in the umbona region; Pileus 1–2 cm wide, gillsl free, white; stipe 2–5 cm long, slightly enlarged at the base, white, solid; pseudorhiza not distinct, sometimes absent, penetrating 1–3 cm below the soil but without volva; both hymenophoral trama and cuticular trama are regular; Basidia clavate, 28–32 × 6·5–9·0 μ, tetrasterigmatic; Cystidia cylindrical 31–36 × 5–6·5 μ, rare; Epore print white to greyish yellow, nonamyloid; Basidiospores ellipsoid, smooth, thinwalled, 6·5–7 × 3·5–4·5 μ.

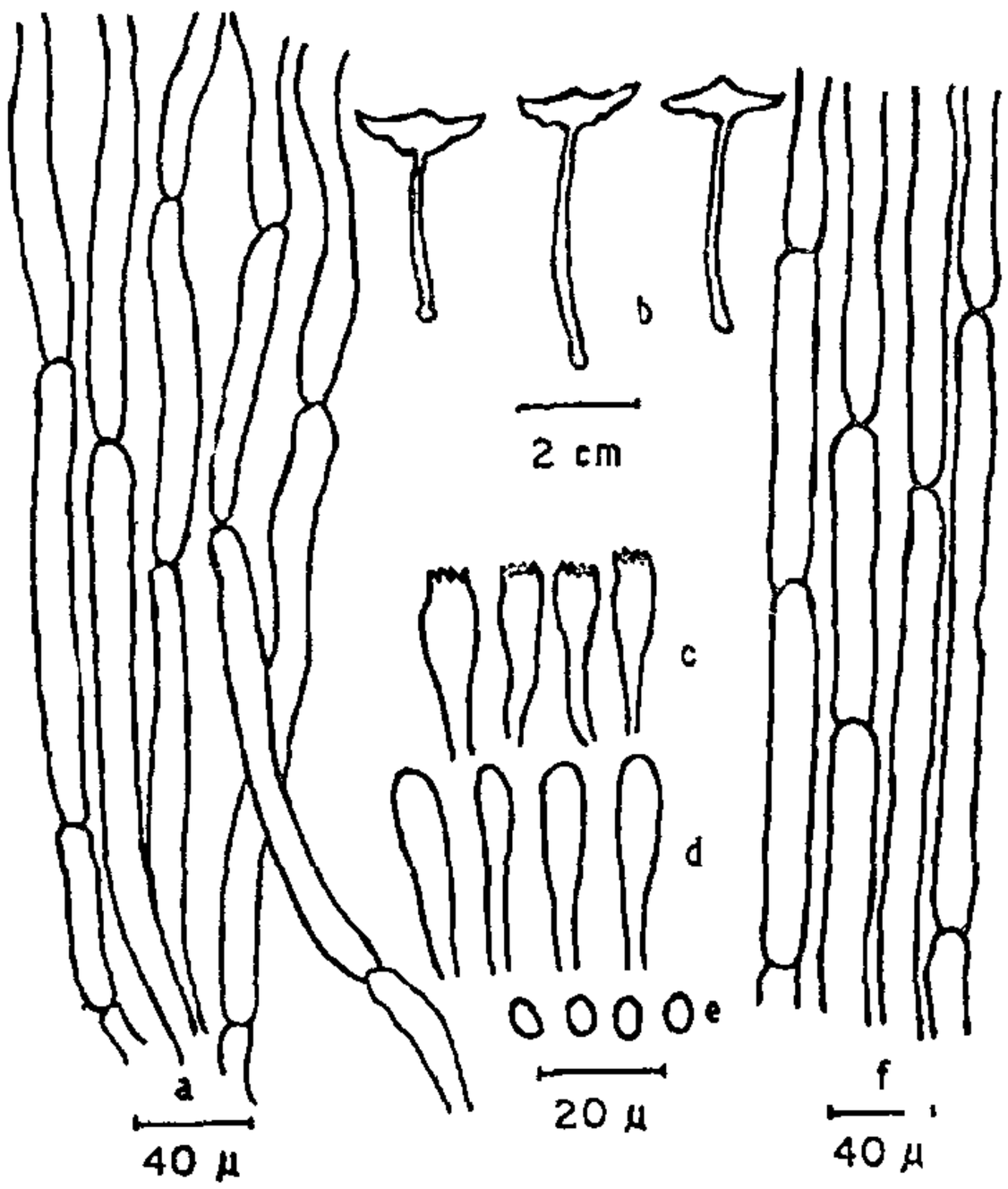

FIG. 1. *Termitomyces microcarpus*. *a*, Hymenophoral trama; *b*, Habit sceteh; *c*, Basidia; *d*, Cystidia; *e*, Spores; *f*, Cuticular.

From the above description, the fungus was identified as *Termitomyces microcarpus* (Berk and Br.), Helm. This fungus has been reported from different tropical countries like Ceylone, Sierra Leone, Nigeria, Kenya and Tanzania, but has not been rccored from India so far (Purakayashta and Chandra[1]).

The mycelial culture of *T. microcarpus* was grown in Richard's solution (KNO_3–100 g, KH_2PO_4–5·0 g, $MgSO_4$, $7H_2O$–2·5 g, sucrose–50 g and distilled water 1000 ml). The crude protein content of dry mycelium was found to be 25·6%.

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AN UNDESCRIBED SPECIES OF *STILBOSPORA* (COELOMYCETES) FROM MAHARASHTRA

DURING a mycological survey around Poona, an interesting species of *Stilbospora* Pers. ex Merat. was collected on dead twigs of *Syzygium cumini* (L.) Skeels (= *Eugenia jambolana* Lamk.) forming crust-like acervular colonies. For its diagnosis and specific identity the fungus was studied in detail with respect to morphology and dimensions of various fruiting structures. Further, it was also compared with other known species of *Stilbospora*[1–3] including the type species, *viz.*, *S. macrospora* Pers. and found to differ greatly in the size of acervuli and conidia. It is, therefore, described here as a new species.

Stilbospora poonensis sp. nov. (Fig. 1).

Acervuli immersa vel erumpentia, sub-globosa vel conica, carbonaceae, nigra nitentia, solitaria, dispersa et aggregata, 420–525 × 340–375 μm. Conidiophora hyalina, vulgo breviora, erecta, 5–12 μm longa. Conidia ellipsoidia vel obovoidia, basitruncata; 3-septata, pallide-brunnea vel brunnea, magnit. 25–32 × 10–12 μm.

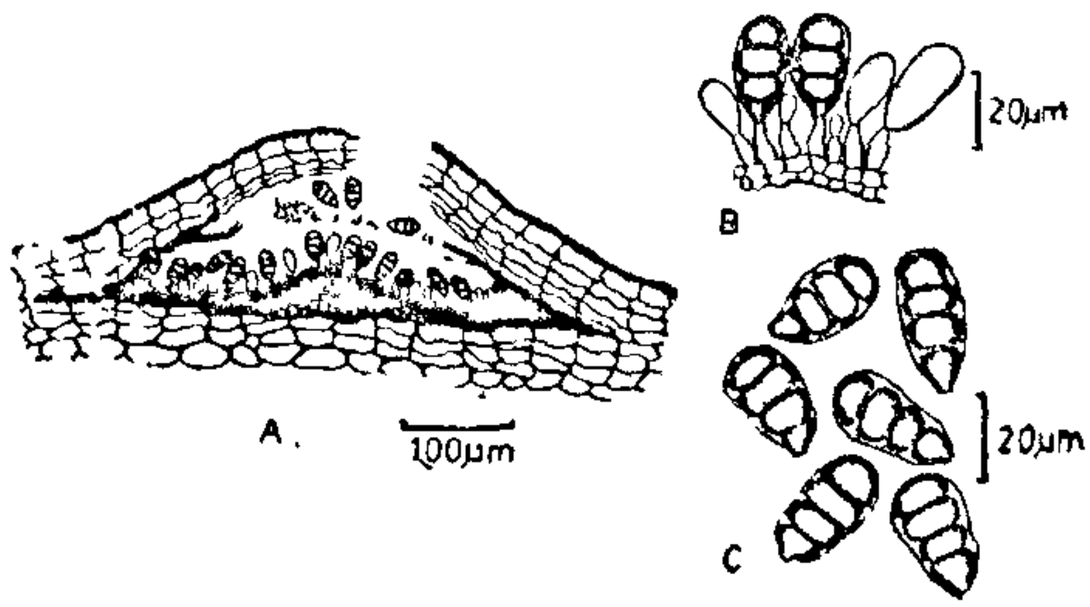

FIG 1. *Stilbospora poonensis* sp. nov. A. V.S. of acervulus. B. Conidiophores with conidia. C. Conidia.

Acervuli immersed in the bark but becoming erumpent, later sub-globose to conical, carbonous, black, shining, solitary, scattered to aggregated, measure 420 525 × 340 375 μm. Conidiophores hyaline, erect usually shorter, 5 12 μm long. Conidia ellipsoid to

oboviod, obtuse at the apex, truncate at the base, 3-septate, pale-brown to brown, measure 25–32 × 10–12 μm.

Matrix : On dead twigs of *Syzygium cumini* (L.) Skeels (F. Myrtaceae), Leg. K.I.M.V., at Vithalwadi, Poona, on 28–8–1975. No. AMH 2884 (Holotypus), IMI Sub-numero 204510 (Isotypus).

The writers are grateful to Prof. M. N. Kamat for his keen interest and to the Director for facilities-Thanks are also due to Dr. B. C. Sutton, Principal Mycologist, C.M.I., Kew (England), for kindly confirming the identity of the fungus and to the Ministry of Education, Government of India, for the award of S.R.T. to one of them (K.I.M.V.).

M.A.C.S., Research Institute, Poona–4 (India), *December* 9, 1978.

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SOME OBSERVATIONS ON CANNIBALISM IN LARVAL BLOWFLIES (CALLIPHORIDAE: DIPTERA)

A COMPARATIVE study of cannibalism in four different species of blowflies is made to interpret principles of competition, production and succession.

Larvae of blowflies, *Chrysomia rufifacaies* Macquart, *Chrysomia megacephala* Fabricius, *Lucilia cuprina* Weidemann and *Sarcophaga ruficornis* Fabricius were randomly selected from the stock culture for study. They were thoroughly washed with tap water to remove meat particles attached to their body. The larvae were then introduced in stoppered test-tubes (6″ × 1″) kept horizontally in a wooden tray for observation. At a time, a batch of twenty larvae of an instar was studied to determine the age at which cannibalism is seen. Ten larvae of specific age and species were used in different combinations for studies regarding nature of cannibalism in different species.

Observations regarding the age at which cannibalistic tendency is noticed, percentage of cannibals and percentage of pupation in single as well as combinations of different species of blowflies are presented in Table I.

Cannibalism is maximum in *Chrysomia rufifacies* less in *Sarcophaga ruficornis* and absent in *Lucilia cuprina* and *Chrysomia megacephala*. Only third instar lavrae of *C rufifacies* and *S. ruficornis* showed cannibalism in the order of 3 day old > 4 day old > 5 day old > 6 day old. Differential predation was a common feature even under experimental conditions. The tendency for early pupation was noticed only in the third instar larvae of all the species starting as early as in 3 day old larvae of *L. cuprina* and *C. megacephala* and 4 day old larvae of *C. rufifacies* and *S. ruficornis*, which gradually increased with advancing age. Thigmotactic behaviour was a common feature among the non-cannibalistic larvae.

Various reasons such as hydromania[1], deprivation of particular niches[2], non-availability of food[3], differences in the developmental events[4], competition between species for oviposition medium[5] have been suggested to explain cannibalism. Each carcass on which the larvae feed represents an essentially restricted environment containing a limited quantity of suitable food which gradually changes in its quality as decomposition sets in[4]. Because of this, the available food remains attractive for a comparatively short time. In nature, cannibalism probably starts when the food is no more attractive.

Among the species studied, *C. rufifacies* presented a strongly marked predatory nature. The head of the larva of this species is markedly attenuated which allows easy penetration into the tissue of the prey[6]. Thus the larva of *C. rufifacies* has an edge over other species and this is probably responsible for its aggressive behaviour not only towards its own members but also towards the members of allied species.

Predatory tendencies were absent in 1st and 2nd instar larvae but percentage of cannibalism was found to be much greater in early third instar larvae of *C. rufifacies* and *S. ruficornis* as predation starts sufficiently early to reduce competition or density of population.[4]

In the absence of food the larvae of *L. cuprina* and *C. megacephala* were found to respond in a totally different way. They exhibit a strong thigmotactic behaviour probably to save water loss through respiration by creating a moist microclimate around them and show a marked prefcrence for early pupation. Non-cannibalism has been regarded as tolerance for shortage of food.[7] In the absence of cannibalistic tendency under laboratory conditions, these species formed viable pupae at much earlier age.

Growth plays a major part in determining the survival in any species. All the larvae in nature, probably start life with approximately equal chances of deveopment and survival though they differ fundamentally in their developmental events. The larval stages studied were found to respond differently to the absence of food in the laboratory. Tendency for early pupation or cannibalism is then a reflection of basic differences in growth patterns of different species. The efficiency with which the developing larvae, in the absence of food, produce viable pupae would decide the success of species in survival.