

One surface sterilized seed was placed in the centre of the cone aseptically. The seeds were allowed to germinate and form seedlings inside the test tubes placed in a growth cabinet fitted with fluorescent tubes regulated for 12 hrs. lig' t per day. The plants were allowed to grow for 10 days and the liquid from the tube containing root exudates was transferred to a sterile 250 ml conical flask. It was concentrated at 40° C to half the original volume. The concentrated solution was used for testing its effect on the growth of selected strains of *Rhizobium* sp.

The rhizobial strains CB-1024, CB-530 (Australian strains), BU-1 and BU-2 (local isolates) were cultured in a broth of the following composition to raise inoculum: K_2HPO_4 0.5 g, $MgSO_4 \cdot 7H_2O$ 0.1 g, NaCl 0.2 g, $CaCl_2 \cdot 6H_2O$ 0.2 g, $FeCl_2$ 0.01 g, yeast extract 1 g, mannitol 10 g, distilled water 1 litre. 5 ml of inoculum was transferred to each of the triplicate 250 ml conical flasks containing 100 ml of broth. Another set of three flasks was treated with 5 ml of inoculum plus 1 ml of concentrated root exudate. After incubation of the flasks overnight in a rotary shaker, 5 ml aliquots were drawn from each flask and diluted with an equal volume of distilled water. The percentage transmission and optical density of the samples were measured with a spectrophotometer (Elico) using a 600 nm filter.

The results (Table I) indicate that the root exudates stimulate the growth of 3 strains of *Rhizobium* sp. CB-1024, CB-530 and BU-2, while they inhibit the growth of strain BU-1. The stimulation is more pronounced in strain CB-1024. The inhibitory effect on strain BU-1 is very significant. While the stimulatory effects of root exudates can easily be explained as a prerequisite for the establishment of the symbiotic relationship, the inhibitory effect on strain BU-1, presumably, indicates lack of compatibility between groundnut variety TMV-2 and the rhizobial strain.

TABLE I

The effect of groundnut root exudates on the growth of rhizobial strains grown in yeast-mannitol broth

Rhizobium strain	Treatments	Percentage Transmission	Optical density
CB-1024	Control	19.2	0.721
	Root exudate	15.2	0.824
CB-530	Control	20.3	0.699
	Root exudate	20.0	0.699
BU-1	Control	36.5	0.444
	Root exudate	56.0	0.252
BU-2	Control	14.3	0.854
	Root exudate	12.6	0.921

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Department of Botany,
Bangalore University,
Bangalore 560 001,
March 20, 1980.

S. B. SULLIA,
D. ANUSUYA.

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TWO INTERESTING FUNGI FROM AQUATIC HABITAT

DURING the survey of aquatic fungi on some submerged leaves and roots in water bodies of Andhra Pradesh, India, the authors have isolated two interesting fungi.

Diplocladiella scalaroides Arnaud (Fig. 1)

The conidium is 2-armed. Five of its eight cells are brown, but the basal cell is colourless. Each arm is terminated by an unpigmented hair like cell.

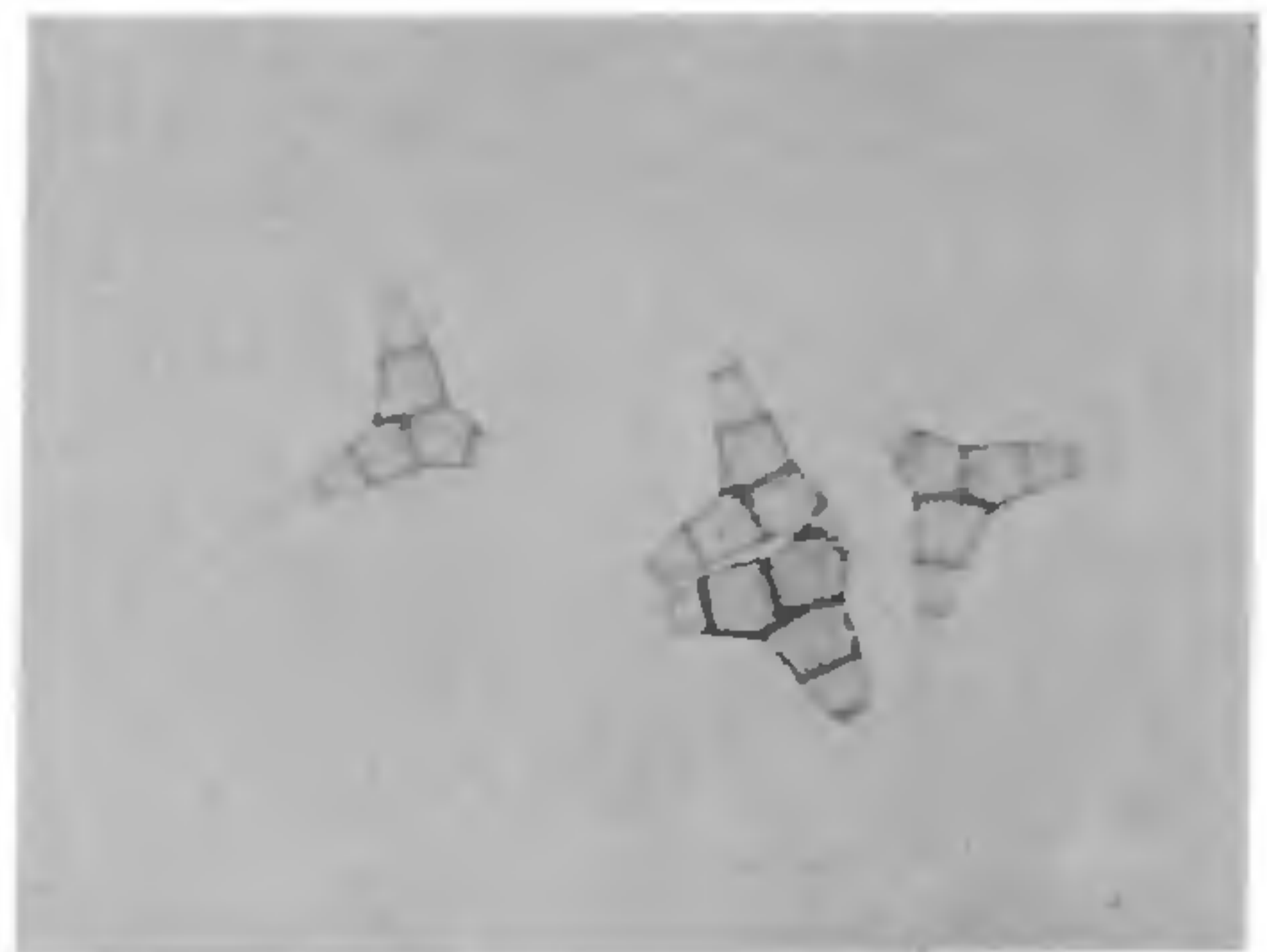


FIG. 1. Conidia of *Diplocladiella scalaroides* Arnaud ($\times 1,000$).

Arnaud¹ described this fungus without the latin diagnosis. Ellis³ emended the genus and also the type species description, besides providing latin diagnosis for its validation. It has been reported from France, Japan, New Guinea and Great Britain^{1,3,4}.

Spores belonging to the above species were found in abundance during our survey. The conidial measurements of the present isolate are similar to those of Arnaud's description. This fungus was found repeatedly colonizing the submerged root bits in water bodies of Mannanur Forest, Andhra Pradesh, India, during winter of 1978 and 1979 (IMI 239541). This fungus showed an aquatic existence.

A survey of literature revealed that there is no report of this fungus so far from India.

Chaetospermum elasticae Koorders.

This is a member of Coelomycetes and is found colonizing the submerged grass leaves in pond water of Mannanur Forest, A.P., (India) during the winter months of 1978. The very characteristic conidia are occasionally found in foam samples of flowing waters. Earlier, the conidia of *Chaetospermum chaetosporium* Smith and Ramsb were found on submerged decaying Alder leaves² and foam samples⁴. Therefore, its existence in tropical waters cannot be ruled out. *C. elasticae* (IMI 230319) has been recorded by Nag Raj⁵ on dead twigs of *Coffea canephora* from India. It is the first record of this fungus from aquatic habitat. The authors are thankful to Dr. E. Punithalingam and Mr. P. M. Kirk, C.M.I., Kew, England, for their help in confirming the fungus species.

Mycology and Plant
Pathology,
Department of Botany,
Science College, Saifabad,
Hyderabad 500 004, A.P.,
(India), January 14, 1980.

M. MADHUSUDAN RAO.
C. MANOHARACHARY.

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NOTES ON *MEGASELIA* SP. (DIPTERA: PHORIDAE) A NEWLY RECORDED PARASITE OF *NEPHANTIS SERINOPA* MEYRICK (LEPIDOPTERA : XYLORICTIDAE)

SPECIES of *Megaselia* as parasites of coccinellids, myriapods and grasshoppers have been studied by Lichenstein¹, Myers² and Timon-David³. The immature stages of *Megaselia* sp. were obtained from the pupae of *Nephantis serinopa*, a serious pest of coconut, collected from Nilaswaram, Kerala. Nearly 9% of the field-collected *N. serinopa* pupae was found parasitised by these dipterans. The adult insects (Fig. 1) were fed with honey or sugar solution, provided in droplets on polythene strips. Fresh pupae of *N. serinopa* were supplied in order to observe their parasitic nature.

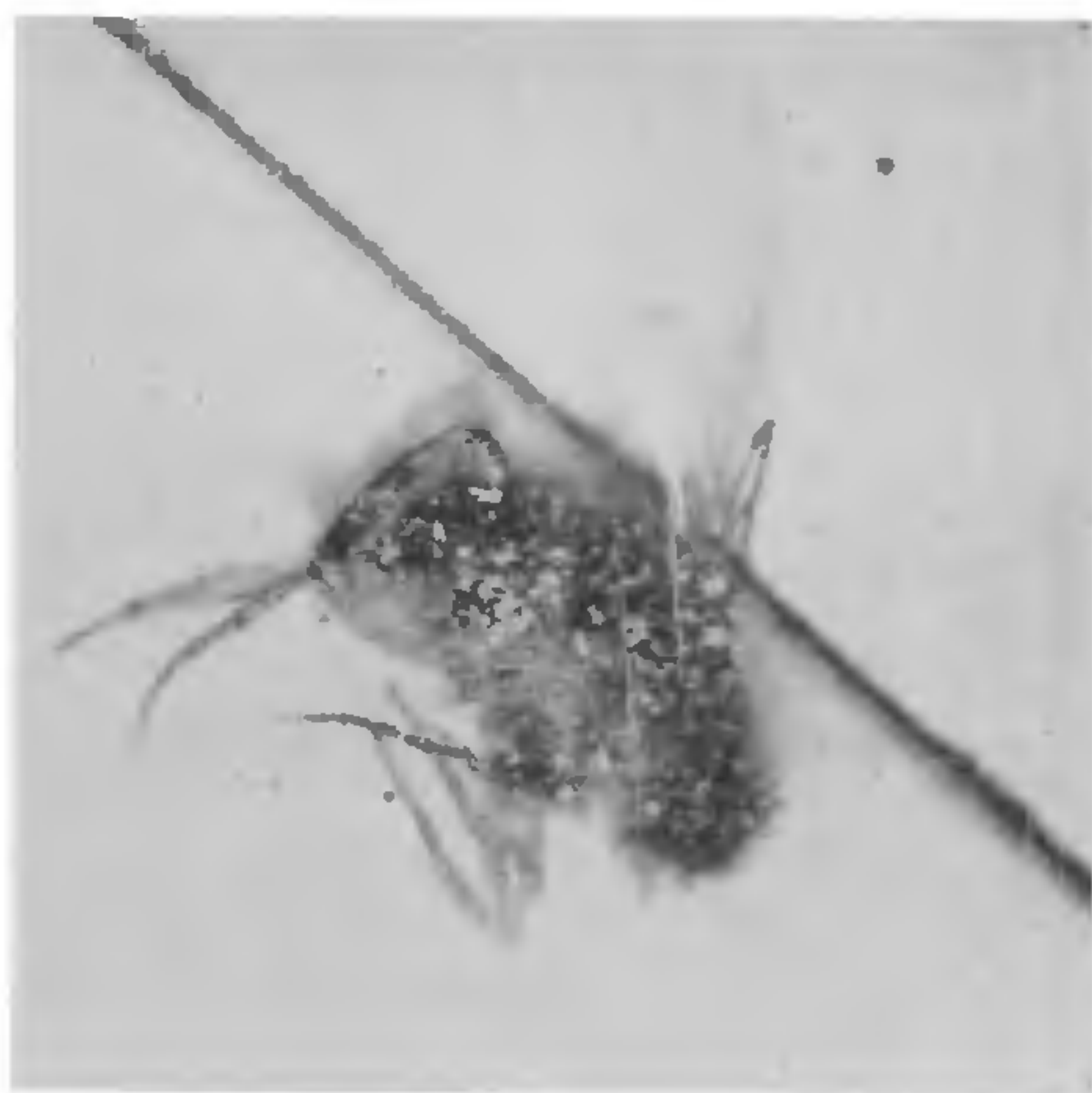


FIG. 1. *Megaselia* sp.

The females are found to lay eggs 2 to 5 days after their emergence. The eggs are scattered, both on the sides of the glass tube and on the surface of *N. serinopa* pupae. The number of eggs laid by a single female varies from 4 to 16. The females have a maximum longevity of 12 days under the laboratory conditions, and oviposit once or twice.

The egg is 0.42 mm long and 0.14 mm wide. It is milky white in colour and has a superficial ornamentation consisting of disc-like structures, 0.14 mm diameter which are held on short stalks 0.005 mm long. The larvae that emerge within a day after oviposition, move about and attack the pupae of *N. serinopa* and feed on them from outside and later, some of them get into the pupa and feed the entire contents from within.