

## **DICTYOARTHRIINIUM BOSTOCKIENSIS A NEW SPECIES OF HYPHOMYCETES FROM INDORE (M.P.) INDIA**

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**ABSTRACT :** *Dictyoarthrinium bostockiensis* a new species described and a key for seven species given along with diagrams and measurements of conidiophores and conidia.

**Key words :** *A new species, Dictyoarthrinium bostockiensis* described.

### **INTRODUCTION**

Genus *Dictyoarthrinium* was first described by Hughes in 1952 with type species *Dictyoarthrinium quadratum* Hughes. At present 6-species have been described. Four species are recorded from India : 1. *D. quadratum* Hughes, 2. *D. sacchari* (Stevenson and Johnson & Stevenson) Damon. 3. *D. microsporum* Raghuvveer Rao & Dev Rao. 4. *D. lilliputeum* Raghuvveer Rao & Dev Rao. *Dictyoarthrinium bostockiensis* differs from described 6-species as given in the key. So it is described here as a new species : *Dictyoarthrinium bostockiensis* Smita Dubey and H. N. Satya, anamorph species nov.

### **MATERIAL AND METHODS**

The collected specimens on dead spathes of *Cocos nucifera* pressed and dried. Conidia from host were observed in water mounts and stained by 1% cotton blue in lactophemol. Micro Photographs were taken and measurement of spores were taken.

### **DESCRIPTION :**

Colonies on decaying spathes of *Cocos nucifera*, black, upto 200  $\mu\text{m}$  high, diam. 4 mm to 1 cm. Conidiophore mother cells subglobose to cupulate, brown 1.5-3  $\mu\text{m}$  long and 3.5-5  $\mu\text{m}$  wide. Conidiophores macronematous basauxic, cylindrical, flexuous, pale brown with dark banded septa, smooth and thin walled, upto 150  $\mu\text{m}$  long, 5-7.84  $\mu\text{m}$  wide, arising singly from conidiophores mother cells, conidiogenous cells integrated, intercalary and terminal, cylindrical, 3.5-9  $\mu\text{m}$  long, 5-7.84  $\mu\text{m}$  wide. Conidia holoblastic, acropleurogenous, solitary, square, globose or subglobose, flattened, cruciately septate, 4-celled, brown to dark brown, thick walled, tuberculate, 11.5-15.68-19.60 in the face view, schizolytic secession. Teliomorph unknown.

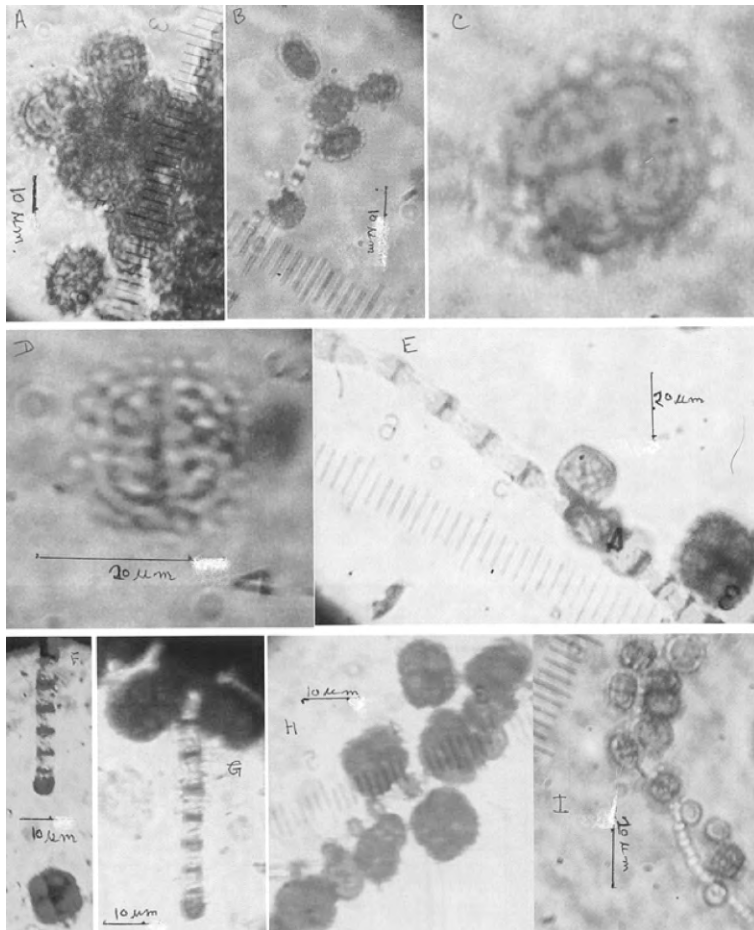
**Latin :** *Dictyoarthrinium bostockiensis* Smita Dubey and H. N. Satya anam.-sp. nov.

Coloniae spathis putrescentibus plantarum *Cocos nucifera* insidentes, atrae, 10-20  $\mu\text{m}$  crassae, 4 mm to 1 cm diametro. Cellulae matriciales conidiophori subglobosae usque ad cupulatae, brunneae, 1.5-3  $\mu\text{m}$  longae, 3.5-5  $\mu\text{m}$  latae conidiophora macronemata, basauxica, cylindrica, flexuosa, pallide brunnea septis fusce vittatis praedita, laeves et parietibus tenuibus, usque ad 150  $\mu\text{m}$  longae, 5-7.84  $\mu\text{m}$  latae, singulariter e cellulis matricialibus conidiophoro exorientes, cellulis conidiogenis integratis intercalariibus et terminalibus cylindricis 3.5-9  $\mu\text{m}$  longis, 5-7.84  $\mu\text{m}$  latis

Conidia holoblastica, acropleurigena, solitaria, quadrata, globosa vel subglobosa, applanata, cruciatim septata, 4-cellularia, brunnea usque atrobunnea, pariete crasso, tuberculata, 11.5-15.68-19.60  $\mu\text{m}$  longa a superficie visa, 5-8  $\mu\text{m}$  lata a latere visa, secessione schizolytica. Teliomorpha absens. The type specimen deposited at Holkar Science College, Indore, Botany Department, Mycological Herbarium with number HSCMH 55514.

### **Key after Somrithipol (2007) for *Dictyoarthrinium*, Modified**

1. Conidia 16-celled, conidia 20-28x 19-26  $\mu\text{m}$  - ----- *D. africanum*  
1' Conidia 4-celled ----- 2
2. Synnemata present, conidia diam. 10-14  $\mu\text{m}$  ----- *D. synnematicum*  
2' Synnemata absent ----- 3
3. Conidial diam. 20 - 27  $\mu\text{m}$  ----- *D. rabaulense*  
3' Conidial diam. less than 20  $\mu\text{m}$  ----- 4
- 4 Conidial wall verrucose, conidiophores 55-124x 4.0-5.5  $\mu\text{m}$ , conidial



**Plate 1.** Fig.A Four celled conidia with tuberculate surface. Fig.B Four celled conidia with tuberculate surface and conidiophore with dark banded septa. Fig.C Four celled conidia with tuberculate surface. Fig.D As in Fig.C Fig.E conidiophore with dark banded septa and conidia attached. Fig.F&G conidiophore with conidiophore mother cell at base. Figs.H&I Basauxic conidiophore with immature conidia at base and mature conidia towards apex.

Diam. 11- 14  $\mu\text{m}$ -----*D.sacchari*

4' Conidial wall tuberculate-----5

5. Conidiophores 36-54 x 3.5-6.5  $\mu\text{m}$  long, conidial diam. 7-15.5-----*D.lilliputum*

5' Conidiophores 75-252x 5-9  $\mu\text{m}$ , conidial diam. 7- 11 $\mu\text{m}$ -----*D.microsporum*

5'' Conidiophores upto 150 $\mu\text{m}$  long, 5- 7.84  $\mu\text{m}$  wide, conidia 4- celled, tuberculate, 11.5-15.68-19.68  $\mu\text{m}$  ;

5-8  $\mu\text{m}$  thick in side view -----*D.bostockiensis*.

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## REFERENCES

- Hughes, S. J. (1952). *Mycol. Pap.*, **48** : 1-91  
 Rao, P. R. and Rao, D. (1964). *Mycopathologia*, **23** : 23-28.  
 Ellis, M. B. (1971). *Mycological Institute*, p. 608.  
 Ellis, M. B. (1976). *Mycological Institute*, p. 507  
 Sayanh, Somrithipol (2007). *Mycologia*, **99**(5) : 792-796.