OBSERVATIONS CONIDIOGENESIS IN *ENTOMOSPORIUM MESPILI* (DC EX DUBY) SACC

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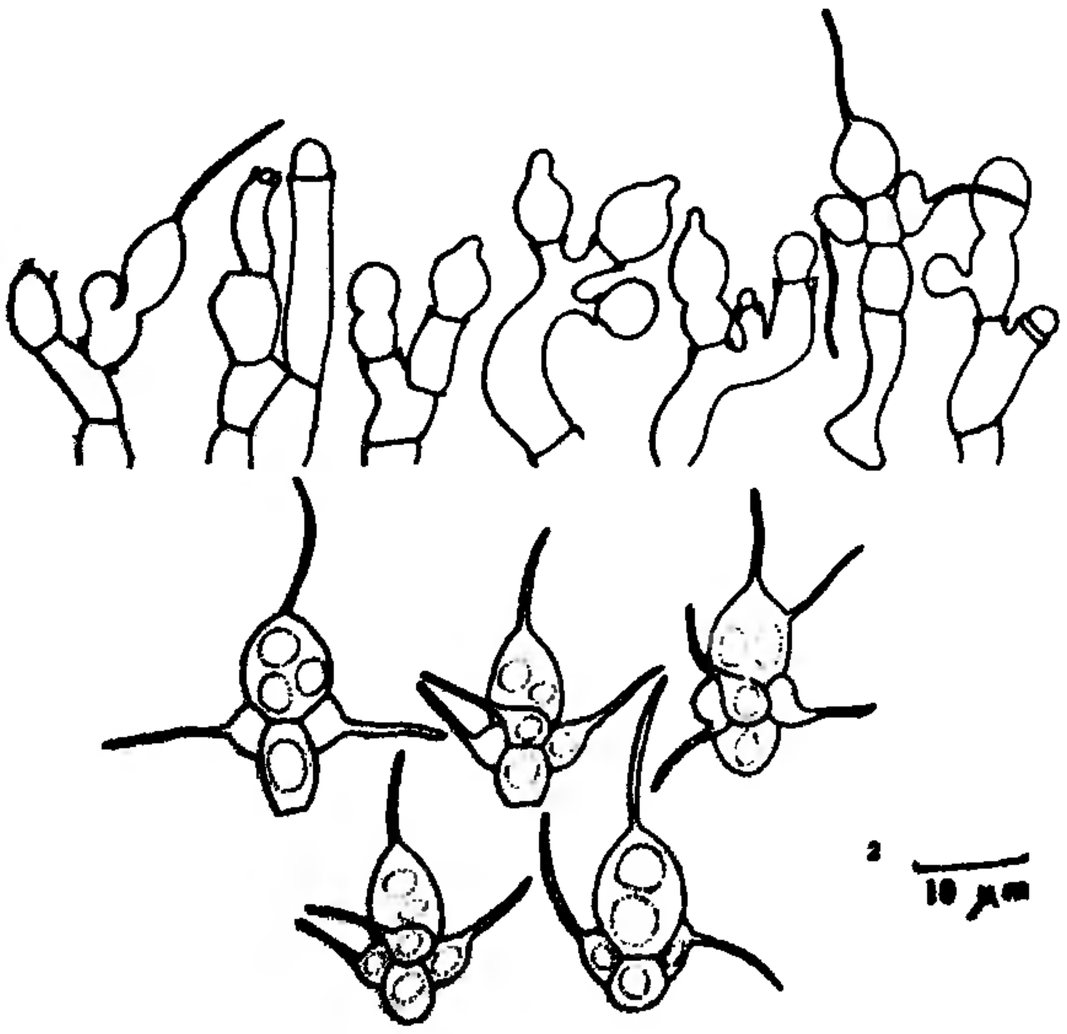
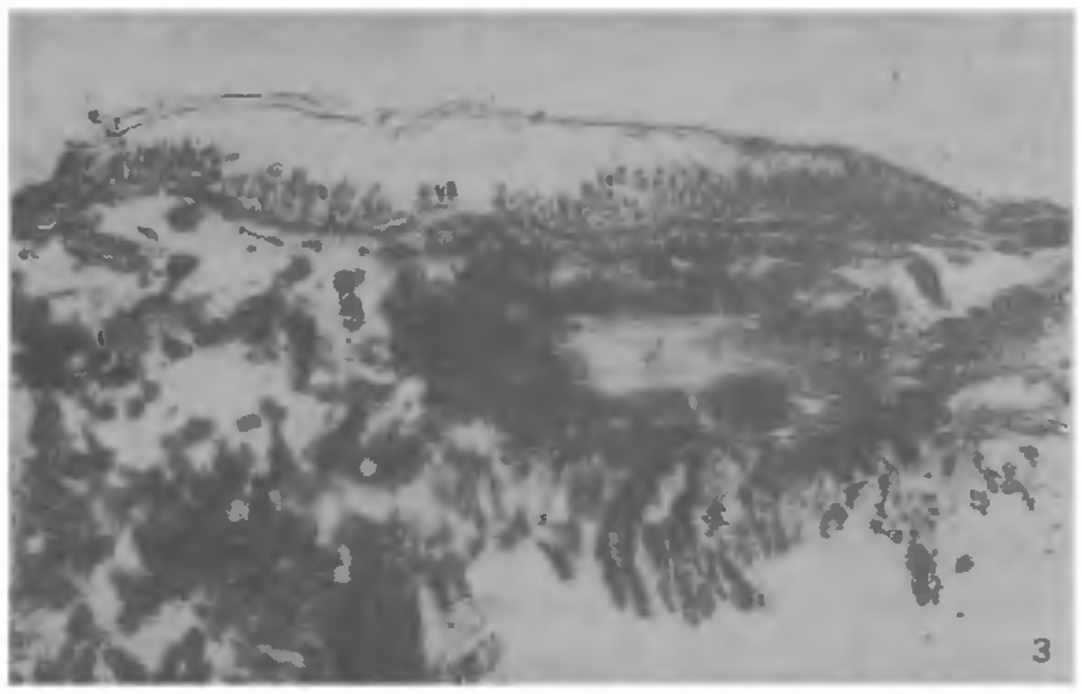
DURING a collection trip to Kodaikanal in 1978 the author collected a Coelomycetous fungus on the leaves of *Rosa* sp from the Bryant Park in Kodaikanal. The fungus was readily identified as *Entomosporium mespili* (DC ex Duby) Sacc because of the characteristic cruciform conidia. Conidiogenesis in *E. mespili* is holoblastic[1,2]. However, examination of a specimen of the same fungus at CMI (Herb. IMI 76275) revealed the presence of phialidic conidiogenous cells. The camera lucida drawings made from the specimen IMI 76275 are provided (figures 1 and 2). The Indian collection also revealed the presence of phialidic conidiogenous cells. Sydow and Butler[3] reported the fungus from Kashmir under the name *E. maculatum* Lév on the leaves of *Pyrus malus*, *P. communis* and *Cydonia vulgaris* but no description was given by them. Therefore it was felt that a detailed description of the fungus based on the study of Indian collection is worthwhile.

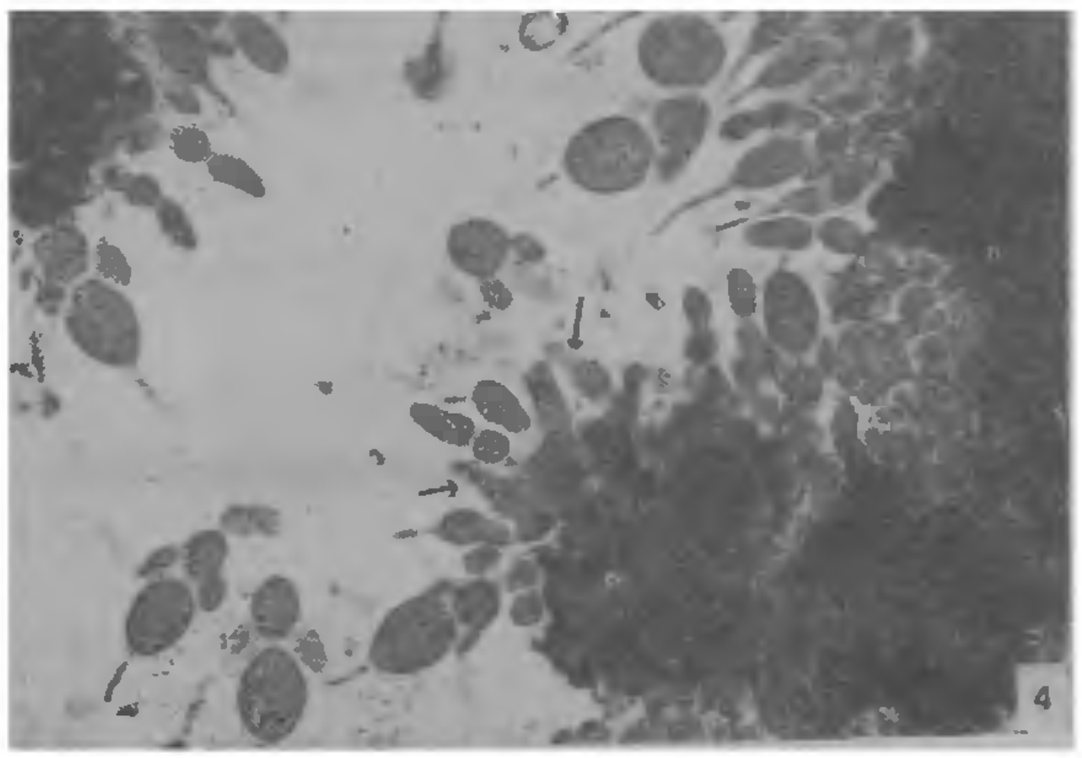
Description of the fungus:

Lesions on leaves pale brown, amphigenous,



Figures 1 and 2. 1. Phialides with developing conidia (IMI 76275); and **2.** Mature conidia (IMI 76275).





Figures 3 and 4. 3. Vertical section of the leaf showing the acervulus (× 125); and **4.** Tease mount showing conidiogenous cells and developing conidia (arrows show phialides with collarette) (× 500).

irregular, 1–5 mm diam. Conidiomata acervular, subcuticular, 500–800 µm in diam., separate or aggregated, composed of hyaline to pale brown textura angularis (figure 3). Conidiogenous cells phialidic, arising from the cells lining the cavity of the acervulus, cylindrical, hyaline, smooth, with minute collarette, 10–18 × 4–8 µm (figure 4). Conidia cruciform, hyaline, smooth, thinwalled, consisting of a larger upper cell and a smaller basal cell and two or more smaller lateral cells arising from the upper region of the lower cell; apical cell globose to subglobose, 6–9 × 3–4 µm, apex obtuse, base truncate, basal cell globose to short cylindrical, 4 5 × 3.0 3.5 µm, lateral cells globose to subglobose, 3 5 µm in diam; apical, and lateral cells are each furnished with a single cellular, unbranched, flexuous appendage, apical appendage 10 15 µm long, lateral appendage 8–11 µm long.

Habit:

On leaves of *Rosa* sp, collected in Bryant Park,

Kodaikanal. 10.10.1978 by J. Muthumary, Herb. MUBL. No. 2915.

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1. Sivanesan, A. and Gibson, I. A. S., *CMI descriptions of pathogenic fungi and bacteria*, 1976, No. 481.
2. Sutton, B. C., *The Coelomycetes*, 1980, CMI, Kew, England.
3. Sydow, H. P. and Butler, E. J., *Ann. Mycol.*, 1916, **14**, 219.

POWDERY MILDEW—A NEW DISEASE OF GROUNDNUT IN INDIA

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POWDERY mildew (*Oidium arachidis* Chorin) has been reported on groundnut in Mauritius, Portugal, Tanganyika and Israel. But so far this disease was not reported from India. During the 1986 kharif season, this disease was noticed on Spanish varieties and Valencia accessions of germplasm at this research centre. The first incidence was noticed in August when the crop was about 38-day-old. At that time the average minimum and maximum temperatures and relative humidities were 27.2–29.2°C and 79.3%–94.7%, respectively.

The incidence of the disease was moderate. The development of the disease was observed as white floury patches on the upper leaflet surface (figure 1). These patches were found to originate as dull minute discoloured specks from which a powdery mass radiated on all sides.

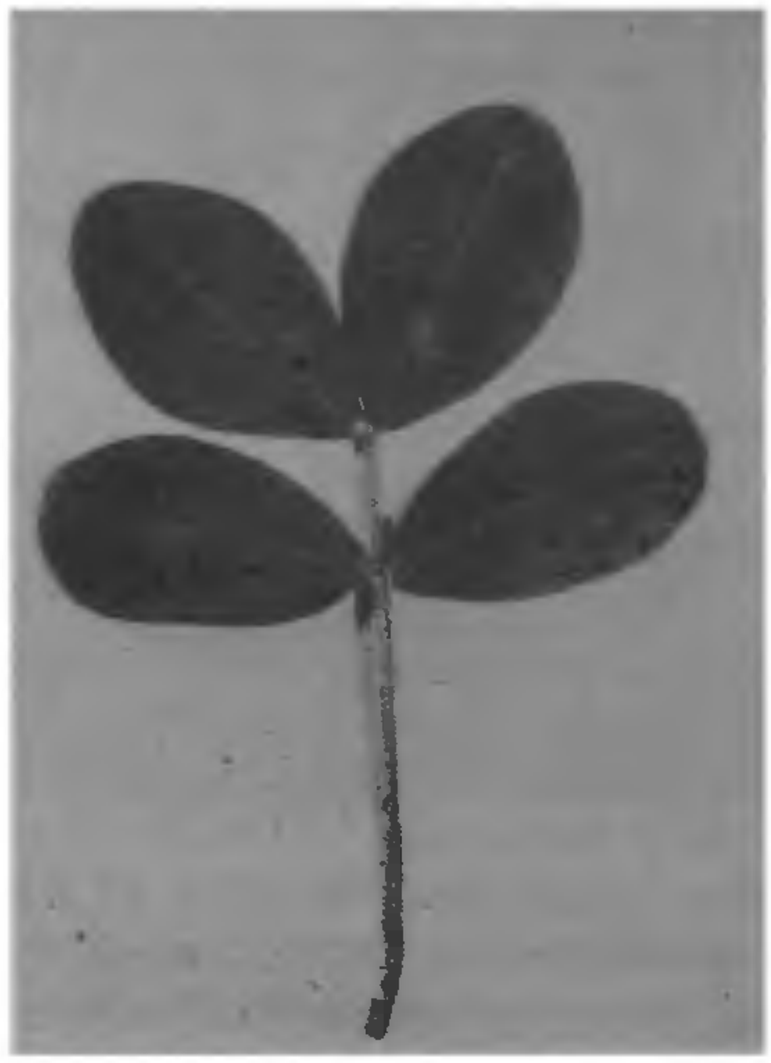

Figure 1. Groundnut leaves infected with *Oidium arachidis*.

Microscopic examinations revealed that the oidia are deciduous, elliptical, barrel-shaped, hyaline, unicellular, vary in size, measuring 34.2–50.96 × 17.1–24.51 μm. The conidiophores arise vertically from the superficial hyphae on the upper leaflet surface. Conidiophores had one or two oidia, but chains of three to four were also observed. Sub-spherical pyriform haustoria were developed in epidermal cells. The symptoms and the morphological characters were similar to those of the powdery mildew caused by *Oidium arachidis* Chorin as described by Smith[1]. Further investigations are in progress.

29 September 1986

1. Smith, D. H., *Compendium of peanut diseases*, (eds) P. D. Morris, Smith, H. Donald and Rodriguez-Kabana, APS, 1984, p. 73.

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