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The Study of Fungal Genus *Annellophragmia* Subramanian from Indian Sub Continental

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***Abstract* – The mycological study of fungi with special reference of Mycotaxonomic investigation present communication deals with new species of dematiaceous hyphomycetes viz, *Annellophragmia betuleae* infecting the leaves of *Saccharum arundinaceum* Retz. (Poaceae) January 2010, from the forest flora of the Indian sub-continent. These have been described, illustrated and compared with allied taxa.**

***Keywords* – *Annellophragmia Betuleae*, Hyphomycetes, Mycotaxonomy.**

I. INTRODUCTION

Annellophragmia coonoorensis species described by Subramanian in 1963 and after that some mycologist found same species of *Annellophragmia* from the Asia [1], [2], [3] & [4]. Present objectives of the study are exploring of fungal biodiversity, endemic effect if fungi on the host, distribution of the species a particular plant and area, interaction with other hosts.

II. MATERIALS AND METHODS

Type material and other herbarium specimens have been examined in distilled water and lactic acid using an Olympus BX40 light microscope.

Material examined – India, Madhya Pradesh, Betul, Shahpur Forest January 2010 (collector) R.S. THAKUR S.U. Herb No. RS-BOT-479-480 Holotype, HCIO Isotype 51459.

III. RESULTS

Mycotaxonomic analyses

Annellophragmia betuleae : R. S. Thakur, et al., sp. nov. (Plate 01, Fig. 01 & Table 01)

Coloniae amphigenae, amphiphyllous, effusus rubro nigra ad atrum niger, repraesentatur per velutinae augmenti. Mycelium hypharum partim superficiale et partim immersum, Conidiophora individuum fila ramosa, brunneis, laevibus, arcte adpressae per maxime de longitudine, splaying foras sicut penicillo in apicem synnema, pauci synnema inflexum midde de longitudine, 795.5-840x3.5-6µm. Cellulae conidiogenae terminale, sympodial, cylindratis, paucis sunt proni in basali regione, successiva magnis cicatrices conidiales feriente super superficiem conidiophora. Conidia simplex curvati, fusiformes ad obclavate, obconicotruncate, basim aliquando basali aut media cellula tumida, hila plerumque incrassato et projecta, pseudoseptate ad raro verus septatae, 25-62x7.5-15.5 µm.

Colony amphigenous, amphiphyllous, effuse reddish black to dark black, represented by velvety growth. Mycelium of hyphae partly superficial and partly immersed, stroma, setae and hyphopodia absent. Conidiophores macronematous, synnematous (black), individual threads unbranched, brown, smooth, closely adpressed along most of the length, splaying out like a brush at the apex of synnema, few synnema curved at midde of the length, 795.5-840x3.5-6 µm. Conidiogenous cells polyblastic, integrated, terminal, sympodial, cylindrical, few are flat on basel region, successive large conidial scars are pushed over the surface of conidiophores. Conidia solitary, dry, acropleurogenus, simple to curved, fusiform to obclavate, obconicotruncate at the base, sometimes basal or middle cell swollen, hila mostly thickened and projecting, light to dark pale or light black to golden brown, smooth, pseudoseptate to rarely true septate, 25-62x7.5-15.5 µm.

On living leaves of *Saccharum arundinaceum* Retz. (Poaceae) January 2010, Betul Shahpur Forest, Madhya Pradesh, India, leg. R.S. THAKUR S.U. Herb No. RS-BOT-479-480 Holotype, HCIO Isotype 51459.

Anamorph and Teleomorph – The no connection seen

Known distribution –Tropical and subtropical regions.

IV. DISCUSSION

A thorough survey of literature on fungus genus *Annellophragmia* shows that only a few species are reported from the globe, however, *Annellophragmia coonoorensis*, Subramanian, (Ellis, 1971) is found comparable to the proposed taxon (Table 1). The data show that the new taxon exhibit dissimilarity in length and shape of the conidia and synnemata with the concerned species. The conidial structure, septation and colour do not match with the species of the table. Therefore, the present taxon is all together distinct so much so to describe it as a new species.

It is gathered from systematic survey of the literature that neither species of *Annellophragmia* has been reported on the host *Saccharum arundinaceum* Retz. nor on family (Poaceae).

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Table 1: Comparative account of *Annellophragmia betuleae* sp. nov. with allied species.

Species	Colonies	Conidiogenous cells	Conidiophores			Conidia		
			Structure	Colour & Septation	Size (in µm)	Structure	Colour & Septation	Size (in µm)
A. coonoorensis Subramanian 1963, (Ellis, 1971).	Amphigenous.	-	-	Pseudoseptate.	Synne mata up to just over 1 mm. individual threads 5-9 thick.	-	3-8 (mostly 4-6), pseudo septate.	50-80 long, 12-17 thick in the broadest part, 5-7 wide at the scar.
A. betuleae (Proposed taxon).	Amphi genous, amphillous, effuse, reddish black to dark black, represented by velvety growth.	Polyblastic, integrated, terminal, sympodial, cylindrical, few are flat on basel region.	Macronematous, synnematous, individual threads un branched, in few synnema curved at middle of the length.	Black, smooth, closely adpressed along most of the length, pseudo septate to septate.	795.5-840x 3.5-6.	Solitary, dry, acropleurogenous, simple to curved, fusi form to obclavate, obconico truncate at the base, some time basal or middle cell swollen.	Light to dark pale colour or light black to golden brown colour, smoth, pseudo septate to rarely true septate.	25-62x7.5-15.5.

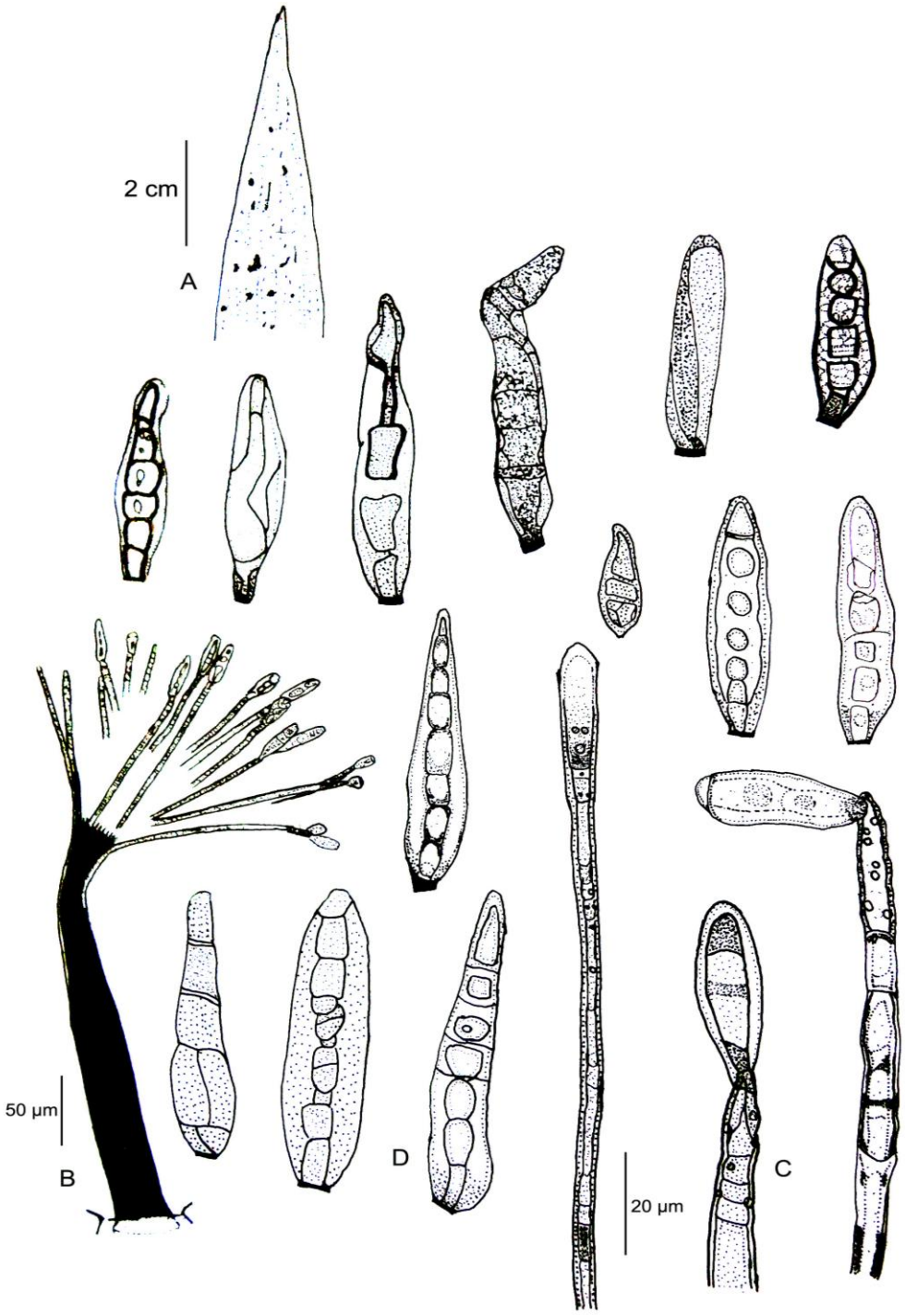

Fig.1. Annellophragmia betuleae sp. Nov.
A. Symptom, B. Synnema (X50), C. Coindiophores, D. Conidia (X500)

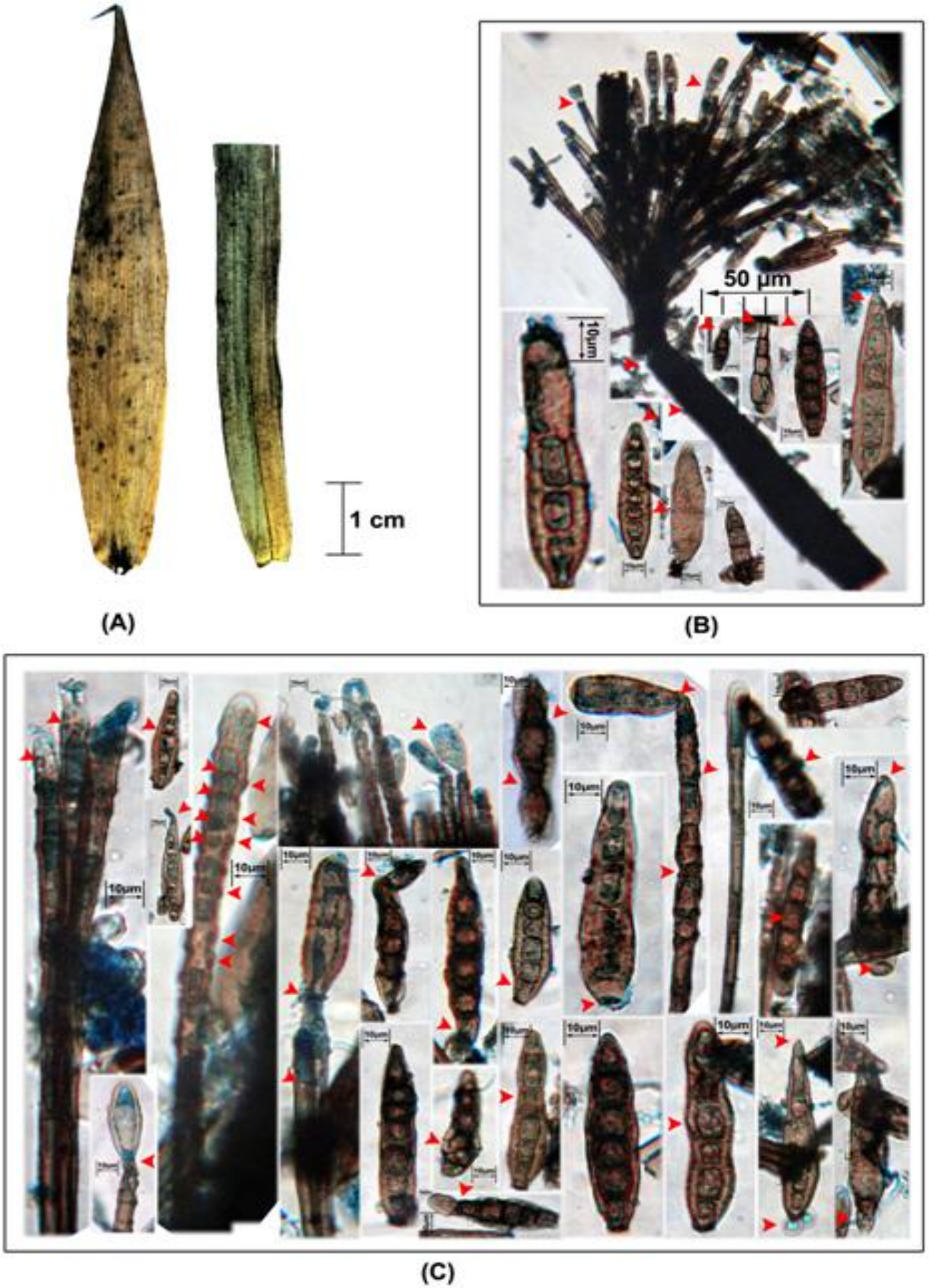

Plate 1: Annellophragmia betuleae sp.no. on Saccharum arundinaceum Retz.
A. Symptom, B. Synnema (X50) & Coindia (X500), C. Conidiophores & Conidia (X500)

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