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*).

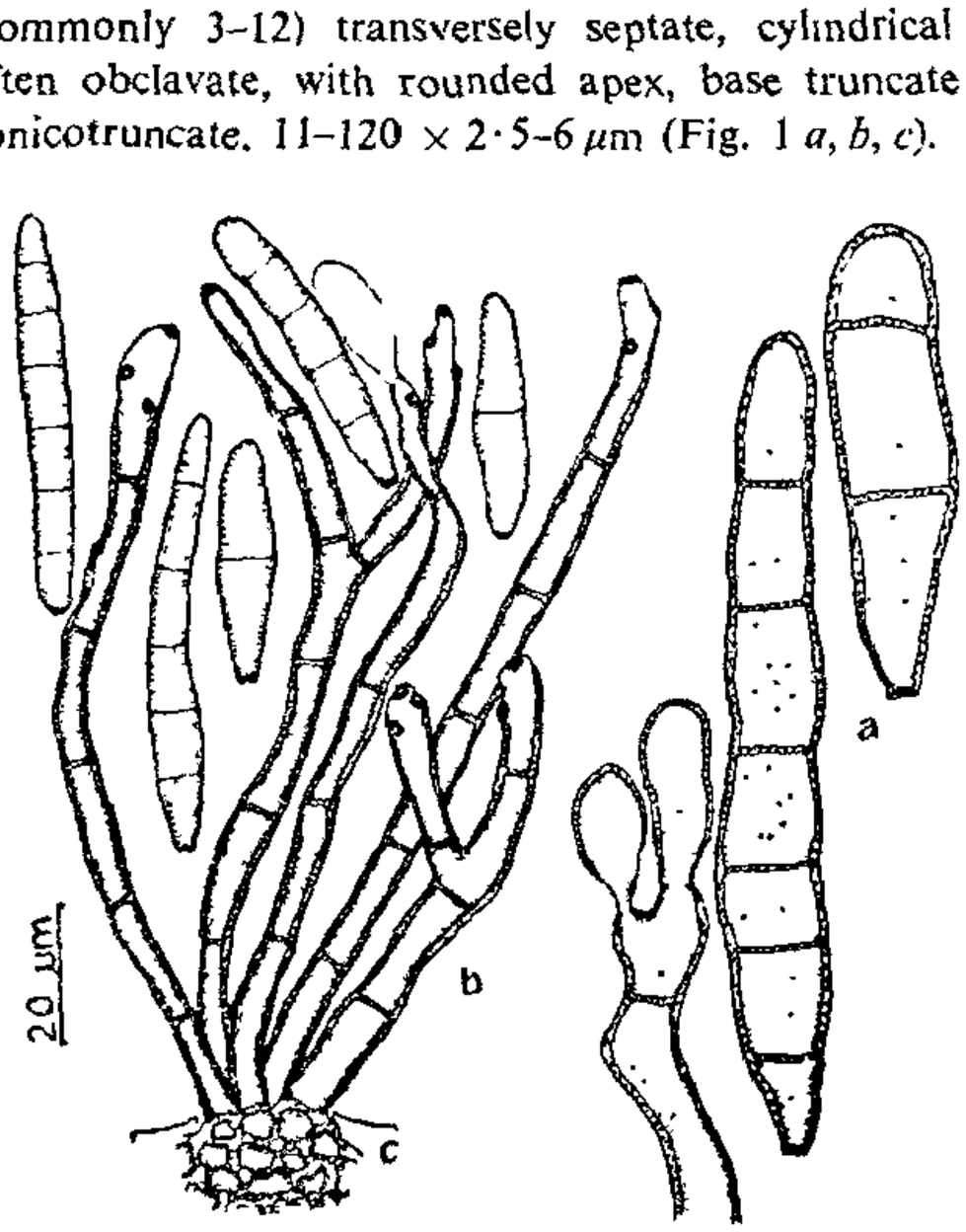

FIG. 1. *Stenella cassiae* sp. nov. *a*, conidia; *b*, bunch of conidiophores; *c*, stroma.

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

Chingleput, Tamil Nadu. The earwigs enter the tunnels made by the early shoot borer and internode borer and both adults and nymphs feed on the borers.

Further studies on the biology and population fluctuations are in progress to determine the functional response of the predators to their borer prey and to evaluate their potential in the regulation of these pests.

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A NEW CHROMOSOME NUMBER FOR *FURCRAEA GIGANTEA* VENT.

Furcraea gigantea Vent., native of tropical America is closely allied to *Agave*. A few species of *Furcraea* have been introduced into India as garden plants. *F. gigantea* has attained importance as a source of commercial fibre, commonly known as Mauritius hemp[1]. *F. gigantea* is a large rosette plant with tough spiny leaves. It is monocarpic and dies as soon as it produces an inflorescence. Like *Agave* it is propagated by suckers. While making a detailed karyotype analysis of this species growing at the Ethnobotanical Garden of the Botany Field Research Laboratory of this centre it was observed to contain 34 chromosomes in root tip cells. A perusal of literature on the chromosome number for this species revealed that there are reports of $2n = 18$ and 60 only[2]. Hence the number $2n = 34$ is reported as new to *Furcraea gigantea*. The detailed karyotype analysis is also presented.

Karyotype analysis was carried out from temporary squash preparations of root tips of bulbils. Root tips were fixed in 1 : 3 acetic acid–ethanol and stained in 2% acetic orcein and 1 N HCl mixture (9 : 1). Those cells with well spread chromosomes were drawn for karyotype analysis.

The diploid complement shows 34 chromosomes ranging in length from 1·32 μm to 6·67 μm. Chromosomes in general show a wide range of size difference into 10 long, 14 medium and 10 short chromosomes (Fig. 1).

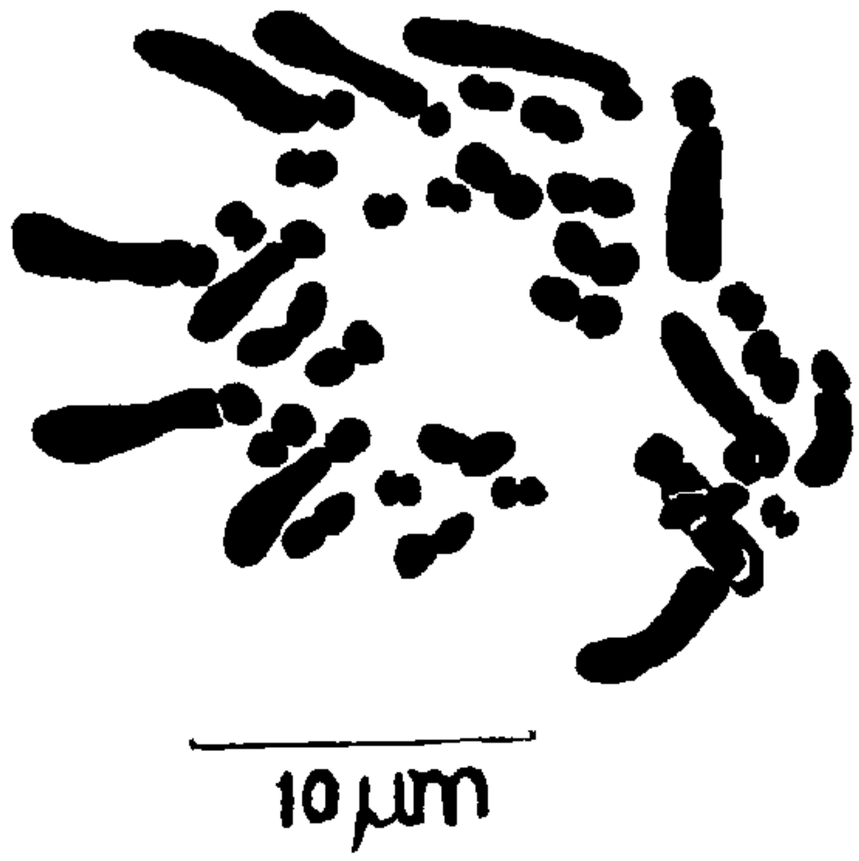

FIG. 1. *Furcraea gigantea* Vent. somatic chromosomes ($2n = 34$).

Depending upon the length of the chromosome as well as the arm ratio and centromeric index based on Levan *et al.*[3], ten groupings have been made and the detailed observations on each type is presented in Table I.

The karyotype is asymmetrical as the chromosomes vary in length and possess centromeres in the terminal (*t*), subterminal (*st*), median (*m*) and in the median point (M). According to the classification of Stebbins[4], the karyotype can be assigned to category 3C.

The somatic chromosome number of 34 reported here is not in conformity with the observation of Catalno[6] who had reported $2n = 18$; Whitaker[6], Matsuura and Suto[7], Sato[8–10] and Inariyama[11] had reported $2n = 60$. Sato[9] observed 10 long chromosomes and 50 small chromosomes whereas we have seen 10 long chromosomes (types A, B, C and D), 14 medium chromosomes (types E, F, G and H) and 10 short chromosomes (types I and J) in all the cells and all the root tips examined. The aneuploid number of $2n = 34$ recorded here and that of $2n = 18$ recorded by Catalno[5], presumably could have given rise to the basic number of $n = 30$ commonly seen in species of