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The Detection of a New Hyphomycetes of Fungus from Central India

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Abstact **– The mycological study of fungi with special reference of Mycotaxonomic investigation present communication deals with two new species of dematiaceous hyphomycetes viz, *Spiropes nodosa* and *Zygosporium elaeodendroneae* infecting the leaves of *Baliospermum montanum* (Willd.) (Euphorbiaceae) and *Elaeodendron glaucum* Pers. (Celastraceae), respectively from the forest flora of the Indian sub-continent. These have been described, illustrated and compared with allied taxa.**

Keywords **– Mycotaxonomy, Hyphomycetes, Spiropes, Zygosporium**.

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 Genral , South Forest Division, January 2010 (collector) R.S. THAKUR S.U. Herb No. RS-BOT-432 Holotype, HCIO Isotype 51472.

RESULTS

Mycotaxonomic analyses, Spiropes nodosa sp. nov. Thakur R.S. 1*, and Rai A.N. sp. nov. Plate 01, Fig. 01 & Table 01

Lesions amphigenae, parva magnis, regularis, lux albicantia superiore et brunneis inferioris superficiei. Coloniae hypophyllae sicut punctis quibusdam, effusus, cinereo ut niger. Mycelium hypharum immersa. Stromata fere nil interdum repraesentatur per cellis paucis tantum. Setae et hyphopodia absentare. Conidiophora raro in coetibus 2 ad 3, macronemata et mononematous, solitariae, erectae, longa, profusius ramosis cum fusco nodose inflationes, sphaerica, rectae vel flexuosae, altus geniculata, cicatricem plaga perveniat, laevibus, cum eminentibus denticles, septatis 3 ad 17, brunneis usque atrobrunneis, 76.5-145x3 µm. Cellulae conidiogenae polyblastic, integrated, terminales ad lateralibus princeps percurrens, sphaerica, generaliter hyalinis usque laete brunnea, cicatricibus conspicua, parva, tenebrosa. Conidia solitaria ad catenis, acropleurogenous clavatae usque cylindratis, quandoque constrictae ad septa, recta vel curvata, olivaceo usque atrobrunneis niger, laevibus, 1-14 septatae, in septatis conidia es coloratus dum asepted (0 - septed) sunt hyalinae, interdum apicem cellam conidii etiam hyalinis, paucos conidia arcte inter pseudoseptate, 9-60x3-5 µm, apice obtus usque subacutis.

Lesions amphigenous, small to large, regular, light whitish colour on upper and brown on lower surface. Colonies hypophyllous as dots, effuse, grey to black. Mycelium of hyphae immersed. Stromata almost nil sometimes represented by few cells only. Setae and hyphopodia absent. Conidiophores rarely in groups of 2 to 3, macronematous and mononematous, solitary, erect, long, profusely branched with dark nodose swellings, spherical, straight to flexuous, highly geniculate, cicatrized, smooth, with projecting denticles, septate 3 to 17, brown to dark brown, 76.5-145x3 µm. Conidiogenous cells polyblastic, integrated, terminal to lateral, percurrent, spherical, generally hyaline to light brown, scars conspicuous, small, dark. Conidia solitary to catenate, acropleurogenous, clavate to cylindrical, sometimes constricted at septa, straight to curved, olivaceous to dark brown black, smooth, 1-14 septate, the septate conidia are coloured while asepted (0- septed) are hyaline, sometimes the apical cell of the conidium also hyaline, a few conidia are closely pseudoseptate, 9-60x3-5 µm, apex obtuse to subacute.

On living leaves of *Baliospermum montanum* (Willd.) (Euphorbiaceae), January 2010, Betul Genral South Forest Division, Madhya Pradesh, India, leg. R.S.THAKUR S.U. Herb No. RS-BOT-432 Holotype, HCIO Isotype 51472.

A detailed study of the literature on fungus genus *Spiropes* revealed that *S. capensis*, Minter, Rodríguez and Mena (2001) and *S. dorycarpus*, (Mont.), Ellis (1968) are described on the host family Euphorbiaceae (Table 01). A critical look to the table exhibits that the species in question is altogether different from all others in having very clear symptoms, geniculate conidiophores, nodose swellings and conidial variation. Therefore, looking to the aforesaid discussion the proposed species merits its disposal a new species. It is also added that no species of *Spiropes* has earlier been reported and described on the host genus.

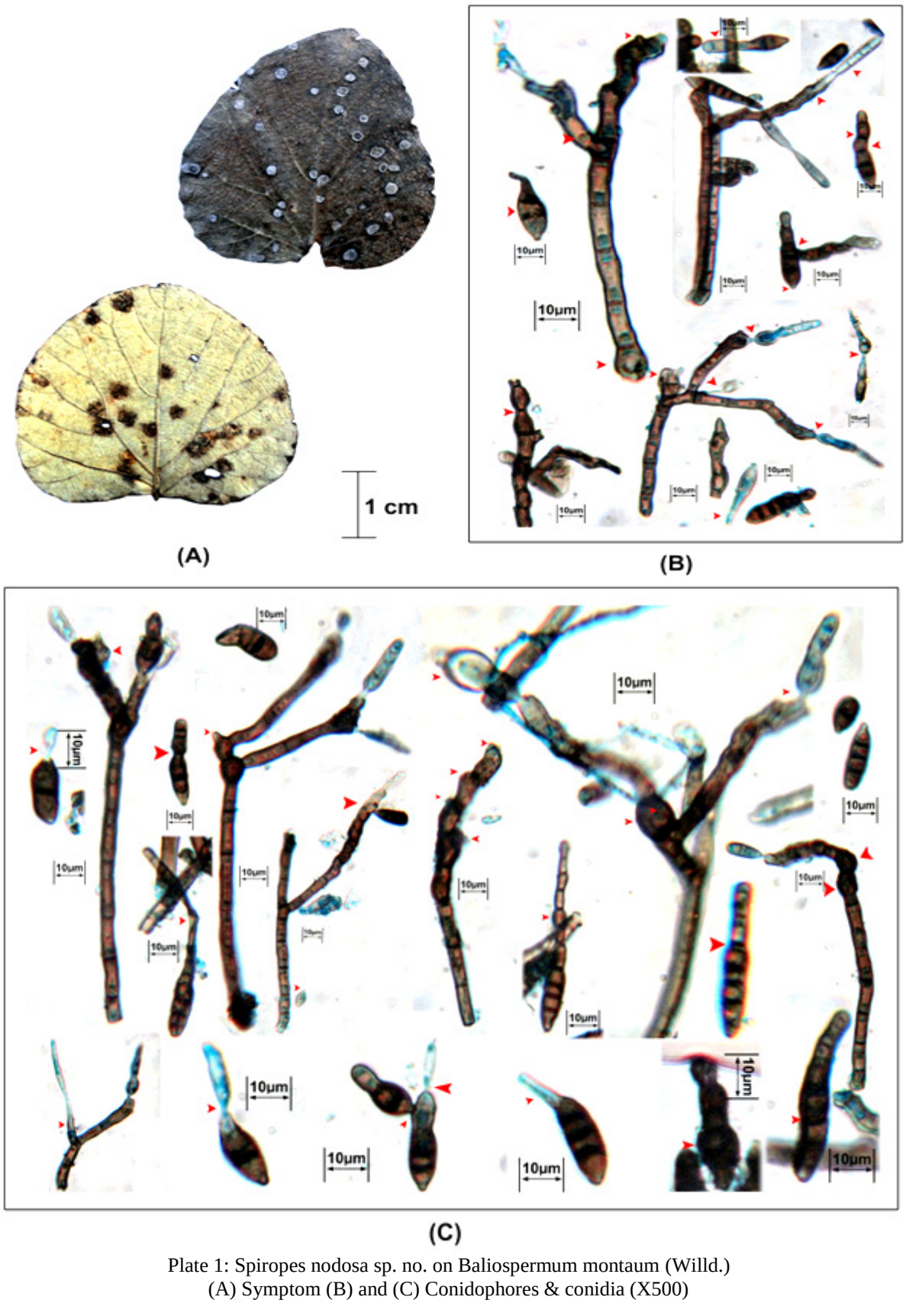

Plate 1: Spiropes nodosa sp. no. on Baliospermum montaum (Willd.)
(A) Symptom (B) and (C) Conidophores & conidia (X500)

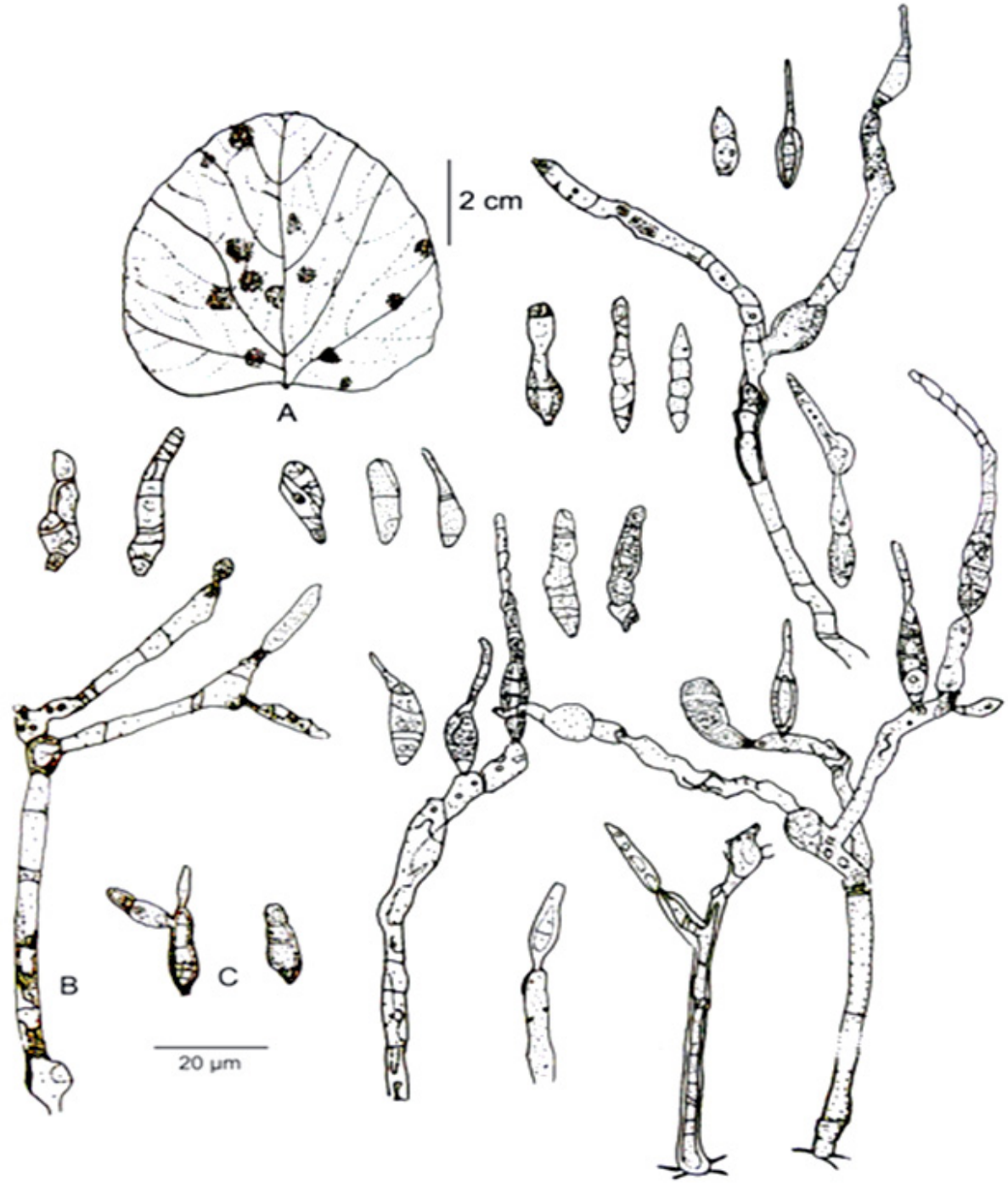

Fig.1. Spiropes nodosa sp. nov.
A. Symptom, B. Coindiophores (X500), C. Conidia (X500)

DISCUSSION

A detailed study of the literature on fungus genus *Spiropes* revealed that *S. capensis*, Minter, Rodríguez and Mena (2001) and *S. dorycarpus*, (Mont.), Ellis (1968) are described on the host family Euphorbiaceae (Table 01). A critical look to the table exhibits that the species in question is altogether different from all others in having very clear symptoms, geniculate conidiophores, nodose swellings and conidial variation. Therefore, looking to the aforesaid discussion the proposed species merits its disposal a new species. It is also added that no species of *Spiropes* has earlier been reported and described on the host genus.

ACKNOWLEDGEMENTS

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Table 01: Comparative account of Spiropes nodosa sp. nov. with allied taxa.

Species	Spots & Colonies	Stromata	Conidiophores			Conidia		
			Structure	Colour & Septation	Size (in µm)	Structure	Colour & Septation	Size (in µm)
S. capinsis Minter, Rodríguez and Mena (2001).	Colonies dark blackish brown to black, hairy.	-	Arising singly or groups, some time in very large groups of 100 or more, straight to flexuous.	Brown to dark brown, paler near the apex, with usually rather pale.	500 long, 6-8 thick.	Straight or curved, fusiform to obclavate, smooth.	Subhyaline to brown, with 3-6 (usually 4 or 5) transverse pseudosepta.	38-67 (50) long, 6-11 (8-4) thick in the broadest part.
S. dorycarpus (Mont.) Ellis, (1968).	Colonies effuse, pale olivaceous, brown to dark brown, hairy to velvety.	-	Conidiophores arising singly or groups, straight to flexuous, scar towards the apex.	Pale to mid brown.	700 long, 3-7 thick.	Straight or curved, variable in shape but generally obclavate to fusiform, conicotruncate at the base, rugose or verruculose.	Rather pale brown, the central cell often slightly darker than the end ones, nearly always 3 septate but occasionally with 4-5 septa.	17-38 (23) long, 5-7 (6.1) in the broadest part.
S. nodosa (Proposed taxon).	Lesions amphigenous, small to large, regular, light whitish colour on upper and brown on lower surface. Colonies hypo-phyllous as dots, effuse, grey to black. Mycelium of hyphae immersed.	Almost nil sometimes represented by few cells only.	Rarely in groups of 2 to 3, macronematous and mononematous, solitary, erect, long, profusely branched with dark nodose swellings, spherical, straight to flexuous, highly geniculate, cicatrized, smooth, with projecting denticles.	Brown to dark brown, 3-17 septate.	76.5-145 x 3.	Solitary to catenate, acropleuro-genous, clavate to cylindrical, some time constricted at septa, straight to curved.	Olivaceous to dark brown black, smooth, 1-14 septate, the septate conidia are coloured while asepted are hyaline, a few conidia are closely pseudoseptate.	9-60x3-5.

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