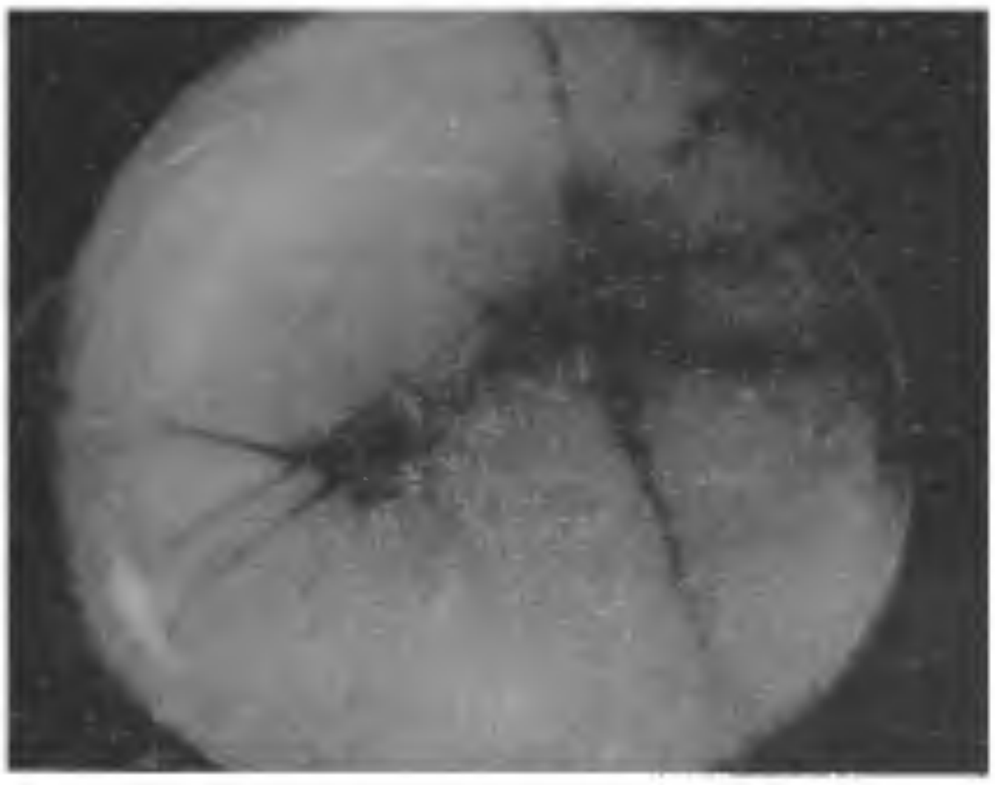

FIG. 3. Roots of 25 days *Glycyrrhiza* plantlet on modified MS medium supplemented with 0·1 mg/l NAA.

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DIFFERENTIAL STAINING OF PHYTOPHAGOUS ENDOPARASITIC NEMATODES

DIFFERENTIAL staining has not been used for the nematodes and the host tissue. The commonly used cotton blue in lactophenol[1] gives a deep blue stain to the host tissue as well as to the nematodes. In the following the composition of a new stain is given. This stains the phytophagous endoparasitic nematodes crimson red and the host tissue hyaline light green. Ethyl alcohol (95%): 25 ml; malachite green: 25 mg (2·5 ml of 1% solution in 95% alcohol); glycerol: 35 ml; acid fuchsin: 50 mg (15 ml of 1% aqueous solution); phenol: 15 gm; lactic acid: 1 ml, and distilled water: 50 ml. The nematode infested roots were washed thoroughly in water to remove the soil and adhering debris. The roots were plunged into the boiling stain for 30 to 45 sec. and then were allowed to cool for one min. The stained roots were washed in tap water to remove excess of stain and transferred to acidified water (3 drops of lactic acid in 100 ml water). After two min. the roots were placed in a solution containing 50 ml glycerol; 5 ml phenol; 3 drops of lactic acid and 45 ml water. Afterwards they were examined under the stereoscopic binocular microscope. All stages of endoparasitic nematodes (*Pratylenchus, Radopholus, Hirschmanniella, Rotylenchulus, Tylenchulus* and *Meloidogyne*) took crimson red colour while the roots turned hyaline light green.

The endoparasitic nematodes if stained as above may be observed immediately after staining, whereas in cotton blue-lactophenol or acid fuchsin-lactophenol, a period of about 24 hours is required for clearing. In addition, the present method produces a differenital staining of the host tissue and nematode pathogen.

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A NEW SPECIES OF *STENELLA* FROM INDIA

WHILE making a survey of parasitic fungi of Gorakhpur region (U.P.) the authors collected a leaf spotting fungus on *Cassia fistula* from Madhaulia Range of North Gorakhpur Forest Division. The fungus which is presumed to be new is described below:

Stenella cassiae sp. nov.

Contagionis maculae amphigenae; coloniae hypophyllae, primo irregulares, demum effusae, paenetotam folii superficiem occupantes, brunneae vel obscure brunneae; mycelium principale e hyphis immersis, hyalinis vel subhyalinis, septatis levibus, ramosis, tenuibus, secondarium e hyphis plerumque superficialibus, pallide olivaceobrunneis, septatis, nonnihil verrucolosis, ad 2 µm latus, compositum; stroma raro evolutum, substomaticum, haud distinctum, pseudoparenchymaticum; conidiophori macronemati, mononemati, vulgo e hyphis superficialibus, interdum in fasciculis e stromate orientes, recti vel flexuosi, crasse et leviter tunicati, septati, geniculati, brunnei, apicem versus pallidiores, haud ramosi, 30 150 (vulgo 55 90) × 2·5 4·5 µm, cellulae conidiogenae polyblasticae

intergratae, terminales, treticae, geniculatae, sympodiales, cicatricivus natatae, cylindricae quam cellulae ceterae pallidiores; conidia singularia, sicca, acropleurogena, recta vel arcuata, brunnea, crasse tunicata, verruculosa, septis 1–22 (plerumque 3–12) transversis divisa cylindrica vel interdum obclavata, apice rotundato, basitruncata vel conicotruncata, 11–120 × 2·5–6 μm.

Infection spots amphigenous, colonies hypophyllous, primarily irregular, often effuse covering the total surface of the leaf, brown to dark brown, mycelium of hyphae immersed, hyaline to subhyaline, septate, smooth walled, branched, thin, secondary hyphae often superficial, pale to olivacious brown, septate, smooth to slightly verruculose upto 2 μm wide; stroma rarely evolved, substomata indistinct, pseudoparenchymatous, conidiophores macronematous, mononematous, emerging from the superficial hyphae, often cespitose when coming from the stromata, straight to sometimes flexuous, smooth walled, septate, geniculate, brown, hyaline along the apex rarely branches, 36–150 (commonly 55–90) × 2·5–4·5 μm, conidiogenous cells polyblastic, integrated, terminal, geniculate, sympodial, cicatrized, cylindrical, paler than the rest of the cells; conidia solitary, single, acrogenous, straight to curved, brown, thick walled, verruculose, 1–22 (commonly 3–12) transversely septate, cylindrical to often obclavate, with rounded apex, base truncate to conicotruncate, 11–120 × 2·5–6 μm (Fig. 1 *a*, *b*, *c*).

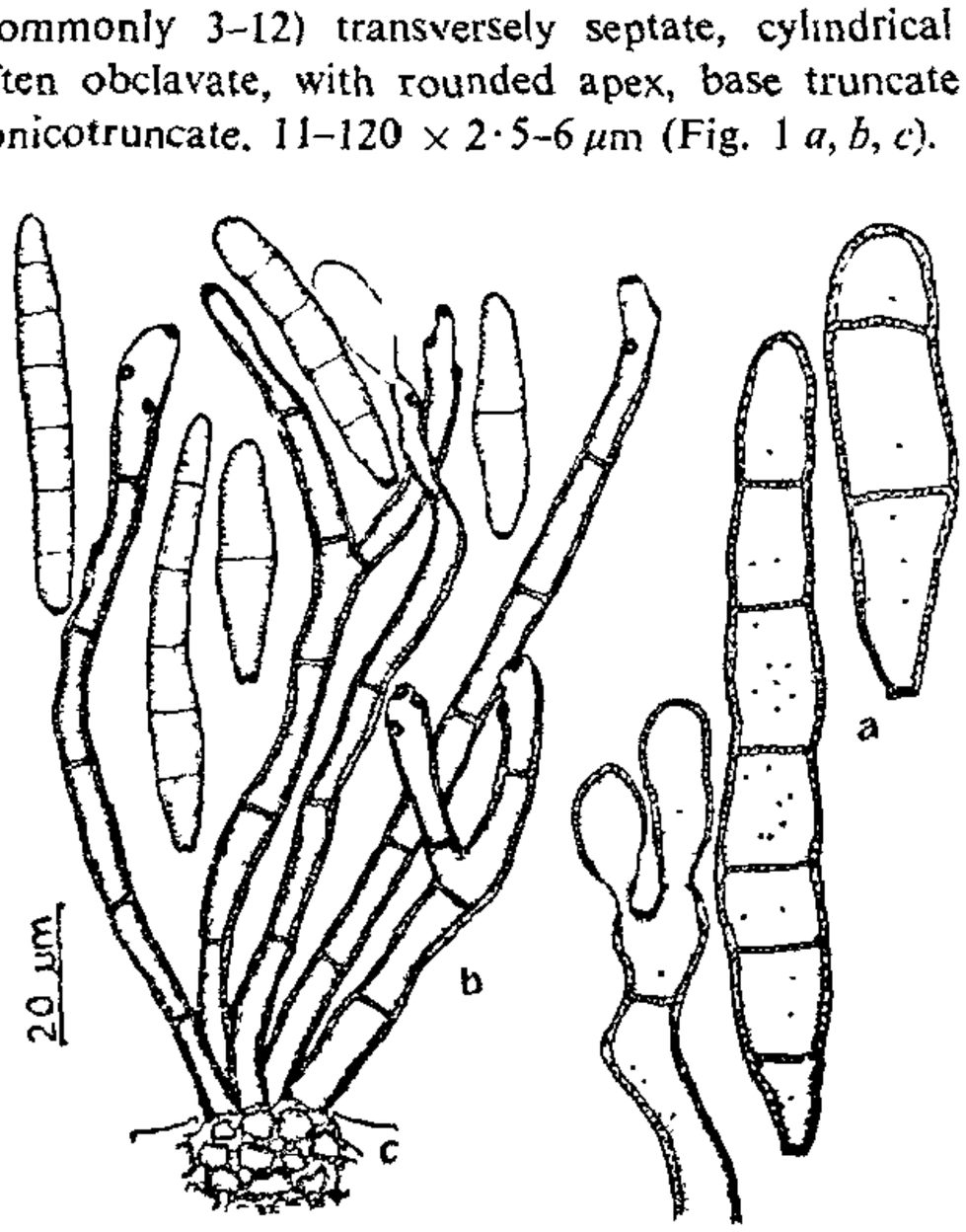

FIG. 1. *Stenella cassiae* sp. nov. *a*, conidia; *b*, bunch of conidiophores; *c*, stroma.

On living leaves of *Cassia fistula* Linn. Madhaulia Range, North Gorakhpur Forest Division.

Present collection differs from all the known species of *Stenella* described so far (Ellis 1972, 1976). Moreover no species of *Stenella* has ever been described on *Cassia fistula*. Therefore, the present collection is described as a new species.

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DERMAPTERAN PREDATORS IN THE BIOLOGICAL REGULATION OF SUGARCANE BORERS IN INDIA

THOUGH instances of earwigs feeding on insect pests are on record since 1886, their role in the suppression of pest populations seems to have been recognised only in recent years. The common European earwig, *Forficula auricularia* Linn. was reported as feeding on larvae and pupae of the Grapevine Moth in 1899, and it is now known to play an important role in the regulation of the Damsonhop aphid[1].

One of the cosmopolitan species of the order, *Labidura riparia* (Pallas) was known to attack pests of cotton in Egypt in 1934[2]. This species, noted for its remarkable adaptability to extremes in environmental conditions[3], is now considered to be an important predator of insect pests of soybeans in Florida and South Carolina[4,5] along with another member of this group *Doru lineatum* (Dohrn).

The part played by Dermaptera in the regulation of sugarcane pests was first reported from Hawaii[6] in 1905, when *Euborellia annulipes* (Lucas) and *Chelisoches morio* (Fab.) were observed to feed extensively on hoppers and lepidopterous larvae. The latter species, which was also reported from sugarcane fields in Mauritius and Sandwich Islands, is now known to attack hispids and coccids[7].

In India, two predaceous earwigs, *Proreus simulans* Stål and *P. melanocephalus* Dohrn, have been previously recorded from leafsheaths and borer holes of sugarcane and paddy stubble in Bihar and U.P.[8]. In the present study, three more species (*E. annulipes*, *Labia* sp. and *Proeus ramamurthii* Kapur) have been observed to attack sugarcane borers in the fields in