

Ceeveesubramaniomyces, a new dematiaceous hyphomycetous genus from India

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ABSTRACT

Ceeveesubramaniomyces litseai gen. et sp. nov., characterized by mononematous conidiophores with a sharply curved, dark brown, hook-like, branch in the middle and ampuliform, monophialidic conidiogenous cells arranged solitary or in verticils above the base, has been isolated from circular, tiny leaf spots found on mature leaves of *Litsea* sp. (Lauraceae) from moist deciduous forests of Yana, Uttara Kannada, Karnataka, India. The novel genus is described and illustrated, and compared with morphologically similar genera such as *Cryptophiale*, *Kionochaeta* and *Zancluspora*.

INTRODUCTION

We deem it a privilege to dedicate this paper in honour of Professor C.V. Subramanian, a doyen of Indian Mycology and former Director of Centre of Advanced Studies in Botany, University of Madras, Chennai on the occasion of his 80th birthday.

During the course of studies on biodiversity of follicolus fungi from forests of Western Ghats, South India, we encountered a novel hyphomycete impacting circular, tiny, leaf spots on mature living leaves of *Litsea* sp. (Lauraceae) in Yana, near Ankola, Uttara Kannada, Karnataka State, India. The fungus is described and illustrated in this paper.

MATERIAL AND METHODS

Leaves of *Litsea* with circular, tiny, grayish brown spots were collected and brought to the laboratory in zip-seal polytene bags. Fungal material from the leaf spot was carefully scrapped with a fine-tipped needle and mounted on a slide containing a drop of lactophenol and examined under the light microscope. The

material was air-dried and placed in labeled paper bags along with a piece of naphthalene pellet as herbarium specimen.

TAXONOMY

Ceeveesubramaniomyces Pratibha, K.D. Hyde et Bhat gen. nov. (Etym: In honour of Professor C.V. Subramaniam)

Maculae amphigenae. Ad fungos hyphomycetes pertinens. Coloniae effusae, griseo-brunneae, mycelium immersum insubstratum, ex hypis septatis, ramosis, hyaline vel subhyalinae, laevibus, compositum. Conidiophora macronematica, mononematica, erecta, recta vel flexuosa, septata, ramosa, pallide brunnea ad basim, subhyalina vel hyalina ad apicem, laevia, cum exigue curvata, unciforma, crassitunicata, atrobrunnea, ramosa in medio. *Cellulae conidiogenerae* monophialidicae, discrete, aliquando solitariae, verticillatae, ampulliformes vellageniformes, leaves, per vel vacuus emineo collarata. Conidia endogena, hyalina, allantoida, laevia, utrinque rotundata, aseptata, ad apicem cellularum conidiogenerarum in mass is mucosis incollaratis aggregate.

Leaf spots amphigenous. Colonies effuse, grayish brown, with mycelium internal in the substrate tissue, composed of septate, branched, hyaline to subhyaline, smooth hyphae. Conidiophores macronematous, mononematous, erect, straight to flexuous, septate, branched, pale brown at the base, subhyaline to hyaline towards the tip, smooth, with a sharply curved, hook-like, thick-walled, dark brown, branch in the middle. Conidiogenous cells monophialidic, discrete, sometimes solitary, mostly in verticils below the hook-like curved branch, ampulliform to lageniform, smooth, with or without a collarette. Conidia endogenous, hyaline, allantoid, smooth, rounded at both ends, aseptate, produced in a slimy mass at the tip of the phialide.

Type species - *Ceeveesubramaniomyces litseai* Pratibha, K.D. Hyde et Bhat.

Ceeveesubramaniomyces litseai Pratibha, K.D. Hyde et Bhat gen. et sp. nov.

(Figs 1 & 2 a-f).

Maculae amphigenae, circulares, griseae, 4-6 mm diam. Coloniae effusae, griseo-brunneae, mycelium in substratum, ex hyphis septatis, ramosis, hyalinae vel subhyalinae, laevibus, 2-4.5 μ m latis compositum. Conidiophora macronematica, mononematica, erecta, recta vel flexuosa, septata, ramosa, pallide brunnea and basim, subhyalina vel hyalina and apicem, laevia, 100 - 170 μ m \times 3.5 - 5 μ m, septata, cum exigue curvata, unciforma, crassitunicata, atrobrunnea, ramosa in medio. *Cellulae conidiogena*e monophialidicae, discrete, aliquando solitariae supremus, verticillatae, inferus unciformae; ampulliformae, laeviae, pallide brunneae, panuds inside, 6 - 8.5 \times 2.0 - 3.5 μ m superne unciformae hyalinae, laeviae, lageniformes, 6 - 17.5 \times 2.5 - 5 μ m, per vel vacuus emineo collaratae. Conidina endogena, hyalina, allantoidea, laevia, utrinque rotundata, aseptata, 5 - 7.5 \times 2 - 3 μ m, and apicem

cellularum conidiogenaarum in masis mucosis incolaratis aggregate.

Leaf spots amphigenous, circular, greyish, 4-6 mm diam. epiphyllous, later spreading over the entire leaf surface. Fungus hyphomycete. Colonies effuse, grayish brown, with mycelium internally in the substrate tissue, composed of septate, branched, hyaline to subhyaline, smooth, 2 - 4.5 μ m wide hyphae. *Conidiophores* macronematous, mononematous, erect, straight to flexuous, septate, branched 1-2 times, pale brown at the base, subhyaline to hyaline towards the tip, smooth, 100 - 170 μ m long, 3.5 - 5 μ m wide at the broadest region, septate, with a sharply curved, hook-like, thick-walled, dark brown, branch at midway from the base. *Conidiogenous cells* monophialidic, discrete, sometimes solitary above, mostly in verticils of 4-6 below the shield-like curved branch, those in verticils, ampulliform, smooth, very pale brown, curved inward, 6.8 \times 2 - 3.5 μ m, with or without a collarette; above the hook-like branch hyaline, smooth, lageniform, 6 - 17.5 \times 2.5 - 5.0 μ m, with a conspicuous collarette. Conidia endogenous, hyaline, allantoid, smooth, rounded at ends, aseptate, 5 - 7.5 \times 2 - 3 μ m, produced in a slimy mass at the tip of the phialide - Teleomorph - unknown.

HOLOTYPE: On leaves of *Litsea* sp. (Lauraceae), Pratibha J., 21 January, 2005, Yana, Uttara Kannada, Karnataka, India, Herb. No. GUBH P 198

DISCUSSION

Genera such as *Cryptophiale* Pirozynski, *Kionochaeta* Kirk and Sutton and *Zanclospora* Hughes and Kendrick producing phialoconidia on mononematous, erect, setiform to mycelial, dark to medium brown, conidiophores with ampulliform to lageniform conidiogenous cells show some similarity with *Ceeveesubramaniomyces*

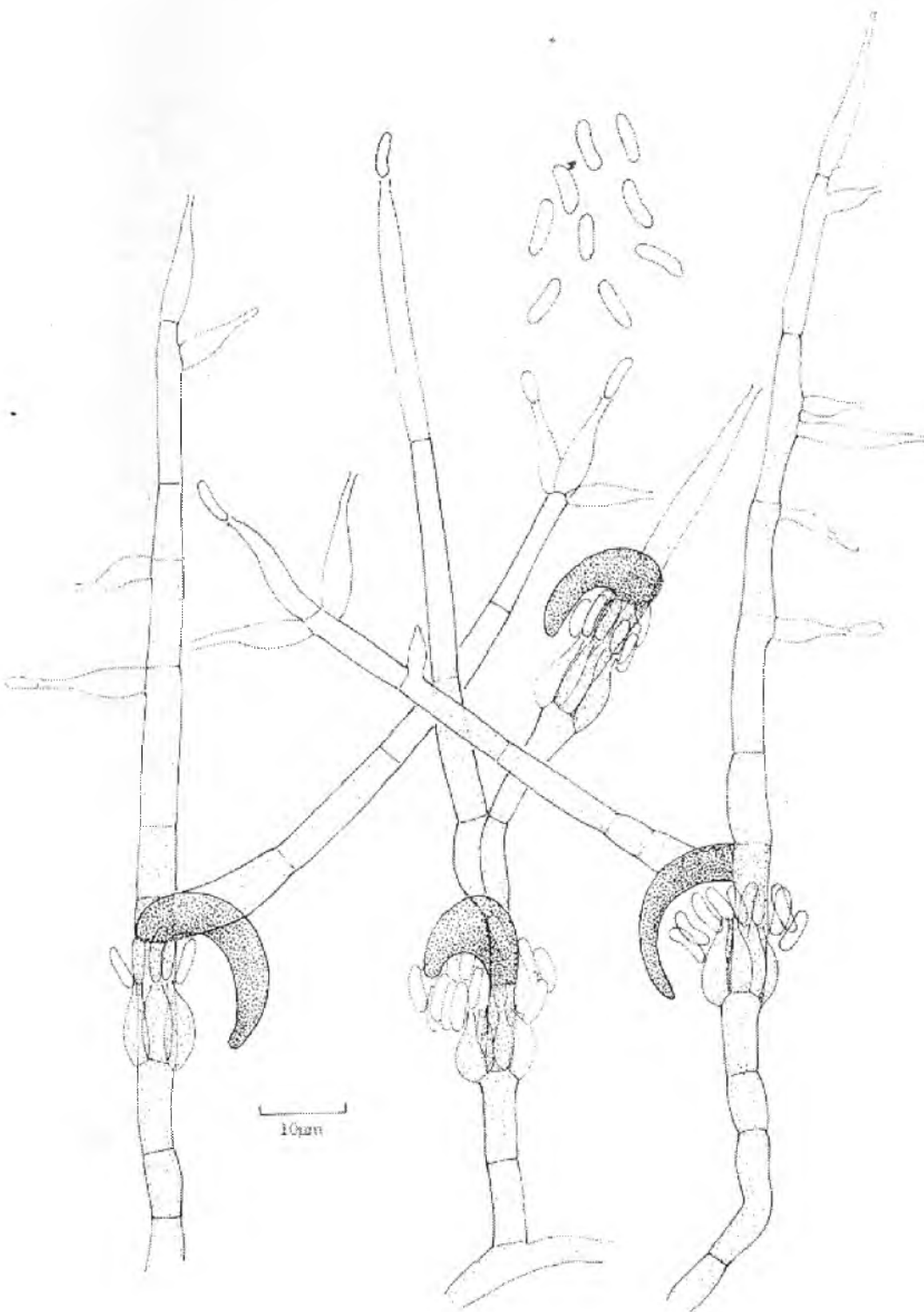


Fig. 1 *Ceevesubramaniomyces litseai*
 a, b and c-conidiophore with hook like curved branch and verticle of phialides.
 Upper part contain solitary phialides. d - conidia

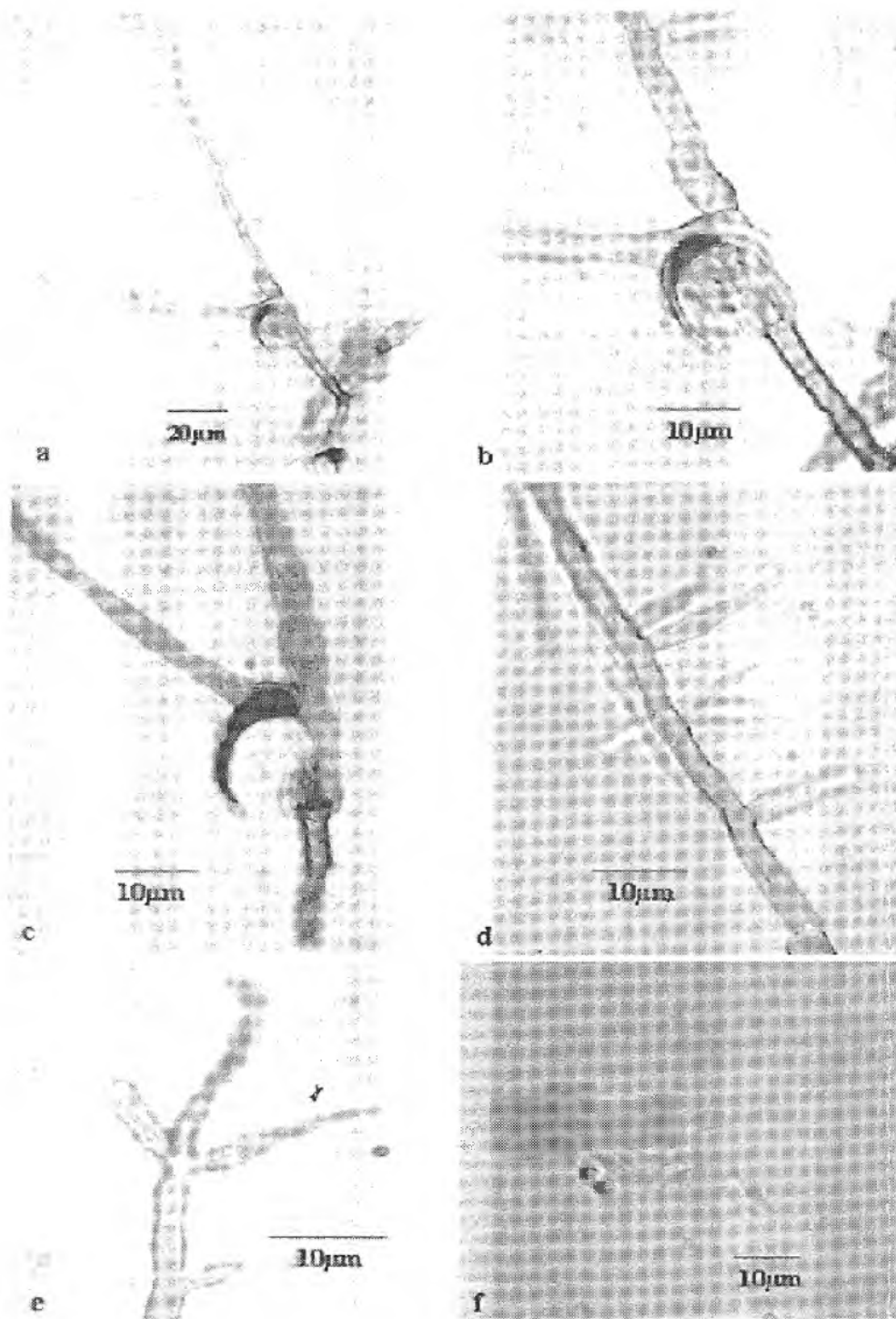


Fig. 2 *Ceevesubramaniomyces litseai*
 a-conidiophore with hook-like branch and verticle of phialides.
 b-verticle of phialides with conidia; c-hook like curved branch; d&e-solitary phialides;
 f-conidia

(Ellis, 1971; Carmicheal *et al.*, 1980; Hawksworth *et al.*, 1995). In *Cryptophiale*, typified by *C. kakombensis* Pirozynski, the row of phialides on the fertile zone of setiform conidiophore is covered by a palisade of sterile, shield-like tissue (Pirozynski 1968; Bhat and Kendrick 1993). In *Kionochaeta*, typified by *K. ramifera* (Matsushima) Kirk and Sutton (Kirk and Sutton, 1985), the setiform, branched, conidiophores are fertile mostly in the central part with penicillately arranged bunches of phialides. In *Zanclospora*, typified by *Z. novae-zelandiae* Hughes and Kendrick the conidiophores bear verticils of sessile phialides in the central 3-4 septa (Hughes and Kendrick, 1965). In none of these, however, the hook-like, curved, dark-coloured, stiff branch developing from the septa above the whorl of conidiogenous cells is present, as in *Ceeveesubramaniomyces*.

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