

to stand for 30 minutes. Four drops of 50% sodium thiosulphate solution followed by 5 ml of another digestion mixture (32 g salicylic acid/litre of conc. H_2SO_4) were then added. After the digestion was complete, about 5 drops of 10% perchloric acid was added and the contents were heated slowly till the solution became clear. The solution was then made up to 100 ml. In a colorimetric tube 1 ml of this solution, 8.5 ml of Nessler's reagent and 0.5 ml of gum-ghati solution were added. The contents were mixed thoroughly. The ammonia thus evolved was estimated in 'AIMIL' Biochem Absorptiometer using filter No. 42.

The value of organic nitrogen thus obtained was then multiplied by a factor 6.25 to obtain total protein content.

The results given in Table I show that yellow mosaic increased the protein content in the seeds in all the four varieties tested. Maximum increase was recorded in the variety Local-2 and it was least in Bragg. The increase was dependent upon the susceptibility of the varieties the most susceptible variety having the maximum protein.

TABLE I
Protein content in healthy and yellow mosaic infected seeds

Varieties	% protein in the healthy seed	% protein in the diseased seed	% increase
Bragg	40.6	43.0	2.2
Clark-63	42.5	45.5	3.0
Lee	41.2	46.7	5.6
Local-2	36.3	42.5	6.9

Increased protein content in virus affected plant parts has been reported by some workers¹⁻⁶ while some others have reported a reduction in protein content due to virus disease^{1,7}.

In the present study protein content of the seeds is increased in all the varieties of soybean affected by yellow mosaic. This increase appears to be due to the increased amount of free amino acids and total nitrogen which have led to an increased rate of protein synthesis through condensation of amino acids.

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A NEW LEAF SPOT DISEASE OF *CENTELLA ASIATICA* L.

A SEVERE leaf spot disease of *Centella asiatica* L. was observed during summer season around Madanapalle in Chittoor District. The disease manifests itself in the form of leaf spots which are elongated or circular, yellowish brown when young and becoming dark brown with age, with a greyish white centre bordered by deep brown margin. In cases where the infection starts from the apex of the leaf the patch may extend and cover about half of the lamina (Fig. 1).



FIG. 1

The fungus was isolated in pure culture from the necrotic spots of the leaves and on inoculation to healthy leaves proved to be a virulent pathogen. The organism consistently produced the typical symptoms and its morphological and cultural characteristics were exactly similar to the previous isolate.

The fungus grew and sporulated well on PDA medium. Mycelium grey coloured with green pigment deposited on the medium. The hyphae septate, branched and measured $3-6\mu$ in width. Only conidiophores and conidia were produced. Conidiophores dark brown, unbranched and erect. Conidia clavate, slightly bent or curved, rarely triangular with flattened ends, 2-4 celled (1-3 septate), light brown in colour and measured 12 to 21×2 to 9μ . One or two of the middle cells were disproportionately enlarged and more darkly coloured than the end cells.

The causal agent has been identified and confirmed as the *Curvularia* state of *Cochliobolus geniculatus* Nelson (IMI 184580).

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MEALY BUGS ON THE ROOTS OF *PARTHENIUM* WEED

Parthenium hysterophorus Linn., commonly called "congress grass" is at present an aggressive weed in many parts of India. It is not known to be affected by any pest or disease¹. Recently, Anupam Varma *et al.*² have reported mycoplasmal etiology for this plant growing at Delhi and proposed its utility for the biological control. In some plants

of the same species growing at Mysore City, attack of mealy bugs was observed on their roots. Young plants were especially prone to the attack and later they died. Such plants were seen wilted. The nymphs and adult females lodge on the root surface and feed on them (Fig. 1). The bug is identified

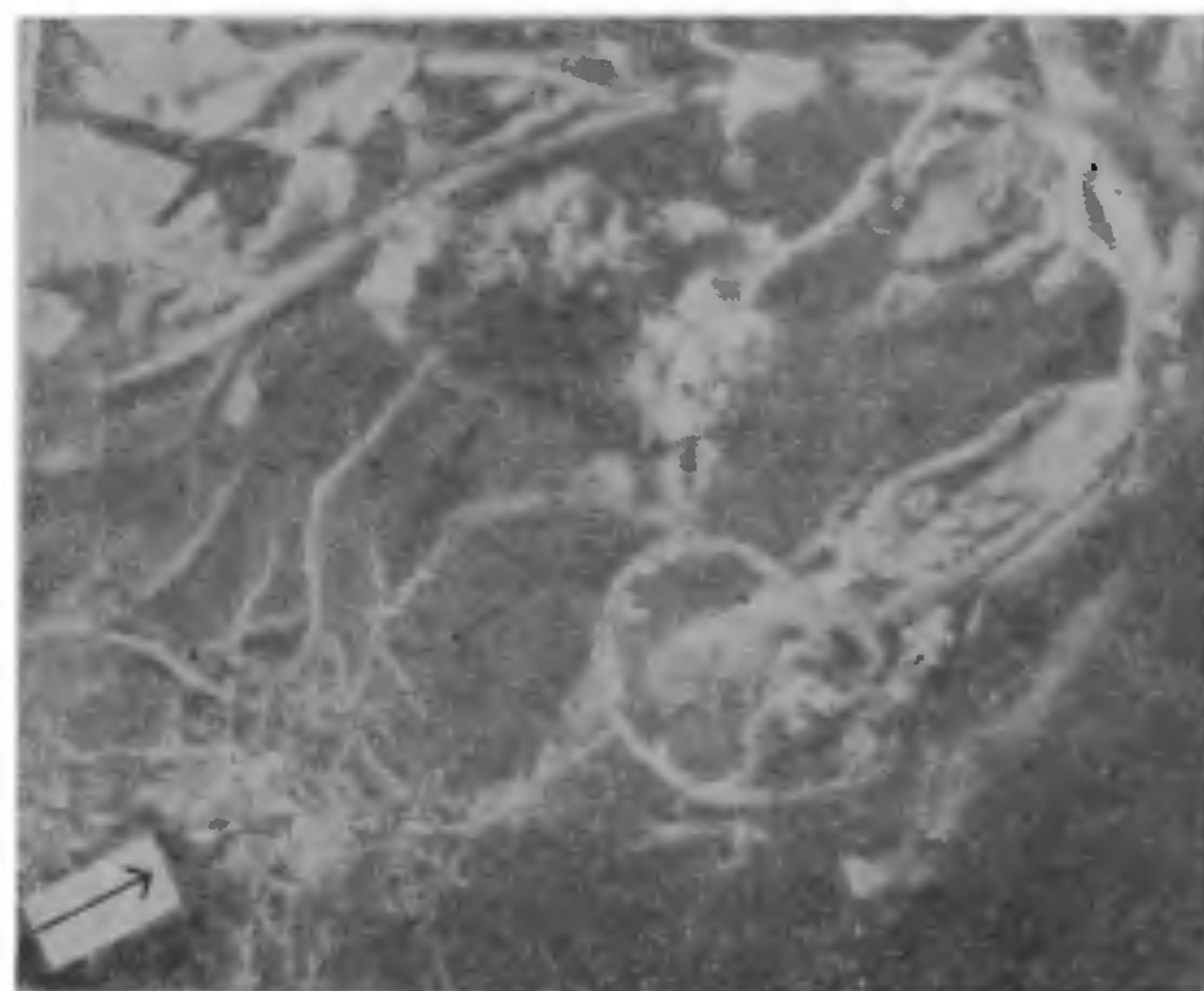


FIG. 1. Roots of *Parthenium* infected with mealy bugs.

as *Ferrisia virgata* Cockerell. Further search for other pests attacking the plant is essential for finding out their use in biological control of this pernicious weed.

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