsiflorus* Morong, ad, Jabalpur (M.P.), India, Octoberi 1976, Leg R. C. Rajak.

Typus positus in Herb. I.M.I., Kew, No. 214009.

(2) *Phaeosariopsis lagerstromeae* spec. nov.

Colonies effuse, greyish brown, cottony, amphigenous, scattered. Mycelium immersed. Stroma partly immersed, spongy, bulbous to pulvinate, olivа-