

**PHAEODACTYLIUM VENKATESANUM GEN. ET SP.
NOV. ON ELETTARIA CARDAMOMUM MAT.
FROM KERALA**

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ON the High Ranges in Kerala, cardamom (*Elettaria cardamomum* Mat.) is grown extensively.

During October 1967, following the heavy monsoon rains, in the course of investigations on an undetermined leaf disease of cardamom, the author came across a very interesting phragmosporous dematiaceae.

Both the mature and young unfolded leaves are affected on the clump. The leaves present water-soaked lesions in early stages, the lesions spread and ultimately the leaves become completely shredded. Some of the leaves examined revealed a mealy-white fungus on the underface (Plate VI, Fig. 1). Isolation of the fungus into pure culture and its pathogenicity are contemplated.

A search through the published literature on phragmosporous dematiaceae did not reveal any genus to which the present collection could be assigned and hence a new genus is erected to accommodate the fungus occurring on Cardamom.

***Phaeodactylum* Gen. Nov. Agnihothrudu**

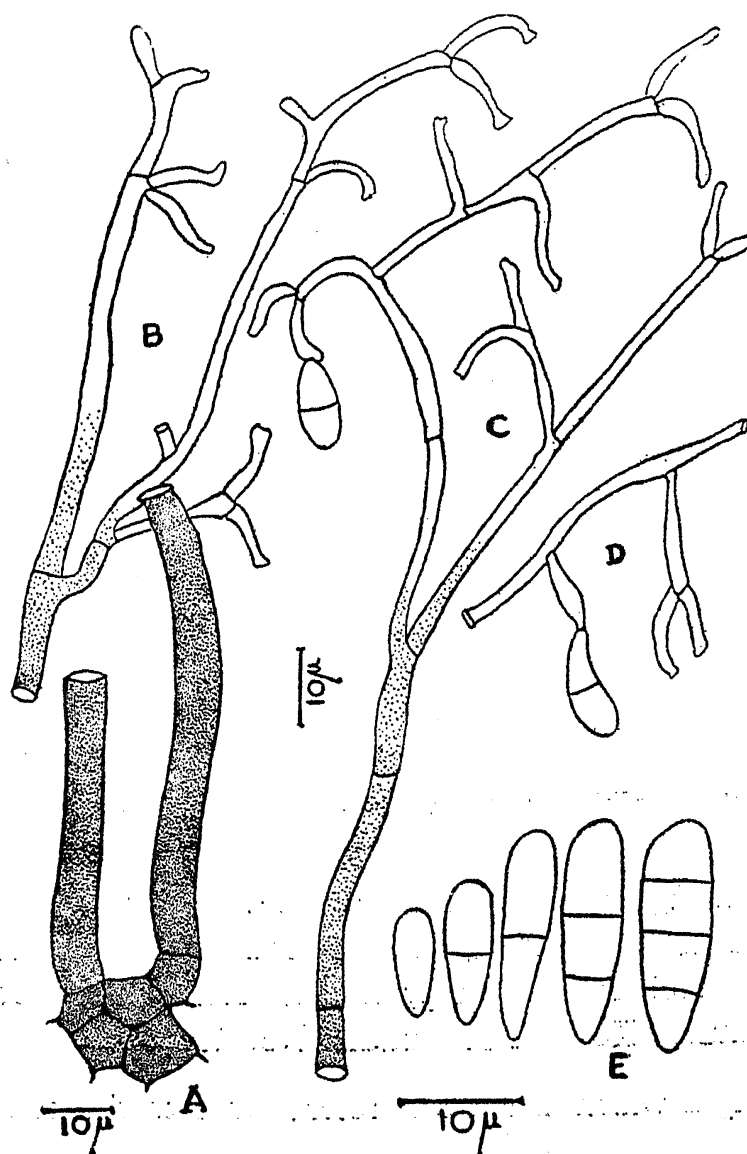
Fungi imperfecti, hyphomycetes, dematiaceae, phragmosporeae. Coloniae effusae, faciei infernae folii insidentes, farinaceo-albae. Mycelium partim superficiale partim immersum hyphis ramosis, septatis, sub-hyalinis vel olivaceo-brunneis, laevibus. Conidiophora solitaria vel in pusillis fasciebus ex sterilibus repentisque mycelis orientia, erecta, laevia, septata, brunnea, irregulariter dichotomeque fere in medio ramificantia. Conidia successive, obovata vel elongato-ovoidea, hyalina, parietibus laevibus, 1-3 septis transversalibus, veluti extremitates sufflati in ramis ultimis.

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***Phaeodactylium* Gen. Nov. Agnihothrudu**

Fungi imperfecti, hyphomycetes, dematiaceae. Colonies effuse on the undersurface of the leaf, mealy-white, mycelium partly superficial, partly immersed, composed of branched septate, subhyaline to olivaceous brown, smooth hyphae; Conidiophores formed singly or in small groups from the sterile, repent mycelium, erect, smooth, septate, brown, branching from about the middle in an irregular dichotomous fashion. Conidia borne on the ultimate branches as blown-out ends, single, successive, obovate to elongate ovoid, with 1 to 3 transverse septa, hyaline smooth-walled.

This species is named after the late Mr. C. V. Venkatesan, who was associated with the activities of Fertilizers and Pesticides Division of Rallis India Limited, for nearly two decades.



TEXT-FIG. 1. *Phaeodactylium venkatesanum* gen. et sp. nov. Agnihothrudu.

A, Base of the conidiophore; B, C and D, Branching of the conidiophore and the ultimate branches bearing conidia; E, Conidia.

***Phaeodactylium venkatesanum* Sp. Nov. Agnihothrudu**

Maculae sicuti laesiones aqua inundatae; coloniae effusae, farinaceo-albae, faciei infernae folii insidentes. Mycelium partim superficiale partim immersum, hyphis ramosis, septatis, laevibus, subhyalinis vel olivaceo-brunneis, usque ad 10μ latis. Conidiophora ex cellulis basalibus et opacis singillatim vel in pusillis fasciebus orientia, erecta, infra brunnea supra subhyalina vel hyalina, 350μ longa et ad basim $5-7 (-10)\mu$ lata. Rami ultimi singuli, bini vel raro terni, cylindrici, $15-20 (-24) \times 3.5 (-4)\mu$. Conidia sicuti extremitates sufflati, successive et singillatim in ramorum apicibus producta, obovata, vel elongata, ovoidea, hyalina, parietibus laevibus, $1-3$ septis transversalibus, $14-21 (-26) \times 3-5 (-7)\mu$.

Habitat in foliis viventibus *Elettaria cardamomi*. Typus die 10 a octobris anni 1967 in praedio Sathurangapara, High Ranges, Kerala, India, ab V. Agnihothrudu, lectus, in herbario C.M.I., Kew, U.K. sub numero positus est.

***Phaeodactylium venkatesanum* Sp. Nov. Agnihothrudu**

Spots appearing a water-soaked lesions, colonies effuse, mealy-white on the undersurface of the leaf. Mycelium partly superficial, partly immersed, composed of branched septate, subhyaline to olivaceous brown hyphae, smooth, up to 10μ wide; conidiophores arising from dark basal cells, single or in small clusters, erect, brown below, subhyaline above, measuring up to 350μ long and $5-7 (-10)\mu$ wide at the base, septate, branching from about the middle in an irregular dichotomous fashion; the branched part, subhyaline to hyaline $4-6\mu$ wide, the ultimate branches single, two or rarely in groups of three, cylindrical measuring $15-20 (-24) \times 3.5 (-4)\mu$. Conidia formed as blown-out ends, produced singly and successively at the tip of each branch, obovate to elongate, ovoid, hyaline smooth-walled, with $1-3$ transverse septa measuring $14-21 (-26) \times 3-5 (-7)\mu$.

Habitat on living leaves of *Elettaria cardamomum* Mat. Sathurangapara estate, High Ranges, Kerala, India, Collected by V. Agnihothrudu, on the 10th of October, 1967, deposited in Herbarium, Commonwealth Mycological Institute, Kew, U.K., under No. 129936.

The only fungus which has close resemblance to the one under report is *Dactylium alpiniae* Sawada (1928) described on *Alpinia speciosa* K. Schum. (= *Elettaria speciosa*) from Formosa, but the fungus collected in Kerala manifestly does not belong to the genus *Dactylium*. *Dactylium*



FIG. 1. A cardamom leaf showing the affected part.

Nees ex Fr. is a phragmosporous moniliaceae with slender, repeatedly branched verticillate conidiophores with the spores borne on ultimate branches which are themselves arranged in a verticillate fashion. Besides, most of the species of *Dactylium* are agaricolous. It is most likely that Sawada's (*loc. cit.*) fungus is same as the one described here, but in the absence of type material, the synonymy could not be established conclusively.

ACKNOWLEDGEMENTS

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REFERENCE

Sawada, K. ... *Descriptive Catalogue of Formosan Fungi*, 1928, 4, 102.