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Directorate of Geology and Mining,
Assam, Zoo Road,
Gauhati-5, April 6, 1975.

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Three Additional Hosts of the Stubby-Root Nematode, *Trichodorus mirzai* Siddiqi, 1960

Moderate to heavy galling was noticed in the roots of *Commelina nudiflora* L., *Eclipta alba* (L.) Hassk. and *Setaria verticillata* (L.) Beauv. growing as weeds in the Aligarh Muslim University Campus. The galls were terminal in position and elongated in shape. The growth of the apical meristem was checked. These are characteristic features for the infection of stubby-root nematodes. The soil around the roots of these plants was isolated and studied for nematodes. It was observed that the soil was heavily infested with *Trichodorus mirzai* Siddiqi, 1960. Whereas the soil from ungalled plants either did not contain this nematode species or, in some cases, negligible numbers were detected. A perusal of literature^{1,2} revealed that these plants are new hosts of *T. mirzai*.

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Cladosporium Leaf Spot of Sunflower

During October-November 1973, a leaf spot disease of sunflower was noticed around Bangalore. The disease is characterized by greyish circular spots surrounded by a zone of yellow halo. In the initial stages, chlorotic spots appear which, later, turn grey to olive green. The undersurface of the affected part gives a moldy appearance. In severe cases, under high humidity, the spots elongate along the veins resulting in extensive chlorotic patches. The upper half of the leaf usually suffers more damage than the lower half of the leaf.

Isolations from the affected regions consistently yielded a *Cladosporium* sp. When sunflower plants were spray inoculated with spore suspension, from one week old culture of this organism, typical

symptoms appeared after 4 days. The pathogen was reisolated from such artificially inoculated plants.

The pathogen produces an olive-green growth on PDA, which turns dark with the advance age of time. Colony is woolly at earlier stage and becomes powdery later with the production of conidia. Reverse of the colony is greenish-black. Hyaline hypha is not very conspicuous. Dark hyphae measure 4–11 μ in width. Conidiophores arise laterally or less often terminally from the hyphae, are unbranched, and measure 30–420 \times 2.5–5.4 μ . They are smooth, irregularly septate, not constricted at the septa, and darker and more uniform than the regular hypha. Conidia are produced acropetally in long chains at the tip of the conidiophore and its 3–4 lateral outgrowths. Conidia are smooth, pale brown, mostly 1-celled, ovate or elliptical and slightly tapering at one or both the ends; many cylindrical and often 2–3 celled, mostly towards the bottom of the chain, with one or more hila. Young conidia are almost round in shape. The conidia measure 2.5–12 \times 2.5–4 μ .

The pathogen has been identified as *Cladosporium cladosporoides* (Fres.) De Vries¹. There is no record of this pathogen on sunflower from anywhere. The culture has been deposited in the culture collections of the Department of Plant Pathology, U.A.S., Bangalore, bearing accession No. 102.

Grateful thanks are due to Director, Centraalbureau Voor Schimmelcultures, Netherlands, for identification of fungus and to Dr. H. C. Govindu, Senior Professor and Head of the Department of Plant Pathology, for facilities.

AICORP Sunflower,
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Stem Blight of *Asparagus officinalis* Caused by *Phomopsis asparagi* (Sacc.) Bubak

A severe attack of stem blight disease of *Asparagus officinalis* was observed at Hesaraghatta (Bangalore) during the month of January, 1975. It attacked fully grown plants and resulted in their death. The symptoms appeared as a discolouration of the tissues of the stem changing gradually into light brownish areas which became dark brown as the disease advanced. The spots were spindle-shaped initially and were surrounded by deep brown borders. These were more noticeable on the main stems near the ground level but sometimes also appeared on any other part of the stem. In certain

cases, the infection was noticed only on the upper branches, whereas the lower portion of the plant remained healthy. The diseased spots ultimately turned greyish with black dot-like prominent pycnidia. In advanced cases of infection, needles became yellow and the plants were completely or partially defoliated and finally withered.

Pycnidia were scattered, embedded to erumpent, non-ostiolate, opening by a longitudinal slit at maturity, uniloculate but occasionally biloculate and $90-110 \times 110-220 \mu$. Conidia were of two types. Alpha conidia hyaline, one celled, oblong to fusoid, $5.0-10.0 \times 2.5-4.7 \mu$. Beta conidia hyaline, one celled, filiform, bent, $12.7-17.5 \times 2.5 \mu$. These were rarely observed in nature and few in number and were produced in the same pycnidia.

This disease was first described by Kheswalla¹ from Pusa (Bihar) and was reported to be caused by *Phoma asparagi* Sacc. because of the absence of beta spores. These spores have been observed in the present specimen. Hence, the casual organism has been treated as *Phomopsis asparagi* (Sacc.) Bubak².

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Horticultural Research,
Bangalore, May 9, 1975.

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Unsaponified Matter of *Asphodelus tenuifolius* Fat

Asphodelus tenuifolius^{1,2}, known as 'Bokat' in Hindi and belongs to the natural order Liliaceae. Ayurvedic system of medicine described the plant as diuretic and useful for curing ulcers and inflamed parts. In India, it is cultivated widely in Indo-Gangetic plain.

3 kg of dried and powdered plant on extraction with petroleum ether in a Soxhlet extractor and removal of the solvent under reduced pressure yielded 20 g of a brown coloured fat. It was saponified with 0.5 N alcoholic KOH and unsaponifiable matter extracted with solvent ether. The solvent was distilled off and the residue subjected to column chromatography over Brockmann's

alumina using (i) petroleum ether : benzene (2 : 1) and (ii) benzene : chloroform (30 : 25) as eluents. The eluate (i) on concentration and crystallisation from a mixture of chloroform : methanol (1 : 1) yielded white flakes, m.p. 199° , $[\alpha]_D^{25} + 87$ (CHCl_3). Found : C, 84.37 ; H, 11.86% ; m/e = 426 ; calculated for $\text{C}_{30}\text{H}_{50}\text{O}$: C, 84.44 ; H, 11.81% ; acetate, m.p. 237° , $[\alpha]_D^{25} + 80$ (CHCl_3). It gave positive Liebermann-Burchard reaction and Noller's reaction. Mixed m.p. determination and co-chromatography with authentic sample confirmed it as β -amyrin.

The eluate (ii) yielded another colourless compound crystallising from methanol : ethyl acetate (1 : 1), m.p. $136-7^\circ$, Found : C, 83.75 ; H, 12.19% ; m/e = 414 ; calculated for $\text{C}_{29}\text{H}_{50}\text{O}$: C, 84.05 ; H, 12.07% ; acetate, m.p. 127° ; benzoate, m.p. 144° . It gave positive Salkowski and Liebermann-Burchard reactions and was identified as β -sitosterol by mixed m.p. and co-chromatography with authentic sample.

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ANNOUNCEMENTS

Chemistry of Natural Products

The IV Indo-Soviet Symposium on the 'Chemistry of Natural Products' is scheduled to be held from 18th to 23rd of February 1976 at the Central Drug Research Institute, Lucknow. Topics for the Symposium will also include Biopolymers and Pharmacology of Natural Products.

Abstracts of papers for presentation at the Symposium may be sent by the end of November 1975 to the Project Coordinator, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 001 and may be marked "IV Indo-Soviet Symposium on Chemistry of Natural Products".