Institut für Biologie, Institutsbereich Geobotanik und Botanischer Garten der Martin-Luther-Universität Halle-Wittenberg


# Miscellaneous notes on phytopathogenic hyphomycetes (III)

UWE BRAUN

**Abstract:** BRAUN, U. 1998: Miscellaneous notes on phytopathogenic hyphomycetes (III). Schlechtendalia **1**: 23-30.
*Cercospora cassiicola* Roum. is reduced to synonym with *Phaeoramularia occidentalis* (Cooke) Deighton. The new combinations *Mycovellosiella consimilis* (Syd.) U. Braun comb. nov. and *M. pumila* (Syd. & P. Syd.) U. Braun comb. nov. and the new species *Phaeotrichoconis biseptata* U. Braun sp. nov. and *Pseudocercospora cordylines* U. Braun sp. nov. are introduced, and a new collection of *Spadicoides stoveri* M. B. Ellis on *Iriartea deltoidea* Ruiz & Pav. from Costa Rica is described, illustrated, and discussed.

**Zusammenfassung:** BRAUN, U. 1998: Miscellaneous notes on phytopathogenic hyphomycetes (III). Schlechtendalia **1**: 23-30.
*Cercospora cassiicola* Roum. ist als Synonym von *Phaeoramularia occidentalis* (Cooke) Deighton zu betrachten. Die Neukombinationen *Mycovellosiella consimilis* (Syd.) U. Braun comb. nov. und *M. pumila* (Syd. & P. Syd.) U. Braun comb. nov. werden vorgeschlagen, und die neuen Arten *Phaeotrichoconis biseptata* U. Braun sp. nov. und *Pseudocercospora cordylines* U. Braun sp. nov. werden beschrieben. Eine neue Aufsammlung von *Spadicoides stoveri* M. B. Ellis auf *Iriartea deltoidea* Ruiz & Pav. von Costa Rica wird beschrieben, illustriert und diskutiert.

In the present paper, taxonomic studies on various anamorphic fungi are continued (BRAUN 1994, 1995). All anamorphs treated in this paper are dematiaceous hyphomycetes.

(1) *Cercospora cassiicola* („*cassiaecola*") Roum., Fungi sel. exs. 4486, Toulouse 1888, nom. nud.! Fig. 1

Lectotypus: on *Cassia* sp. (Fabaceae), Paraguay, Cordillere de Peribebuy, III. 1883, Balansa, Roum., Fungi sel. exs. 4486 (LEP).
CHUPP (1954) as well as BROWN and MORGAN-JONES (1977) examined various duplicates of „Roum., Fungi sel. exs. 4486", but failed to find sufficient fructification for a final conclusion concerning the taxonomic status of *C. cassiicola*. In POLLACK's (1987) list of *Cercospora* names, *C. cassiicola* is classified as „nom. dub.". In a duplicate of „Roum., Fungi sel. exs. 4486", deposited in LEP, a few mature caespituli of *C. cassiicola* could be observed and examined. The conidiophores are fasciculate, possess thickened and darkened conidial scars, and the catenate conidia are subcylindric, 25-50 x 3-5 µm, 2-4-septate, pale olivaceous to olivaceous brown. Based on these features, *C. cassiicola* has to be reduced to synonymy with *Phaeoramularia occidentalis*.

(2) ***Mycovellosiella consimilis*** (Syd.) U. Braun **comb. nov.** Fig. 2

Bas.: *Cercospora consimilis* Syd., Annls Mycol. 23: 423 (1925).
Lectotypus: on *Vernonia stellaris* La Llave (Asteraceae), Costa Rica, La Caja, near San José, 3-1-1925, H. Sydow, F. exot. exs. 708 (B). Isolectotypi: Syd., F. exot. exs. 708.

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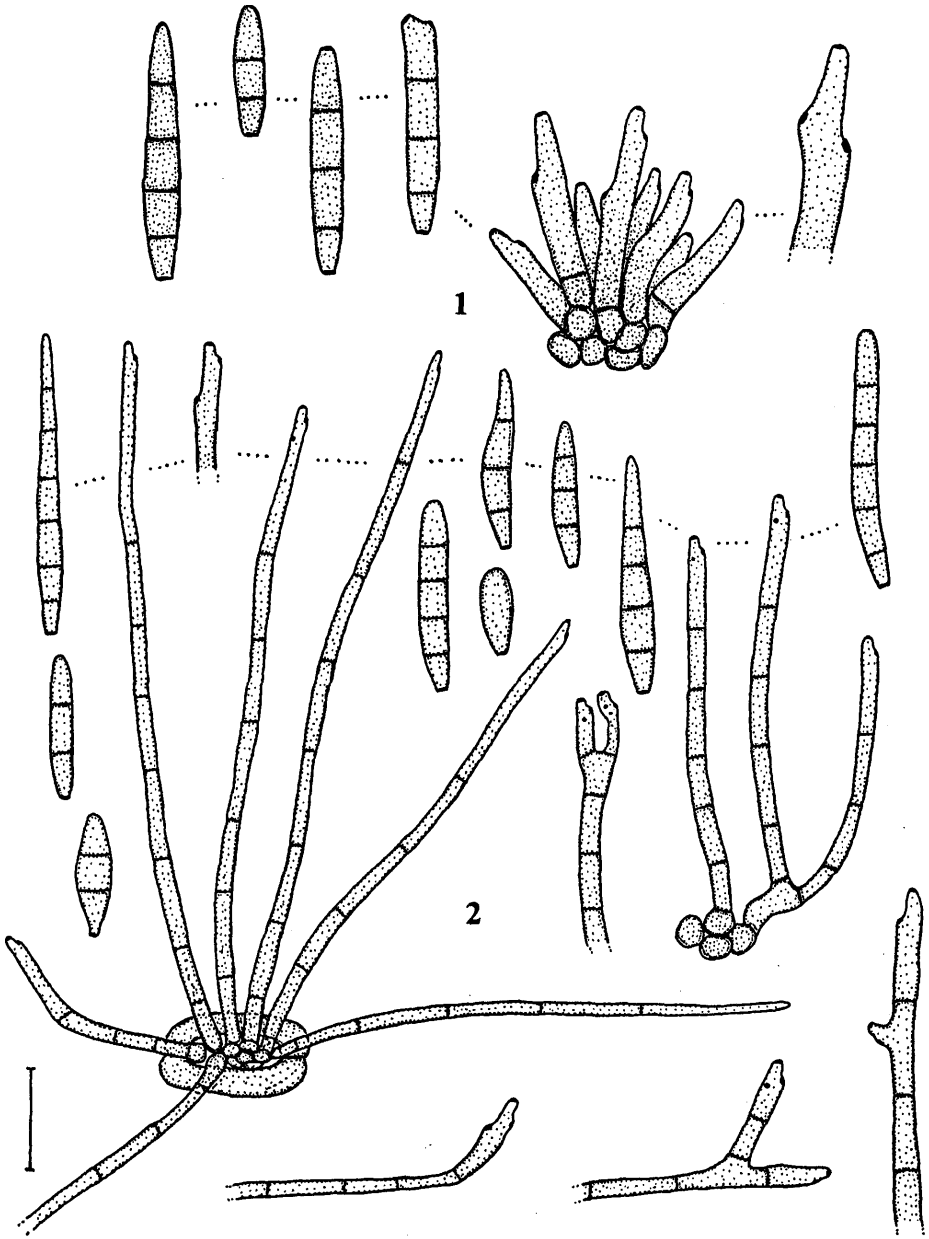




**Fig. 1-2:** 1 - *Phaeoramularia occidentalis* (type of *Cercospora cassiicola*), fascicle of conidiophores, conidiophore, conidia; 2 - *Mycovellosiella consimilis*, fascicles of conidiophores, conidiophores, creeping hyphae, conidia; scale = 20 µm; U. Braun del.

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Leaf spots at first indistinct, diffuse, later irregular, yellowish to brownish. Colonies amphigenous, mostly hypophyllous, effuse, dark olivaceous. Primary mycelium internal. Secondary mycelium almost lacking or sparsely developed; hyphae creeping, emerging through stomata, septate, simple or sparsely branched, olivaceous, smooth. Stromata absent or small, 10-20 µm diam., substomatal, brown, composed of a few swollen hyphal cells. Conidiophores non-fasciculate or in small to moderately large fascicles, loose, arising from internal hyphae or stromata, sometimes solitary, formed as lateral branchlets of creeping hyphae, or terminal, conidiophores erect to decumbent, developing into creeping secondary hyphae, simple or branched, flexuous, geniculate-sinuous, 20-200 x 4-6 µm, pluriseptate, smooth, medium to dark olivaceous brown, wall finally somewhat thickened; conidiogenous cells terminal, intercalary or pleurogenous; conidial scars somewhat thickened and darkened. Conidia solitary, subcylindric, obclavate, small conidia sometimes obovoid or fusoid, 12-75 x 4-8 µm, 0-7-septate, smooth, olivaceous, wall thin, finally occasionally somewhat thickened, apex mostly obtuse, rounded, occasionally subacute, base obconically truncate, hilum slightly thickened and darkened.

*Cercospora consimilis* is an unusual cercosporoid fungus, somewhat intermediate between *Mycovellosiella* and *Passalora*. For the structure of the conidial scars and the shape and pigmentation of the conidia, this species does not belong in *Cercospora* s.str. The slightly thickened conidial scars and pigmented conidia coincide with BRAUN's (1995) concept of *Passalora*, but in this genus the mycelium is consistently internal and the conidiophores are fasciculate and simple. Creeping secondary hyphae are occasionally formed in *C. consimilis* and the erect conidiophores are often branched and form pleurogenous conidiogenous cells (= *Fulvia* type). Based on these features, it seems to be justified to place this species in *Mycovellosiella* (probably in subgen. *Fulvia*).

(3) ***Mycovellosiella pumila*** (Syd. & P. Syd.) U. Braun **comb. nov.** Fig. 3

Bas.: *Cercospora pumila* Syd. & P. Syd., Philipp. J. Sci. (Bot.) 8: 196 (1913).
Syntypus: on *Derris* sp. (Fabaceae), Philippines, San José, Mindoro, I. 1912, P.W. Graff, Syd., Fungi exot. exs. 47 (LE 40427).

This species is a typical member of the genus *Mycovellosiella*. The conidial scars and hila are somewhat thickened and darkened and superficial secondary hyphae with solitary conidiophores are abundant in the original material examined, although they have not been described by Chupp (1954). *M. pumila* is characterized as follows: Secondary hyphae superficial, creeping, often climbing leaf hairs, branched, septate, 1.5-3.5 µm wide, subhyaline, olivaceous to pale olivaceous brown, smooth. Conidiophores usually in moderately large, occasionally small or very large, fascicles, usually dense, arising from brown stromata, 10-50 µm diam., erect, or solitary, arising from creeping hyphae, lateral, simple, straight, subcylindric to somewhat geniculate-sinuous, 5-50 x 3-5 µm, 0-1-septate, pale olivaceous brown, often paler towards the tip, smooth; conidial scars somewhat thickened and darkened, 1-2 µm diam. Conidia solitary, cylindrical-obclavate, acicular, straight or somewhat curved, (10-)25-75(-100) x 2-4 µm, 0-7-septate, hyaline or subhyaline, smooth, apex subacute or subobtuse, base obconically truncate, occasionally truncate, hilum somewhat thickened and darkened.

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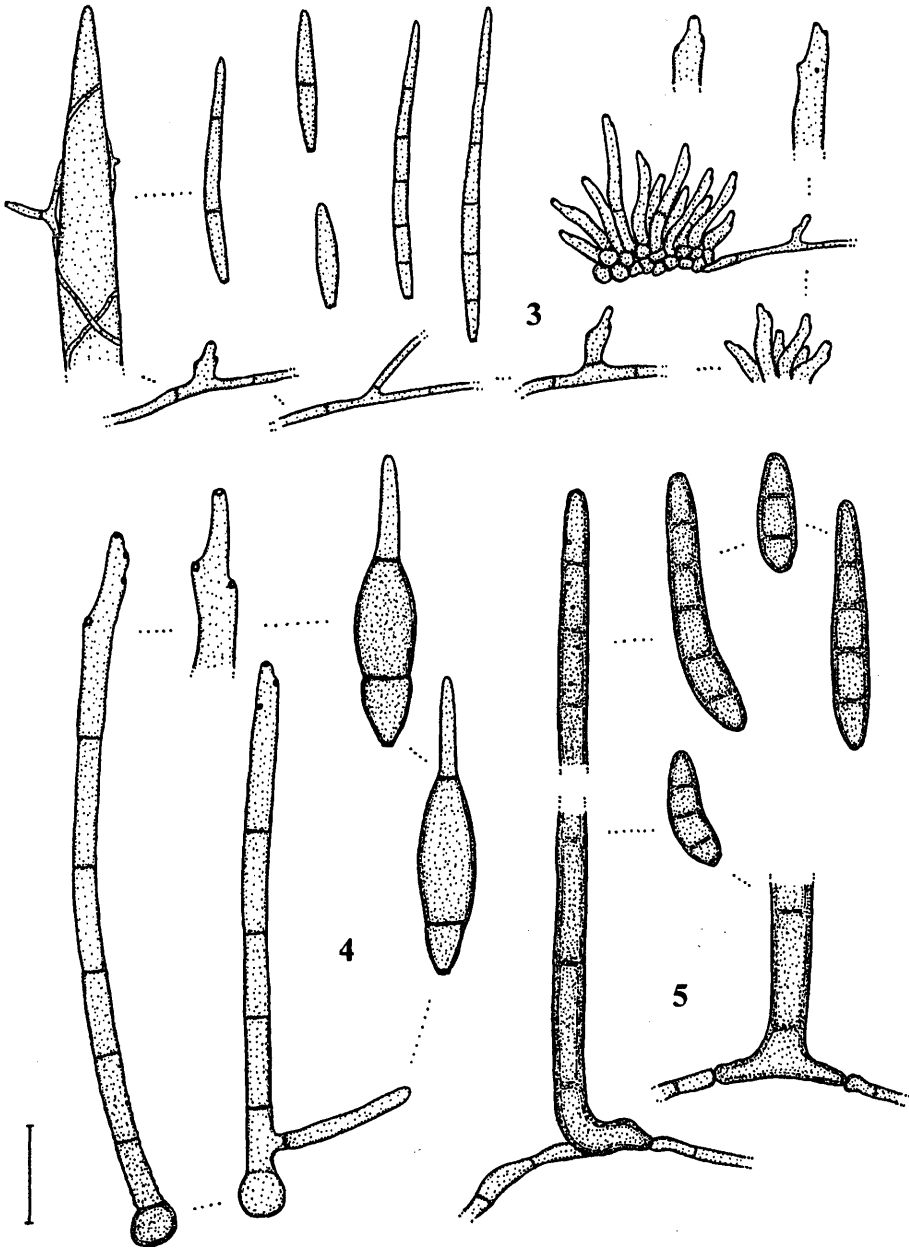



**Fig. 3-5:** 3 - *Mycovellosiella pumila*, fascicles of conidiophores, conidiophores, secondary hyphae, conidia; 4 - *Phaeotrichoconis biseptata*, conidiophores, conidia; 5 - *Spadicoides stoveri*, conidiophores, conidia; scale = 20 µm; U. Braun del.

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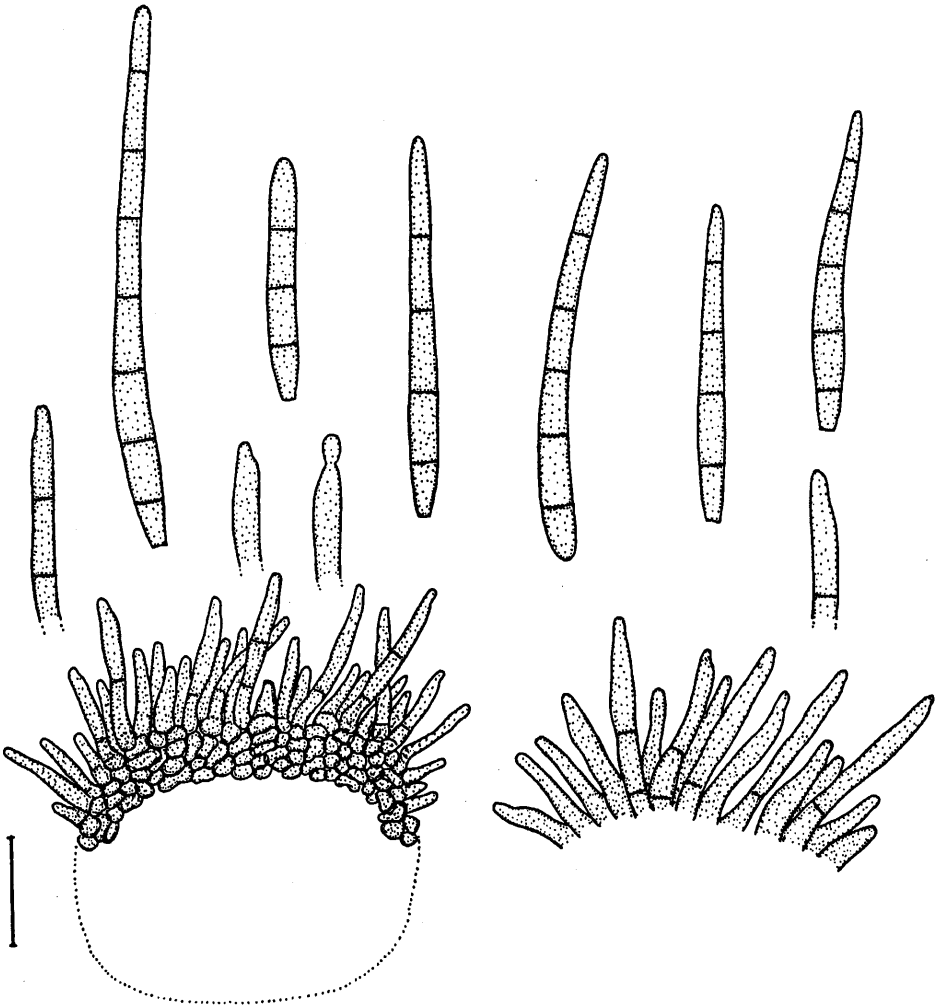


**Fig. 6:** *Pseudocercospora cordylines*, fascicles of conidiophores, conidiophores, conidia; scale = 20 µm; U. Braun del.

(4) ***Phaeotrichoconis biseptata*** U. Braun **sp. nov.** Fig. 4

Mycelium immersum. Conidiophora solitaria, erumpentes, erecta, recta vel leniter curvata, subcylindrica, simplicia, ad basim interdum ramosa, 80-100 x 3-4 µm, ad apicem leniter inflata, 4-7 µm lata, pluriseptata, subhyalina vel pallide brunnea, leves, deinde deorsum saepe verruculosa vel verrucosa et atriore brunnea, tenuitunicata; cellulae conidiogenae integratae, terminales,

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polytreticae, sympodiales, cicatricatae; cicatrices conidiales conspicuae, minutae, margine tenui atro-brunneo vel subnigro cinctae. Conidia solitaria, ellipsoidea-obclavata, rostrata, 50-70 x 10-13 µm, tenuitunicata, (1-)2-septata, ex cellulis basalibus, ca. 10-15 µm longis, et cellulis subsequentibus, ca. 20-30 µm longis, composita, leves vel verruculosa, in hilo incrassata et fuscata, 2-3 µm lata, saepe leniter protuberantes, ad apicem rostrata (rostrum 20-25 µm longum, 1,5-3 µm latum, ad basim -5 mm latum, pallidissime brunneum vel subhyalinum, ad apicem obtusum).

Mycelium immersed. Conidiophores solitary, erumpent, erect, straight to somewhat curved, subcylindric, simple, occasionally branched near the base, fertile apical portion geniculate-sinuous, 80-100 x 3-4 µm, apical part somewhat wider, 4-7 µm, pluriseptate, subhyaline to pale brown, smooth, later often verruculose or verrucose and darker in the lower half, thin-walled; conidiogenous cells integrated, terminal, polytretic, sympodial, cicatrized, conidial scars small, conspicuous, with a central porus and a narrow dark margin. Conidia solitary, ellipsoid-obclavate, rostrate, 50-70 x 10-13 µm, thin-walled, (1-)2-septate, composed of a small basal cell, about 10-15 µm long, a larger central cell, about 20-30 µm long, pale brown, and a narrow, aseptate rostrum, 20-25 µm long and 1.5-3 µm wide (up to 5 µm wide at the very base), pale, subhyaline, tip obtuse, smooth to rough, base with a thickened and darkened hilum, 2-3 µm wide, often somewhat protuberant.

Holotypus: on bark of *Prestoea montana* G. Nicholson (Palmae), Puerto Rico, Luquillo Experimental Forest, San José, Mt. Britton Tower, 18°18'37''N, 65°47'29''W, Alt. 650 m, 9-11-1997, Ju. Novozhilov 4035 (HAL). Isotypus: LE 201594.

*Phaeotrichoconis biseptata* sp. nov. is well-distinguished from all species of this genus by having two-celled conidia with a short, robust rostrum. The conidia of *Phaeotrichoconis aquatica* Mengasc. & Aramb. (in ARAMBARRI et al. 1987: 32), *P. aurantiaca* Rambelli (in ONOFRI et al. 1981: 335), *P. crotalariae* (M. A. Salam & P. N. Rao) Subram. (SUBRAMANIAN 1956: 2), *P. foveolata* (Pat.) Aramb. & Cabello (ARAMBARRI et al. 1989: 2), *P. minigelatinosa* Aramb., Cabello & Mengasc. (ARAMBARRI et al. 1987: 34), *P. terrestre* R. Y. Roy & P. C. Gupta (1967: 528), and *P. urariae* Bharadwaj (1969: 24) are pluriseptate.

(5) *Pseudocercospora cordylines* U. Braun Fig. 6

Type material of *C. cordylines* Henn., deposited in B, has recently been lost, but CROUS & CÂMARA (1998) found another syntype at BPI, examined it, and proposed the new combination *Passalora cordylines*, based on thickened and darkened conidial scars and hila. CHUPP (1954) reduced *C. cordylines* Speg. to synonymy with *C. cordylines* Henn., but two different species are involved. Spegazzini's species is based on material from Argentina (Santa Catalina, Spegazzini) and a collection from Brazil (São Paulo, Botanic Garden, Sept. 1905, Usteri No. 14). Authentic material, collected by Usteri in August 1905, is deposited at B. This material has been examined, and it turned out that it belongs in *Pseudocercospora.* It differs from *C. cordylines* Henn. in having inconspicuous conidial scars and subhyaline to pale olivaceous, smooth conidia.

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***Pseudocercospora cordylines*** U. Braun **sp. nov.**

Maculae amphigenae, suborbiculares, 2-5µm diam., brunneae vel atro-rubro-brunneae, margine atro-brunneo vel subnigro cinctae. Caespituli amphigeni, punctiformes, atro-brunnei. Mycelium immersum. Stromata bene evoluta, ca. 50-80 µm diam., atro-brunnea vel subnigra, immersa vel erumpentia. Conidiophora numerosa, dense fasciculata, ex cellulis stromatibus oriunda, erecta, recta, subcylindrica vel leniter flexuosa, vix geniculata-sinuosa, simplicia, 10-50 x 3-5,5 µm, 0-2-septata, pallide olivacea vel modice brunnea, leves; cicatrices conidiales inconspicuae. Conidia solitaria, obclavata-cylindrica, (15-)30-80(-100) x 4-6 µm, 2-8-septata, subhyalina vel pallide olivacea, leves, apice saepe obtusa, basi obconice truncata vel rotundata, non-incrassata, non-fuscata.

Holotypus: on *Cordyline dracaenoides* Kunth, Brazil, São Paulo, Botanic Garden, 10-8-1905, A. Usteri (B).

Leaf spots amphigenous, subcircular, 2-5 µm diam., tan to dark reddish brown, margin narrow to moderately wide, dark brown to blackish. Caespituli amphigenous, punctiform, dark, blackish. Mycelium internal. Stromata well-developed, ca. 50-80 µm diam., dark brown to blackish, immersed to erumpent. Conidiophores numerous, in dense fascicles, arising from stromata, erect, straight, subyclindric to somewhat flexuous, but hardly geniculate-sinuous, simple, 10-50 x 3-5.5 µm, 0-2-septate, pale olivaceous to medium brown throughout, smooth, conidial scars inconspicuous, occasionally slightly refractive (in front view visible as minute inconspicuous circles), but neither thickened nor darkened. Conidia solitary, obclavate-cylindrical, (15-)30-80(-100) x 4-6 µm, 2-8-septate, subhyaline to pale olivaceous brown, smooth, apex usually obtuse, base obconically truncate to rounded, hilum unthickened, not darkened, occasionally slightly refractive.

(6) *Spadicoides stoveri* M.B. Ellis, Mycol. Pap. 131: 22-23 (1972) Fig. 5

On *Iriartea deltoidea* Ruiz & Pav. (Palmae), Costa Rica, Reserva Biologica San Ramon, 13-3-1996, M. Küppers (HAL).

*Spadicoides stoveri* has been described on *Elaeis guineensis* Jacq. from Honduras. The present collection is the first record of this species from Costa Rica, found on a new host. The morphological features of this specimen agree well with the original description of *S. stoveri*, but large stromata are lacking: Colonies hypophyllous, effuse, blackish brown; primary mycelium internal; secondary mycelium external; hyphae creeping, branched, septate, smooth, 1-5 µm wide, subhyaline to brown, wall thin to somewhat thickened; conidiophores solitary, arising from creeping hyphae, sometimes irregularly clustered, arising from small stromatic hyphal aggregations, erect, subcylindric, base often somewhat curved and swollen, simple, 120-300 x 4-8 µm, pluriseptate, thick-walled, smooth, medium to dark brown, somewhat paler towards the tip; conidiogenous cells integrated, terminal as well as intercalary, polytretic, usually with two loci; conidia solitary, cylindrical-obclavate, straight to curved, 12-55 x 4-8 µm, 2-7-septate, pale to medium dark brown, smooth, wall thickened, ends rounded.

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**Acknowledgments:**
I wish to convey my thanks to the heads and curators of B, LE, and LEP for allowing me to examine type material in their keeping. Special thanks are due to Dr. Ju. Novozhilov and Dr. V. Mel'nik (St. Petersburg, Russia) and Prof. Dr. M. Küppers (Stuttgart-Hohenheim, Germany) for the collections committed. Dr. B. Bagyanarayana (Hyderabad, India) provided important Indian literature.

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Artikel/Article: Miscellaneous notes on phytopathogenic hyphomycetes (III) 23-30