which was tentatively identified as ABA. The presence of two other compounds in addition to ABA after a 12 day incubation period indicated that the origin of these compounds might be either *D. rosae* or the degradation product of ABA.

TABLE I

Presence of compounds like ABA and other fluoroscent compounds in D. rosae *culture*

Incubation period (days)	Compound corresponding to		
	ABA	0·54 Rf	0·91 Rf
4	+	−	−
6	+	−	−
10	+	−	−
12	+	+	+
16	+	+	+
21	+	+	+

+ Present. − Not present.

TABLE II

Length of wheat coleoptile as affected by different concentrations of the test compound

Test compound concentration (ppm)	Length of wheat coleoptile (mm)*
500	6·37
250	7·62
125	8·22
62·5	8·50
31·25	8·60
15·62	8·65
7·80	8·70
3·90	8·73
1·95	8·75
0·97	9·25
Control	9·25

* Average of 20 observations.

The confirmative results for the growth inhibitory activity of the extracted compound were obtained from the wheat coleoptile bioassay method. The results revealed that the test compound had an inhibitory effect on the growth of the wheat coleoptile. The length of the wheat coleoptile was considerably inhibited (6·37 mm) when put in 500 ppm test solution, whereas, in the control the coleoptile length was 9·25 mm. The test compound was found to be effective in inhibiting the coleoptile growth up to a concentration of 2 ppm. The coleoptile growth was the same as that of the control at a test dose of 1 ppm (Table II).

Abscisic acid is a well-known growth inhibitor. The results of the wheat coleoptile bioassay method and the confirmative TLC method clearly indicated that *D. rosae* synthesised a compound in broth which was tentatively identified as ABA.

A compound with the same Rf value as the standard ABA was obtained only from the ether extract of the diseased leaves but not from the healthy rose leaves. This indicated the possible involvement of ABA (produced by *D. rosae*) in the causation of disease symptoms, particularly of premature defoliation in rose plants.

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A NEW SPECIES OF *DICHOMERA* (COELOMYCETES) FROM INDIA

DURING a mycological collection tour to Kerala forests of South India in 1975, an interesting sphaeropsidaceous fungus of the form-genus *Dichomera* Cooke[1] was collected on dead twigs of *Nerium odorum* Soland, which on detailed study proved to be an undescribed taxon. A perusal of literature[2–4] for its identity showed no report of any species of *Dichomera* on *Nerium* or its related hosts of the family Apocynaceae. Further, on comparison, it also differed greatly from *Dichomera capparidis* Munj. and Kapoor[5] (described on *Capparis aphyla* Ridge) in possessing bigger stroma as well as

conidia and hence, the present collection has been described here as a new species with the following format description :

Dichomera trichurensis sp. nov. (Fig. 1)

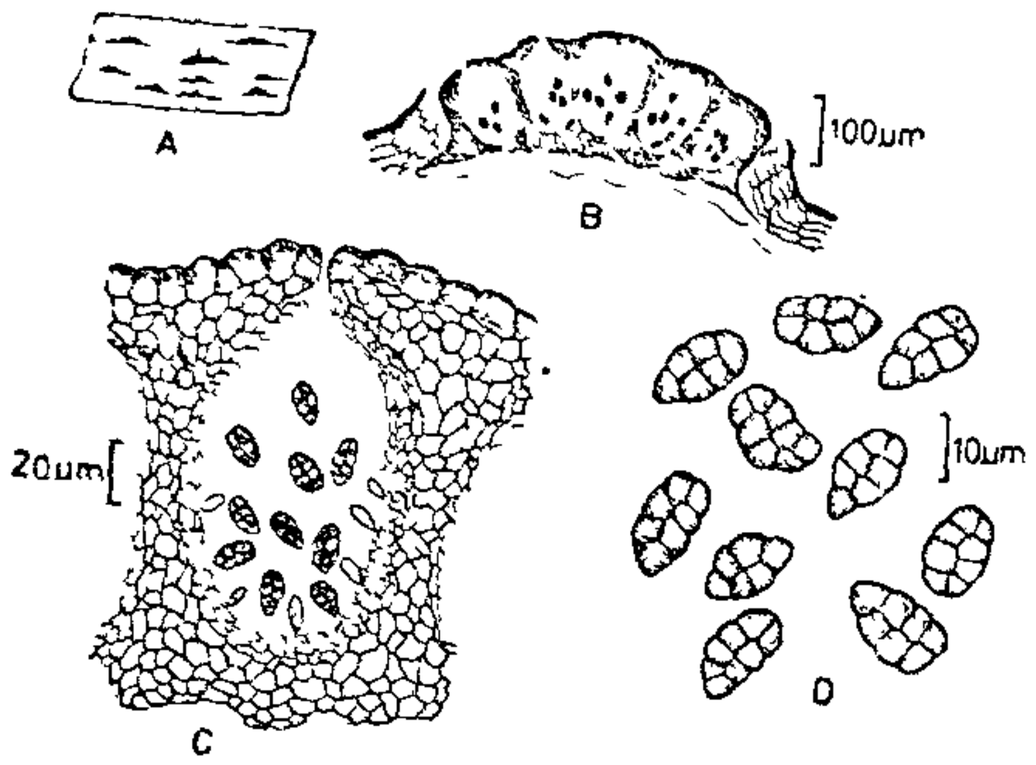

FIG. 1. *Dichomera trichurensis* sp. nov. A, Habit; B, V.S. of stroma; C, V.S. of pycnidium showing conidia; D, Conidia (Pycnidiospores).

Stromata dothidioidea, erumpentia, corticem disrumpentia, nigra, usque ad 1·5 mm magnitudine. Pycnidia immersa, binaquina in stromata, sphaerica vel globoidea, ostiolata, magnitudine 100–150 µm diam. Conidiophora hyalina, erecta, non-septa, usque ad 8 µm longa. Conidia globosa vel ellipsoidia, sicca, multiseptata, muriformia, atro-brunnea vel rufe-brunnea, magnit. 12–16·5 × 6–9 µm.

Stromata dothidioid, immersed in the substrate finally becoming erumpent, black, upto 1·5 mm long. Pycnidia globose to spherical, ostiolate, black, grouped in a stroma (upto 7 per stroma) measure 100–150 µm in diam. Conidiophores simple, hyaline, non-septate and measure upto 8 µm long. Conidia globose to ellipsoid, dry, muriform, several-celled with oblique septa (normally with 3 transverse septa and one oblique septa) dark-brown to reddish-brown, measure 12–16·5 × 6–9 µm.

Matrix : On dead twigs of *Nerium odorum* Soland (F. Apocynaceae) Leg. K.I.M.V. at Peechi Forest, Trichur (Kerala), on 25-10-1975, No. AMH 3837 (Holotypus).

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ON THE FOOD PREFERENCE AND THE MORPHOLOGICAL ADAPTATIONS OF THE GUT OF SOME SPECIES OF ORTHOPTERA

UVAROV[1] has suggested that food preference among Orthopterans can be correlated with certain morphological features of the digestive system. An attempt has, therefore, been made to correlate the type of food with the structural adaptations of the gut. The following species of insects have been studied:

Gryllotalpa africanus Chopard (=*G. fossor* Scud.)
Gryllus domesticus Linne. (=*Acheta domesticus* Linne.)
Holoclara sp.
Euconocephalus sp.

To assess the type of food preferred by the phytophagous Orthopterans, the techniques of Barneys and Chapman[2] have been followed and, for the carnivorous forms, animal parts recovered from the gut of the experimental animals were compared with the body parts of insects living in the same locality/area and the food type was thus confirmed. Ten replicates of the gut were analysed before conclusions were drawn.

Observations and Discussion

Observations on the gut contents of *Gryllotalpa africanus*, a confirmed pest of potato[3], indicated this to be a carnivorous form, as the gut contained a number of fragments of termites and forficulid body parts. This suggested that the animal changes its food and food habits depending on the type of food available. Further, the proventricular region of the foregut has a highly chitinised armature, suggesting the animal to be a carnivore. In the case of *Gryllus domesticus* (Gryllidae), known to be feeding on waste food (also known to feed on the wounds of unhygienic people), the analysis of the crop indicates that it is not only a carnivore but also a cannibal. The food fragments seen in the crop are fairly large bits of insect parts. This may be due to the absence of the cuticular armature in the oesophagus and in the upper portion