

THE MYXOMYCETICOLUOS SYNNEMATIC FUNGI *POLYCEPHALOMYCES TOMENTOSUS* FROM THE BRAZILIAN CERRADO

POLYCEPHALOMYCES TOMENTOSUS, UN HONGO MYXOMYCETICOLA SINEMATICO DEL CERRADO BRASILEÑO

G. Sepúlveda-Chavera¹, M. Sánchez² & J. C. Dianese²

RESUMEN

Entre 2002 y 2004 se realizó un estudio de hongos asociados a myxomycetes presentes en el ecosistema Cerrado, en Brasil Central. Se describió *Polycephalomyces tomentosus* creciendo sobre capilicios de *Myxomycetes* de la familia *Trichiaceae*: *Hemitrichia calyculata* (Speg.) M. L. Farr y *Perichaena depressa* Libert. La presencia del hongo fue documentada y registrada como el primer reporte de esta especie en Brasil.

Palabras clave: Hongos anamórficos, hongos tropicales, Myxomycetes.

ABSTRACT

A mycological study of myxomyceticolous fungi from Brazilian Cerrado were realized in 2002 to 2004. *Polycephalomyces tomentosus* on *Myxomycetes* of the *Trichiaceae* family: *Hemitrichia calyculata* (Speg.) M. L. Farr and *Perichaena depressa* Libert was described. This is the first report of the fungus in Brazil.

Key words: Anamorphic fungi, tropical fungi, Myxomycetes.

INTRODUCTION

The genus *Polycephalomyces* is a synnematic fungi with myxomyceticolous ability. Was proposed for the *P. formosus* Kobayasi (Kobayasi, 1941), and Mains (1948) and Samson (1981), added other species to the genus. Seifert (1985), accepted four species in the genus: *P. cylindrosporum* Samson & Evans, *P. formosus* Kobayashi, *P. ramosus* (Peck) Mains and *P. tomentosus* (Schrader) Seifert.

The species of the genus appear white synnemata which may turn brown when old terminal masses with yellow conidial and awl-shaped phialides. One specie is parasite of Myxomycetes, and has prominent verrucose ornamentation. The others species of the genus are parasitic on entomogenous fungi or on insect, and often have highly branched synnemata.

RESULTS

POLYCEPHALOMYCES TOMENTOSUS (SCHRADER) SEIFERT (1985)

Teleomorph: *Byssostilbe stilbigera* (Berk. & Br.) Petch

Sinonimous:

Stilbum tomentosum Schrader-Schreder, *J. Bot.* 2:65. 1977

Stilbum parasiticum Pers. *Syn. Meth. Fung.*, p. 680. 1801

Botryonipha tomentosa (Schrader) O. Kuntze. ver. *Gen. Plant* 2:845. 1891

Tilachlidium tomentosum (Schrader) Lindau, *Rabenh. Krypt.. Fl. 1, Pilze* 9:306. 1910

¹ Facultad de Agronomía, U. de Tarapacá, Casilla 6-D, Arica-Chile, gsepulve@uta.cl

² Departamento de Fitopatología, Universidad de Brasília, 79910-900 Brasília, D. F. Brazil, jearmine@unb.br

Stilbella tomentosa (Schrader) Nres.,
Annls mycol. 1: 129. 1903
Dendrostilbella tomentosa (Schrader) Höhnelt, *Öst.*
Bot. Z. 1916: 110
Blistum tomentosum (Schrader) B. Sutton, *Mycol.*
Pap. 132: 19. 1973
Isaria tomentosa Greville, *Scot. Crypt. Fl.* 1:9. 1823
Stilbum echinatum Ellis & Ewart, *J. Mycol.* 1: 153.
 1885
Botryoniphia echinata (Ellis & Ewart) O. Kuntze,
Rev. Gen. Pl. 2: 845. 1891
Stilbum capillare Ellis & Everhart, *J. Mycol.* 4: 46.
 1888
Stilbum tomentosum var. *ovalisporum* A. L. Smith,
Trans. Br. Mycol. Soc. 2:26. 1903
Stilbella tomentosa var. *ovalispora* (A. L. Smith)
 B. Rogerson apud Samuels, *Mycologia* 65: 409.
 1973
Blistum ovalisporum (A. L. Smith) B. Sutton,
Mycol. Pap. 132: 17. 1973.
Stilbella tomentosa var. *macrospora* Ferraris,
Annls mycol. 7: 277. 1909

Synnemata 240-1100 x 20-80 µm, growing isolated or gregarious on the sporangium of the host, cylindrical, capitated, subulaterate-capitaterate or clearly clavaterate, straight or slightly curved, not branched or rarely forked in the base, smooth or slightly granular, hyaline, formed on a hyphal subiculum. Stipe with parallel hyphae, with a central column of simple cells of 3,5-5 µm width, lateral hyphae 1,5-3,5 µm width. Ornamental cells 3-5 x 3-7 µm, covering the stipe, densely concentrated sub-apically, lateral or terminal on marginal hyphae, globous, ellipsoids or clavaterate, with more than 1 µm of diam., giving the appearance of warty cells. Ramified several times or monoverticillated conidiophores containing 1 to 3 phialides. Phialides 3,5-9,5 x 1,5-2,5 µm, terminal or intercalary, obclavaterate with gauged apex of 2-11 x 0,5-1 µm, periclinal width not observed; chain forming a conidial mass of 50-200 µm diam. white to yellowish, opaque, globous. Conidium 1-2,5 x 1-2 µm globous to sub-globous, or 3-6 (-9) x 1,5-2 µm ellipsoids to fusiforms, or 2,5-4 x 0,5-1 µm cylindrical, or mixes in all the three types and intermediate ways.

Examined material: on *Hemitrichia calyculata* (Speg.) M. L. Farr (*Myxomycetes, Trichiaceae*) sporangious, Brazil, EEAE, Planaltina, DF., 27/08/2001, M. Sanchez 4022, UB (col. micol.) 18499; 27/08/2001, A. C. Bezerra 419, UB (col. micol.) 18527; 27/08/2001, A. C. Bezerra 404, UB (col. micol.) 18483; 27/08/2001, L. D. B. de Brito 604, UB (col. micol.) 18497; 27/08/2001, L. D. B. de Brito 602, UB (col. micol.) 18495; 27/08/2001, A. C. Bezerra 408, UB (col. micol.) 18487; 27/08/2001, L. D. B. de Brito 624, UB (col. micol.) 18571; 27/08/2001, J. C. de Castro 103, UB (col. micol.) 18526; *Perichaena depressa* Libert (*Myxomycetes, Trichiaceae*), 27/08/2001, M. Sanchez 4025, UB (col. micol.) 18521.

The verrucous ornamental cells that cover the stipe, is an a specific character of *P. tomentosum*, nevertheless *Stilbella bambusae* (Pat. & Gail.) Seifert (1985), it shows similar ornamentations, however it grows on *Bamboo* sp. and it produces larger and cylindrical phialides (Seifert, 1985). Another fungi stilboid that grows on Myxomycetes is *Stilbella byssiseda* (Pers.) Seifert (1985), that has a more robust synnema and well ornamentation is absent. *Polycephalomyces tomentosus* is a fungi with pleomorphic conidia and different interpretation explain the wide listing of Limonjemies to a wide listing of synonyms. However, Seifert (1985) gave reason of the differences and the need of the synonymies.

The specimens studied were observed on Myxomycetes of the family *Trichiaceae*, mainly belonging to the species *Hemitrichia calyculata* (Speg.) M. L. Farr, presenting well developed synnemata and morphometric characteristic, that allows to classify it as *P. tomentosum*. This is the first report of this fungi in Brazil.

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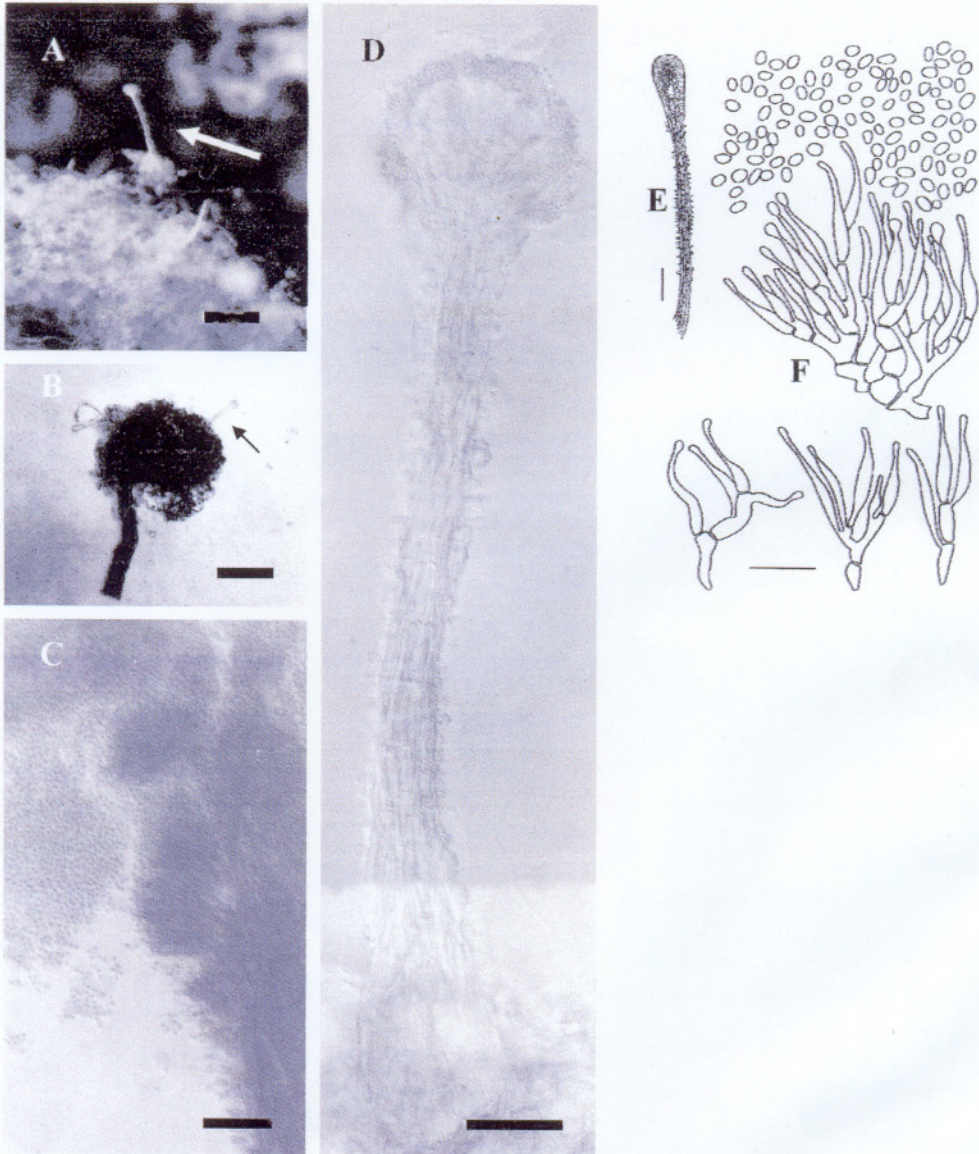


Figure 1. *Polycephalomyces tomentosus* (Schrader) Seifert, on *Myxomicetes*. UB (col. micol.) 18499. A and B. Synnemata growing on the capilicium of *Hemitrychia calyculata* (Speg.) Farr. C. Phialides fasciculated and masses of conidia on the chapter of the synnema; D. Synnema with determinated chapter and external ornamental hyphae on stipe. E. Synnema drawing. F. Conidiogenic cells and conidia drawing. Bars = A: 100 µm; B: 150 µm; C: 5 µm D: 10 µm; E: 43 µm; F: 5 µm.