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MORPHOLOGICAL AND CULTURAL CHARACTERISTICS OF *COLLETOTRICHUM* ISOLATES FROM *HEVEA BRASILIENSIS*

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The morphology of conidia and growth rate of isolates of the fungus causing raised, anthracnose and papery lesions of Colletotrichum leaf disease on rubber were compared. The isolates produced morphologically uniform conidia on potato dextrose agar (PDA). Conidial shape was more useful than size in differentiation of isolates. Growth rate of the isolates from raised lesions was significantly lower than that from anthracnose and papery lesions. The latter two appeared to be similar. In general, the isolates from raised lesions produced pink pigmentation on PDA while those from anthracnose and papery lesions produced grey pigments. The isolates from raised lesions were of *Colletotrichum acutatum*, distinct from anthracnose and papery lesion isolates which were of *C. gloeosporioides*.

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INTRODUCTION

Gloeosporium alborubrum (Petch.) is a serious pathogen of rubber (*Hevea brasiliensis*) widely distributed in India and causing significant damage in nurseries and young plantations (Deka *et al.*, 1996; Manju *et al.*, 1999). It is reported to cause reduction in rubber production by 7 to 45 per cent in Indonesia and 12 per cent in Sri Lanka (IRRI, 1994). The infection of *G. alborubrum* appears as minute, circular, brown lesions on the leaflets. Later the lesions develop a thick brown margin and become raised above the surface as conical projections. Leaves are finally shed. Anthracnose disease of rubber, characterized by concentric circular leaf spots is attributed to *Colletotrichum gloeosporioides* (Penz) Sacc. This disease is confined to nurseries and young plants in the fields and causes less damage (Ramakrishnan and Pillay, 1962). The same pathogen has been reported to cause papery lesions on the leaflets (Rajalakshmy and Joseph, 1988). Though several other species of *Colletotrichum* and *Gloeosporium* have been reported on rubber, all these species are closely akin to *C. gloeosporioides*. They represent the conidial stage of *Glomerella cingulata* (Stonem.) Spauld. and Schrenk (Carpenter and Stevenson, 1954).

There has been some uncertainty about the taxonomic status of these two genera. The difference between these was only the presence of setae in the acervuli of *Colletotrichum* and their absence in *Gloeosporium* (Arx, 1970). However, setae formation may be influenced by environmental factors (Frost, 1964; Baxter *et al.*, 1985) and is not a reliable character for separation of these two genera.

As the perfect stage of both the genera *Colletotrichum* and *Gloeosporium* is *Glomerella*, it was suggested that both these fungi can be recognized as *Colletotrichum gloeosporioides*. Saccas (1959) had suggested the name *C. gloeosporioides* f. sp. *heveae*. However, the differences in the symptoms, virulence and morphology of the pathogens have prompted the maintenance of their identity in many treatises on leaf diseases of rubber (Edathil *et al.*, 2000).

This investigation was aimed at comparing the morphological and cultural char-