J. Mycopathol. Res. 28(1) : 45-49 (1990) *Printed in India.*

Two leaf inhabiting hyphomycetous fungi from West Bengal

B. K. NAYAK

Department of Botany, Presidency College, Calcutta-700 073

Two species of leaf inhabiting hyphomycetous fungi viz. *Pseudocercospora piperis* (Pat.) Deighton and *Cercosporella crataevae* (Berk & Br.) Petch have been collected from the district of 24-Parganas of West Bengal and these are described and illustrated here.

Key words : *Pseudocercospora* sp., *Cercosporella* sp.

The genus *Pseudocercospora* was established by Spegazzini in 1910, as dematiaceous hyphomycetes with large phragmidium-like conidia and he showed *Pseudocercospora vitis* (Lev.) Speg. as the type species of the genus. Besides this, Deighton was of opinion that external mycelial hyphae bearing conidiophores cannot be treated as a constant character in *Pseudocercospora*. This is due to considerable variation in growth habit. Before 1976, very few species were included in the genus *Pseudocercospora*, Deighton (1976-79) has critically studied the genus and laid down the points of demarcation from the other allied genera (*Cercoseptoria*, *Pantospora*, *Pseudocercosporella*) by citing minute and important characters. Deighton (1976) has transferred several species (about 500) of *Cercospora* to the genus *Pseudocercospora*. *Mycosphaerella* (perfect stage) has been described for several of the species of *Pseudocercospora*.

Saccardo in the year (1880) first established the genus *Cercosporella* and cited *Cercosporella cana* (Sacc) as the type species of the genus. It is much more like a *Cercospora* (as represented by the type, *C. apii* Fresen) in the nature of conidiophores, conidial scars, and size and shape of conidia, i.e. presence of thickened area of the scar on the conidiophore and a minute frill can be seen at the hilum of conidium.

Ellis and Everhart (1885a) regarded *Cercosporella* as no more than a section of *Cercospora*. It is, however, a well defined and distinct genus based on *C. cana* as its lectotype.

MATERIALS AND METHODS

The infected hosts were collected seperately by polythene bag and spread it out in between the two sheets of bloting papers and dried by proper technique. The dried specimen were packed carefully using paradichloro benzene (PDB). A little portion of infected tissue was placed on a slide indicating dorsal and ventral side. A drop of lactophenol was placed on it and covered with a fine cover glass. It is heated on spirit lamp flame and sealed with paraffin wax. Taking another peace of infected tissue from leaf, free hand sections were also made for detailed study of mycelial structure and nature of stroma. The slides were examined carefully under the different magnification of compound microscope at the same time camera lucida drawing and measurement were taken. The taxononuic identification were made with the help of relevant literature and expert.

DESCRIPTION

Pseudocercospora piperis (Pat.) Deighton
Mycological paper Nos. 140 : 150 (1976).

Synonym : *Cercospora piperis* Patouillard,
Bull. Soc. mycol Fr. 11 : 233 (1895).

Spots irregular, brown, becoming dark in the centre, 2-8 mm wide, caespituli amphigenous, brown to blakish brown, scattered ; primary mycelium internal, stroma well developed, substomatal, conidiophores fasciculate, fascicles comprises of 5-25 divergent stalks emerging through stomata, pale olivaceous, some times branched 2-2.5 μm x 33-50 μm ; secondary mycelium external, hyphae arising from the base of the conidiophore fascicles, bearing conidiophores laterally, conidia straight or slightly curved, pale olivaceous, smooth, thin walled, slightly tapered towards the hilum, 2-6 septate, 1.5-1.9 x 40-65 μm (Fig. 1).

Specimen studied on *Piper longun* L. (Piperaceae). Subhasgram, 24-Parganas (S), West Bengal, India, P.C.C. 6008 (IMI=316945) leg. Bidyut Kumar Nayak ; 10th October, 1987.

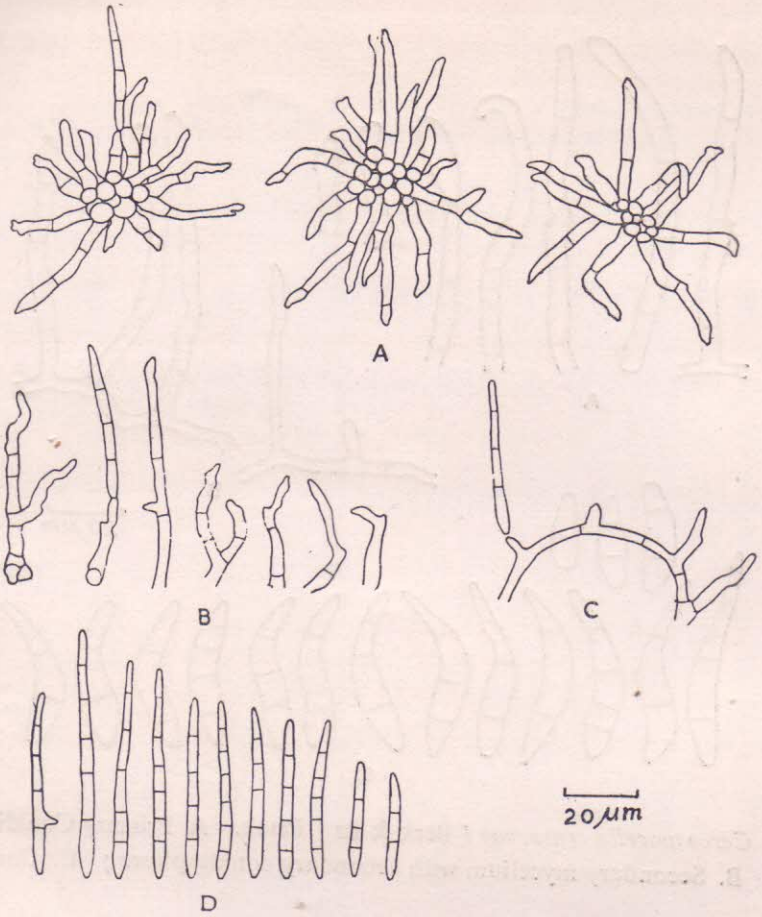

Fig. 1. *Pseudocercospora piperis* (Pat.) Deighton : A. Conidiophore fascicles ; B. Conidiophores ; C. Secondary mycelial hyphae bearing conidiophores and conidia ; D. Conidia.

Cercosporella cratavae (Berk. & Br.) Petch
Ann. R. bot. Gons Peradeniya 10 : 171 (1927).

Synonym : *Fusidium crataevae* Berkeley & Broome,
J. Linn. Soc. Bot. 14 : 98 (1873)

Spots numerous, irregular, 25-50 mm wide, caespituli hyphophyllous, whitish on the smaller spots. Primary mycelium internal ; hyphae colourless, septate, 3.75-6.25 µm wide. Stroma not well developed conidiophores hyphophyllous, developing from the substomatal mycelial hyphae, and also arising from lateral branches from the secondary superficial mycelium, almost colourless, sub-erect, geniculate

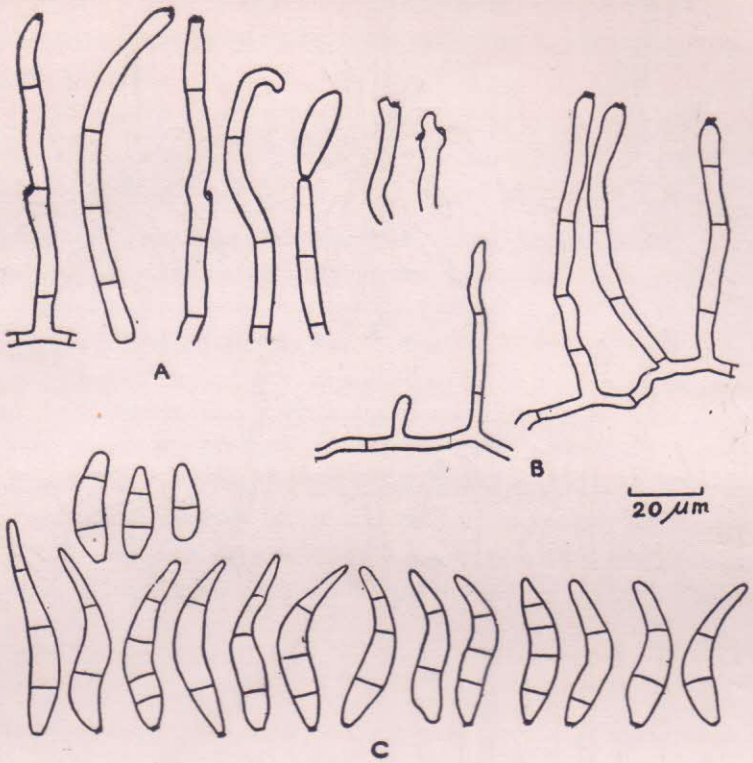

Fig. 2. *Cercosporella crataevae* (Berk & Br.) Petch. A Primary Conidiopheores ; B. Secondary mycelium with secondary conidiophore ; C. Conidia.

towards the apex, smooth, thin walled, septate, 5-6.2 µm wide, secondary mycelium superficial, hyphae repent, arising from the base of the conidiophore, almost colourless, septate, 2.5-3.7 µm wide bearing numerous secondary conidiophores as erect lateral branches, conidia colourless, smooth, thinwalled, obclavate-fusiform, obtuse at the apex, the basal cell round narrowed to a thickened hilum. 1.5-2.5 µm. diam., 1-4 septate, not constricted, 32.5-62.5 x 7.5-12.5 µm (Fig. 2).

Specimen studied on *Crataeva religiosa* Forst., Mallikpur, 24-Parganas, West Bengal, India P.C.C. 6079 (IMI = 329096) leg Bidyut Kumar Nayak ; 28.10.88.

ACKNOWLEDGEMENT

The author is grateful to the Director, Commonwealth Mycological Institute, Kew, Surrey, England for verification of the specimens.

REFERENCES

Bilgrami K. S. Jamaluddin and Rizwi, M. A. (1779-1981). *Fungi of India*, Part-I & II. Today & Tomorrow's Printers and Publishers, New Delhi-5, 467 pp (1979) + 70 pp. (1981).

Deighton F. C. (1973). Studies on *Cercospora* and allied genera-IV *Mycological Papers* No. 133 : CMI.

Deighton F. C. (1976). Studies on *Cercospora* and allied genera-VI *Mycological Paper* Nos. 140 : CMI.

Sarabhoy, A. K. Agarwal, D. K. and Varshney, J. L. (1977-81). *Fungi of India*, Associated Pub ishing Company, New Delhi, 274 pp.

(Received for publication 22 December 1989)