
Beltramono – a hitherto undescribed Hyphomycetes Genus

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A new taxon *Beltramono costei* gen. et sp. nov. causing leaf spot disease of *Costus speciosus* is described. The fungus is characterized by macronematous, mononematous conidiophores with monoblastic conidiogenous cells producing acrogenous biconic (almost asymmetrical), slightly spicate conidia with two hyaline transverse bands, bands sometimes in the form of rings.

Key words : Acrogenous, *Beltramono costei* gen. et sp. nov, Dematiaceous hyphomycetes, hyaline bands, monoblastic, rings.

INTRODUCTION

During routine survey of folicolous fungi from forest of Central India, authors come across a fungus on fallen leaves of *Costus speciosus*. Microscopic examination clearly indicates its different fungal identity, thus it is described and illustrated as *Beltramono* gen. nov. with its type species *Beltramono costei*. The present genus when compared with related genera (Table 1) viz. *Beltrania* (Penzig, 1882); *Beltraniella* (Subramanian, 1952); *Beltraniopsis* (Batista and Bazerra, 1960); *Pseudobeltrania* (Hennings 1902); *Ellisiopsis* (Batista 1956); *Hemibeltrania* (Pirozynski 1963) and *Beltraniomyces* (Manoharachary *et al.*, 2003), *Porobeltrania* (Luis and Gusmao, 2004) differs from the other allied genera in most of the morphological characteristic of taxonomic importance like : conidiophores arising singly and directly from the cells of superficial mycelium; monoblastic and ampulliform conidiogenous cells; separating cells swollen, ellipsoidal to spherical; conidia biconic (asymmetrical) with upper cell larger and lower cell smaller, with two hyaline transverse bands, one in the widest part and another just above the widest part; acrogenous and apiculate. The major differences in the morphological characters with related genera warrant this taxon to be assigned to a new genus. Hence, it is proposed to be placed as a new genus named *Beltramono* with type species *B. costei*, Dubey, Pandey and Manoharachary.

TAXONOMY

***Beltramono* Dubey, Pandey and Manoharachary gen. nov.**

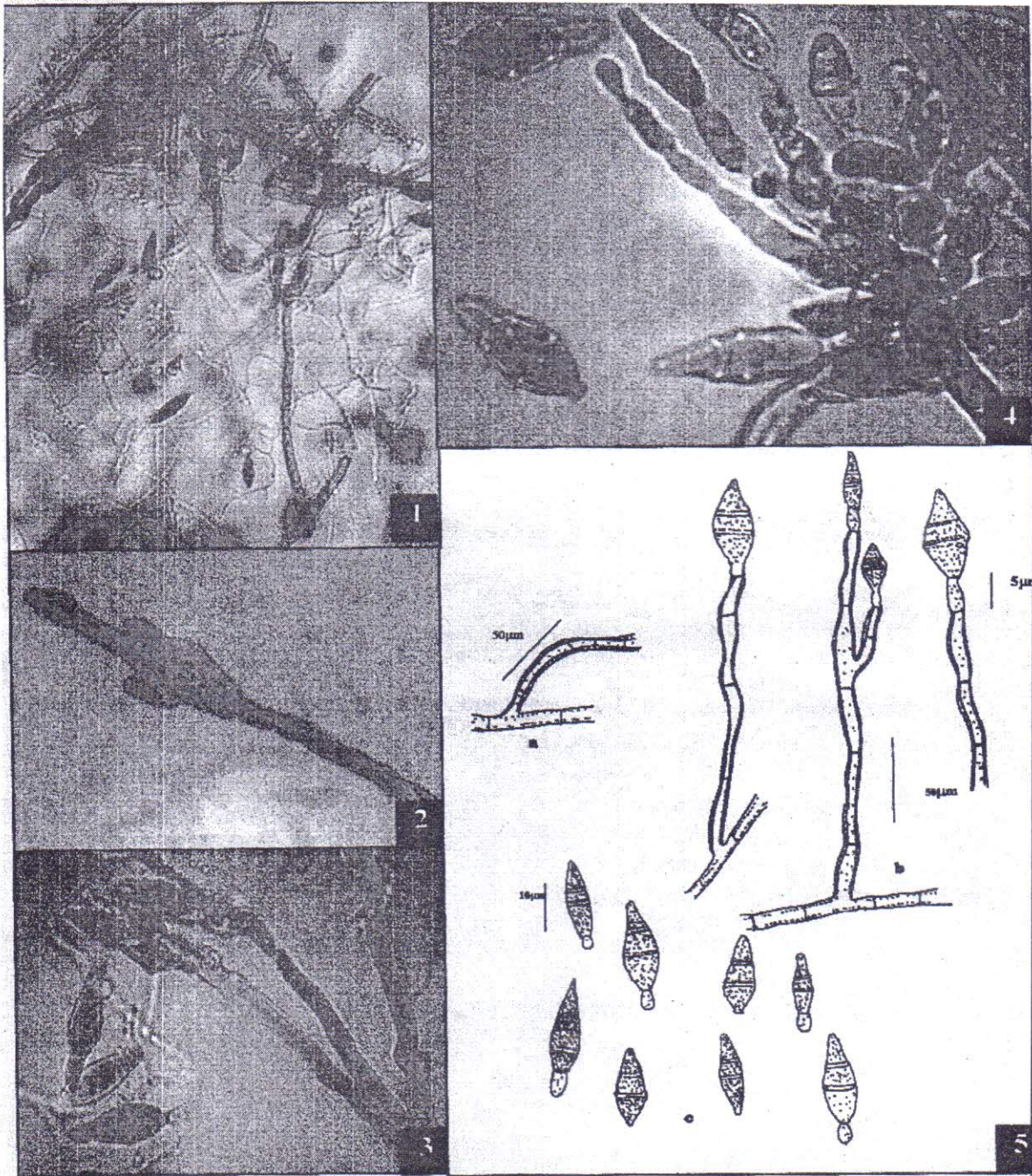
Fungi, Mitosporic, Hyphomycetes, Dematiaceae, Telomorphosis ignota

Coloniae effusum, velveto, canus ac albulus, partim superficiale ad partim immersum; *Mycelium* immersum, septatus, paniculatus, glaber, subhyalinis, *Stroma* setae vel hyphopodiae absenti; *Conidiophoriis* macronemata, mononemata, flexuosa an rectus, septatus nascor singulatim ac recta via cellae de superficiali mycelium conidiogenous cellulae monoblastosporus, acrogenus ac terminalis, separabilis cellae cum presens afflatus; *Conidii* solitarius, acrogenosa, sicca, simplex, biconicus, asymmetricus cum super cella macro quam, inferior cella, sub-clavus, glaber, subhyalo ad hyalo cum duo hyalo transversialis fascia, unus in latus portio et alius super latus portio, *Fascia* aliquando quasi annularis.

Colonies effuse, velvety, greyish to white, partly immersed and partly superficial; *Mycelium* immersed, septate, branched, smooth, subhyaline; *Stroma*, setae and hypopodia absent. *Conidiophores* macronematous, mononematous, flexuous or stright, septate, arising singly and directly from the cells of

Table 1 : Comparative account of *Beltramono* gen. nov. with related genera

Fungal Characteristic	<i>Beltrania</i>	<i>Beltraniella</i>	<i>Beltraniopsis</i>	<i>Pseudobeltrania</i>	<i>Ellisiopsis</i>	<i>Betraniomyces</i>	<i>Porobeltraniella</i>	<i>Beltramono</i> gen. nov.
Colony	Effuse, velutinous, brown to black	Effuse, thin grayish-green	Effuse, velutinous fuscous	Effuse, velvety oilaceous or greenish	Punctiform to effuse, velutinous brown blackish	Effuse medium reddish to brown	Effuse, Velvety, grayish black to brownish	Effuse, Velvety greyish to white
Mycelium	Mostly immersed	Partly superficial partly immersed	Partly superficial partly immersed	Partly immersed partly superficial	Immersed or partly superficial	Immersed	Partly superficial partly immersed	Partly superficial, partly immersed
Stroma	Mostly present	Present	Present	Absent	Absent	Absent	Absent	Absent
Setae	Arising from radially lobed Cells	Arising from radially lobed basal cells	Arising from radially lobed basal cells	Absent	Arising from radially lobed basal cells	Absent	Arising from radially lobed basal cells	Absent
Conidiophore	Simple, arising from basal cells of setae or from radially lobed cells	Branched, often with setiform apex, arising from radially lobed basal cells.	Branched, often with a setiform apex, arising from radially lobed basal cells	Unbranched, arising from radially lobed basal cells	Unbranched or branched, arising from basal cells of setae or from radially lobed cello.	Unbranched, geniculate, not arising from radially lobed basal cells	Unbranched, setiform, erect, arising from radially lobed basal cells	Unbranched or rarely branched, usually geniculate or flexuous sometimes straight, arising singly and directly from the cells of superficial mycelium
Conidiogenous cells	Polyblastic, sympodial clavate or cylindrical, denticulate	On branches or discrete, arranged penicillately polyblastic, denticulate	Terminal on branches, doliiform denticulate	Polyblastic, sometimes monoblastic in a whorl, cylindrical or clavate denticles large	Polyblastic terminal or discrete, sympodial, cylindrical or ampulliform denticulate	Polyblastic sympodial denticles absent	Polyblastic, denticulate, subhyaline to pale brown	Monoblastic terminal integrated, determinate, non-denticulate
Separating cells	When present Swollen	When present Swollen	Swollen	Absent	When present Swollen	Absent	Present or absent subhyaline	Swollen, ellipsoidal to spherical
Conidia	Acropleurogenous, biconic spicate or apiculate, hyaline transverse band not median	Acropleurogenous turbinate or biconic often caudate distinct hyaline transverse band	Acropleurogenous biconic, not symmetrical rostrate, hyaline transverse band not median	Acropleurogenous, or acrogenous biconic, apiculate median transverse hyaline band	Turbinate, base drawn out to a fine point, transverse hyaline band just above the centre	Acrogenous and acropleurogenous almost symmetrical biconic nonspicate median transverse hyaline band	Continous, proximate end rostrate distal end truncate turbinate smooth or finely verrucose with circular pores	Acrogenous, simple biconic, asymmetrical apiculate smooth with hyaline transverse bands, one in the widest part and another just above the widest part, bands sometimes in the form of annular ring



Figs. 1-5 : *Beltramono costei* gen. et sp. nov. : 1. Conidia & Conidiophore (X100). 2. Conidia & Conidiophore (x200). 3. Biconic & Monoblastic Conidia (X400). 4. Biconic conidia with two Hyaline bands (X400). 5. Camera Lucida drawings (a. conidiophore b. unbranched & branched conidiophore c. conidia

superficial mycelium; conidiogenous cells monoblastic, acrogenous and terminal; separating cells swollen, ellipsoidal to spherical. *Conidia* solitary, acrogenous, dry, simple, biconic, asymmetrical with upper cell larger than lower cell, slightly spicate, smooth, subhyaline to hyaline with two hyaline transverse bands, one in the widest part and another just above the widest part, bands sometimes in the form of rings.

***Beltramono costei* Dubey, Pandey and Manoharachary gen. nov. (Type species) (Fig. 1-5)**

Coloniae effusum, velveto, canus ac albulus, partim superficiale ad partim immersum. *Hyphae* sparsus paniculatus, septatus, glaber, 2.2-4.4 μm crassus. *Conidiophorii* macronemata, mononemata, free flexuosus an aliquando rectus, septatus, nascor

singulatum ac statim de cellae ex superficialis mycelium, non ramosus, crassitunicatus, pallidus brunneus, ad, per 250 μm longus. *Conidicus* cella formo unus blastospora, terminalis, certus, integretus, non-denticulatus, sympodice, ampulliform, ad, per 5 μm longus seperatis cella quando praesens afflatus, ellipsoideus ad sphaericus 16-19 x 7-10 μm . *Conidii* solitarius, aridus, acrogenos, simplex, biconico, asymmetricus, apiculatus, glaber, sub-hyalo at bruni, co-duo transversalis fascia, unus in latus portio ac alius quidam super latus portio, 11-20.4 x 6.6-11 μm . *Fascia* aliquando formo annulus circulus.

Colonies effuse, velvety, greyish to white, partly superficial and partly immersed, hyphae sparsely branched, septate, smooth, 2.2-4.4 μm thick. *Conidiophores* macronematous, monoematous, usually flexuous or geniculate sometimes straight, septate, arising singly and directly from the cells of superficial mycelium, mostly unbranched rarely branched, thick walled, pale brown, up to 250 μm long. *Condiogenous* cells monoblastic, terminal, determinate, non-denticulate, ampulliform, up to 5 μm long. Separating cells when present are swollen, ellipsoidal to sphaerical, 16-19 x 7-10 μm . *Conidia* solitary, dry, acrogenous, simple, biconic, asymmetrical, apiculate, smooth, subhyaline to pale brown, with two hyaline transverse bands, one in the widest part and another just above the widest part, 11-20 x 6.6-11 μm . Bands sometimes, in the form of annular ring.

Etymology. Species epithet was given after the name of the host plant.

Specimen examined. on fallen of *Costus speciosus* (Zingiberaceae), 10 Sep. 2005, Shadol (M.P.) India leg Rashmi Dubey, (Holotype: HCIO No. 48108) (Isotype:HDBJ # 508), FGCC # 499.

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