

Miscellaneous notes on biotrophic micromycetes

Uwe BRAUN, Rolf DELHEY, José C. DIANESE
& Virupakshagouda B. HOSAGOUDAR

Abstract: BRAUN, U., DELHEY, R., DIANESE, J.C. & HOSAGOUDAR, V.B. 2006: Miscellaneous notes on biotrophic micromycetes. *Schlechtendalia* **14**: 85–97.

The new species *Golovinomyces rogersonii* on *Cordylanthus maritimus* subsp. *canescens* from the USA, *Oidium bauhiniicola* on *Bauhinia* sp. from Brazil, *Oidium meliacearum* on *Melia azedarach* from the Netherlands, *Passalora senecionicola* on *Senecio bonariensis* from Argentina and *Pseudoasporium millettiae* on *Milletia peguensis* from India are described. The new names *Erysiphe castaneigena*, *E. coriariigena* and *Podosphaera negeri* are introduced, and the nomenclature of *Fusicladium subsessile* is discussed. *Golovinomyces orontii* on *Hedera helix* and *Oidium* (*Pseudoidium*) sp. on *Nelumbo nucifera* have been found in Germany, and *Cercospora apii* s. lat. on *Jaborosa runcinata* and *Oxybaphus ovatus*, *Pseudocercospora gomphrenae-pulchellae* on *Pfaffia glomerata*, *Ramularia galegae* on *Galega officinalis*, *Ramularia inaequalis* on *Picris echioides* and *Hedypnois cretica* are new records for Argentina.

Zusammenfassung: BRAUN, U., DELHEY, R., DIANESE, J.C. & HOSAGOUDAR, V.B. 2006: Verschiedene Mitteilungen über biotrophe Mikromyzeten. *Schlechtendalia* **14**: 85–97.

Die neuen Arten *Golovinomyces rogersonii* auf *Cordylanthus maritimus* subsp. *canescens* in den USA, *Oidium bauhiniicola* auf *Bauhinia* sp. in Brasilien, *Oidium meliacearum* auf *Melia azedarach* in den Niederlanden, *Passalora senecionicola* auf *Senecio bonariensis* in Argentinien und *Pseudoasporium millettiae* auf *Milletia peguensis* in Indien werden beschrieben, die neuen Namen *Erysiphe castaneigena*, *E. coriariigena* und *Podosphaera negeri* werden eingeführt und die Nomenklatur von *Fusicladium subsessile* wird diskutiert. *Golovinomyces orontii* auf *Hedera helix* und *Oidium* (*Pseudoidium*) sp. auf *Nelumbo nucifera* wurden in Deutschland gefunden. *Cercospora apii* s. lat. auf *Jaborosa runcinata* und *Oxybaphus ovatus*, *Pseudocercospora gomphrenae-pulchellae* auf *Pfaffia glomerata*, *Ramularia galegae* auf *Galega officinalis* und *Ramularia inaequalis* auf *Picris echioides* und *Hedypnois cretica* sind neu für Argentinien.

Key words: Pathogenic fungi, Erysiphales, hyphomycetes, new species, new names, new records.

Examination of new mycological collections and routine identification work revealed new species of powdery mildews and hyphomycetes, as well as new records of biotrophic hyphomycetes from Germany and Argentina. Furthermore, the nomenclature of several powdery mildew species and *Fusicladium subsessile* (Ellis & Barthol.) K. Schub. & U. Braun is treated and corrected.

(1) Nomenclatural corrections of some powdery mildew species and a hyphomycete.

Erysiphe castaneigena U. Braun & Cunningham, **nom. nov.** (MB 500520)
= *Microsphaera sinensis* Y.N. Yu, in Yu & Lai, J. NorthE. Forest. Inst. (Harbin) 4: 32 (1982).

- ≡ *Erysiphe sinensis* (Y.N. Yu) U. Braun & Cunnington, Schlechtendalia 10: 92 (2003), non *Erysiphe sinensis* (F.L. Tai & C.T. Wei) U. Braun & S. Takam., 2000.

Erysiphe coriariigena U. Braun & S. Takam., **nom. nov.** (MB 500521)

- ≡ *Uncinula coriariae* R.Y. Zheng & G.Q. Chen, Acta Microbiol. Sin. 17(4): 281 (1977), non *Erysiphe coriariae* (Y. Nomura) U. Braun & S. Takam. 2000.
 ≡ *Erysiphe coriariicola* U. Braun & S. Takam., Schlechtendalia 4: 18 (2000), non *E. coriariicola* R.Y. Zheng & G.Q. Chen, 1981.

Podosphaera negerii U. Braun, Kiehr & Delhey, **nom. nov.** (MB 500522)

- ≡ *Sphaerotheca spiralis* Neger, Centralbl. Bacteriol., 2. Abth., 20: 93 (1907).
 ≡ *Podosphaera spiralis* (Neger) U. Braun, Kiehr & Delhey, Sydowia 53: 35 (2001), non *Podosphaera spiralis* Miyabe, 1911.

Fusicladium subsessile (Ellis & Barthol.) M. Morelet, Bull. Soc. Sci. Nat. Archéol. Toulon Var 31(210): 11 (1975)

- ≡ *Fusicladium subsessile* (Ellis & Barthol.) K. Schub. & U. Braun, IMI Descriptions of Fungi and Bacteria 152, No. 1519 (2002).

Notes: The latter combination has been superfluous. The earlier combination introduced by M. Morelet in a brief note under "Communications" has been overlooked and was also not included in "Index of Fungi".

(2) A new powdery mildew record for Germany.

Golovinomyces orontii (Castagne) V.P. Heluta (Gelyuta), Ukrayins'k. Bot. Zhurn. 45(5): 63 (1988)

On *Hedera helix* (Araliaceae), Germany, Hessen, Kelkheim-Fischbach, nursery, 22 Jan. 2004 (HAL).

Note: The anamorph found on *Hedera helix* agrees well with *Golovinomyces orontii* (appressoria nipple-shaped; conidiophores composed of subcylindrical foot-cells, 40–80 × 9–13 µm, and two shorter following cells; conidia catenate, 30–45 × 12–20 µm). This is the first record of this species on this host from Germany. *Golovinomyces cichoracearum* (DC.) V.P. (Heluta) Gelyuta [= *Erysiphe cichoracearum* DC.] has been recorded on *Hedera helix* from the USA (FARR et al. 1989) and *Oidium* sp. from Great Britain (AMANO 1986).

(3) New powdery mildews species.

Golovinomyces rogersonii U. Braun, **sp. nov.** (MB 500515, Fig. 1)

Differt a *G. verbasci* conidiis angustioribus, 12–20 µm latis, ascis saepe guttulatis.

Holotype: on *Cordylanthus maritimus* subsp. *canescens* (Scrophulariaceae), USA, Utah, Weber Co., North Fork County Park, east side of Wasatch Mts., 8 Oct. 1987, C.T. Rogerson (NY).

Mycelium on leaves, amphigenous, but mainly epiphyllous, also on stems, pedicels, sepals and fruits, forming white to greyish white patches or covering entire leaves, loose to dense; hyphae branched, septate, thin-walled, almost smooth to verruculose, 2.5–7 µm wide; appressoria indistinct to nipple-shaped, solitary; co-

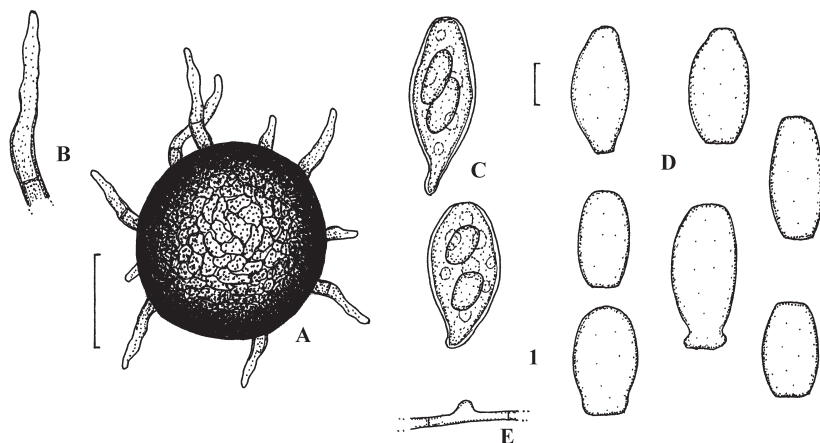


Fig. 1: *Golovinomyces rogersonii*. A – chasmothecium, B – appendage, C – asci, D – conidia, E – apressorium, bar = 10 μ m, U. Braun del.

nidia catenate, broadly ellipsoid, ovoid, doliiform, limoniform, $20\text{--}40 \times 12\text{--}20$ μ m l/w ratio 1.4–2.6 (in mature conidia 1.4–2.0). Fruit bodies (chasmothecia) scattered to gregarious, mostly more or less immersed in the dense mycelium, 100–150 μ m diam., subglobose, dark brown to blackish, outer peridial cells irregular-sinuous, 10–25 μ m diam., wall about 10–25 μ m thick, composed of up to 5 appressed cell layers; appendages in the lower half, shorter than the diameter of the chasmothecium, mostly few, sometimes even rudimentary, mycelium-like, unbranched, 2–9 μ m wide, hyaline to yellowish or pale brown, aseptate or sparingly septate, thin-walled or walls only slightly thickened, smooth to verruculose-rugose; asci 10–15, broadly obovoid, saccate, $50\text{--}70 \times 25\text{--}45$ μ m, sessile to distinctly stalked, terminal thin-walled part (oculus) 10–20 μ m diam., often guttulate, with oil-droplets of different size (as in *Golovinomyces biocellatus*), 2-spored, spores broadly ellipsoid-ovoid, $15\text{--}28 \times 9\text{--}17$ μ m.

Notes: Several species of the genus *Golovinomyces* (U. Braun) V.P. Heluta (Gelyuta) are known on hosts of the Scrophulariaceae (BRAUN 1987). The characteristically limoniform conidia and the chasmothecia with very short appendages resemble those of *Golovinomyces verbasci* (Jacq.) V.P. Heluta. However, the latter species differs from *Golovinomyces rogersonii* in having much wider conidia (19–30 μ m) with a length/width ration of mature conidia > 2 . Characteristic oil-droplets in the asci are lacking. *Golovinomyces brunneopunctatus* (U. Braun) V.P. Heluta is distinguished by its well-developed, persistent, brown mycelium, much longer appendages and 2–4-spored asci. Numerous powdery mildew collections on hosts of the Scrophulariaceae have been assigned to the poorly understood *Golovinomyces orontii* (Castagne) V.P. Heluta complex (MATSUDA & TAKAMATSU 2003). The latter species is, however, easily separable by having non-limoniform conidia and chasmothecia with much longer appendages. Fruit bodies are only rarely formed in *Golovinomyces orontii*.

Oidium bauhiniicola U. Braun & Dianese, **anam. sp. nov.** (MB 500516, Fig. 2)
[belonging in *Oidium* subgen. *Microidium*]

Differt a *O. phyllanthi* conidiophoris rectis vel subrectis et conidiis subcylindraceis, ellipsoideis-ovoideis, doliiformibus.

Holotype: on *Bauhinia* sp. (Caesalpinaceae), Brazil, Brasília–DF, near the entrance of ‘Jardim Botânico de Brasília’, Cerrado vegetation, 4 Aug. 2005, U. Braun & J.C. Dianese # 3528 (HAL 1874 F). Isotype: UB 19938.

Mycelium superficial, epiphyllous, sparse on the lower leaf surface, forming white or greyish white patches or covering the entire leaf blade, loose to moderately dense; hyphae branched, septate, hyaline, thin-walled, 2–5 µm wide, smooth to rough-walled; appressoria nipple-shaped to lobed, 2–8 µm diam., solitary or in opposite pairs. Conidiophores erect, 40–150 × 5–10 µm, long foot-cells followed by (0–)1–2 much shorter cells, foot-cells straight, subcylindrical, at most somewhat curved to slightly sinuous at the very base, occasionally somewhat constricted at the base, hyaline, thin-walled. Conidia catenate, primary conidia more or less obovoid, apex rounded, base truncate, secondary conidia subcylindrical, ellipsoid-ovoid, doliiform, limoniform, ends subtruncate, 15–25(–28) × 7–12 µm, thin-walled, hyaline, smooth to somewhat rough-walled, fresh conidia often with numerous oil-droplets, germ-tubes subterminal, short, subcylindrical to subclavate.

Notes: TO-ANUN et al. (2005) recently introduced *Oidium* subgen. *Microidium* To-anun & S. Takam. with *Oidium phyllanthi* J.M. Yen as type species, characterised by having lobed appressoria, narrow Pseudoidium-like conidiophores and very narrow conidia formed in chains. Sequence analyses (rDNA, 18S and 28S region) showed that *Oidium phyllanthi* formed a distinct monophyletic clade, indicating an isolated position among the Erysiphales on tribal level. *Oidium bauhiniicola* represents the second species of *Oidium* subgen. *Microidium*. It differs from *Oidium phyllanthi* in having conidiophores with straight or almost straight foot-cells, at most slightly curved or sinuous (twisted in *O. phyllanthi*) and subcylindrical, ellipsoid-ovoid, doliiform to limoniform conidia (consistently cylindrical or subcylindrical in *O. phyllanthi*). *Oidium bauhinae* G.J.M. Gorter & Eicker (GORTER & EICKER 1985), described from South Africa on *Bauhinia galpinii*, is a quite distinct species belonging in *Oidium* subgen. *Pseudoidium* [appressoria lobed; conidia solitary and wider, (25–)30–32.5(–45) × (13.7–)17.5(–21.2) µm].

Oidium meliacearum U. Braun, **anam. sp. nov.** (MB 500517, Fig. 3)
[belonging in *Oidium* subgen. *Pseudoidium*]

Coloniae amphigenae, maculae albae, effusae; mycelium externum; hyphae ramosae, 2–5 µm latae, septatae, tenuitunicatae, leviae; appressoria solitaria vel in paribus oppositis, 3–8 µm diam., mamilliformes vel distincte lobata. Conidiophora ex hyphis superficialibus oriunda, erecta, ex cellulis basalibus, rectis vel leviter curvatis, flexuosis-sinuosis, subcylindraceis vel apicem versus leviter spissescenscentibus, et 1–2 cellulis sequentibus, brevioribus composita. Conidia solitaria, conidia primaria obovoidea-subcylindrica, conidia secundaria cylindrica-doliiformes, 25–45 × 12–18 µm, longit./latit. 1.4–4, hyalina, interdum guttulata. Tubi germinales subterminales, ad apicem cum appressoriis lobatis.

Holotype: on *Melia azedarach* (Meliaceae), the Netherlands, Baarn, garden, 5 Apr. 2005, W. Gams (HAL 1872 F).

Colonies amphigenous, forming white irregular patches, effuse. Mycelium external; hyphae branched, 2–5 µm wide, septate, thin-walled, smooth; appressoria solitary or

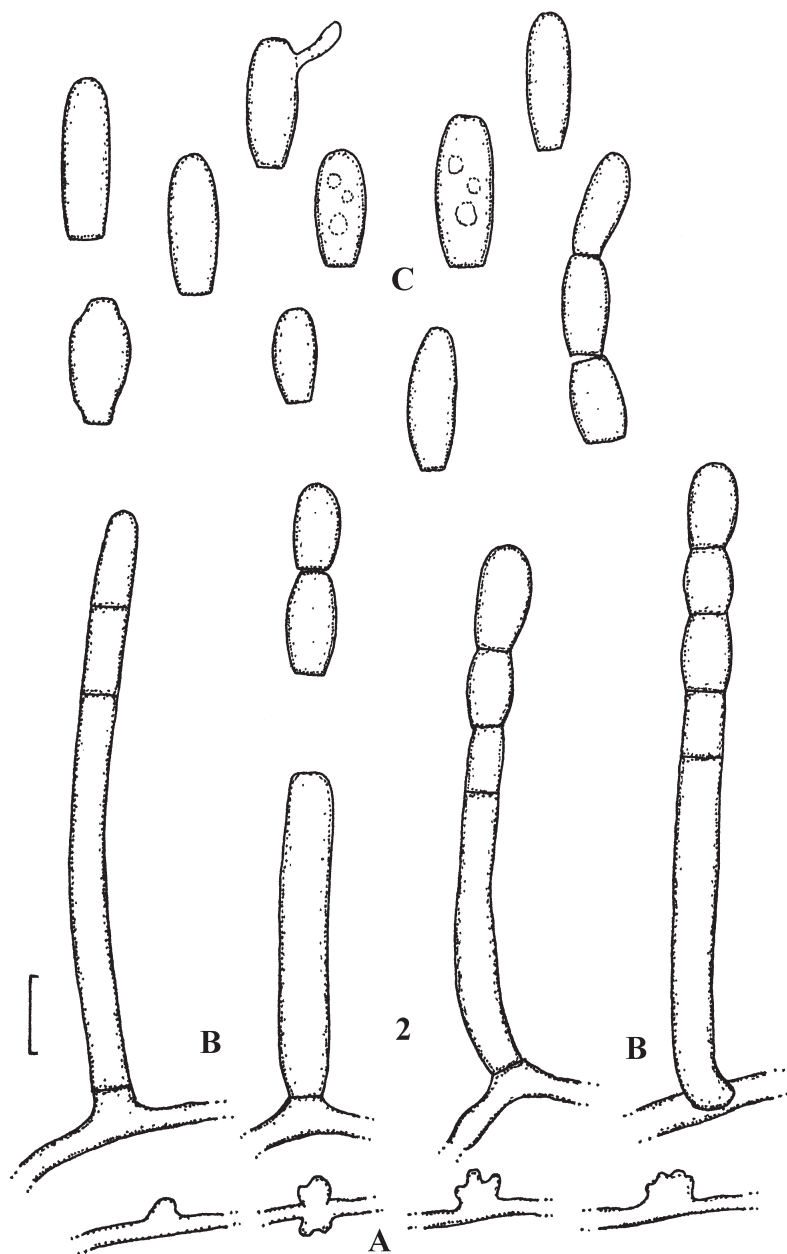


Fig. 2: *Oidium bauhinicola*. A – appressoria, B – conidiophores, C – conidia, bar = 10 μ m, U. Braun del.

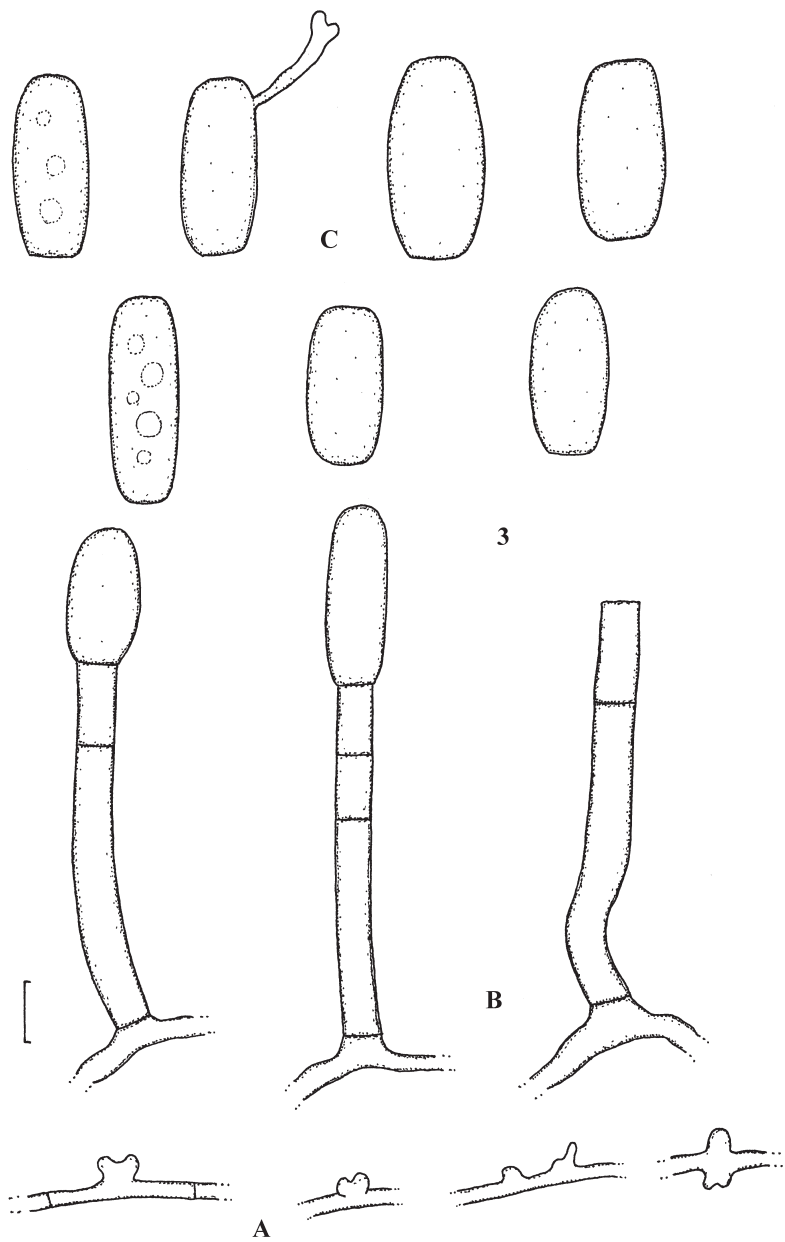


Fig. 3: *Oidium meliacearum*. A – appressoria, B – conidiophores, C – conidia, bar = 10 µm, U. Braun del.

in opposite pairs, 3–8 µm diam., nipple-shaped to distinctly lobed. Conidiophores arising from superficial hyphae, erect, foot-cells straight to slightly curved or flexuous-sinuous at the base, subcylindrical or slightly increasing in width from base to top, 40–80 × 5–9 µm, followed by 1–2 shorter cells, 10–25 µm long, occasionally slightly inflated (suggesting short conidial chains). Conidia solitary, primary conidia obovoid-subcylindrical, secondary conidia cylindrical-doliiform, 25–45 × 12–18 µm, l/w ratio 1.4–4, hyaline, fresh conidia with oil droplets, germ tubes subterminal, ending in lobed appressoria.

Notes: *Oidium* sp. on *Melia azedarach* has been recorded from Brazil, Chile, India and Pakistan (AMANO 1968). The anamorph of *Erysiphe cedrelae* (F.L. Tai) U. Braun & S. Takam. (= *Uncinula cedrelae* F.L. Tai) on *Cedrela sinensis* (Meliaceae) has been described and illustrated by SHIN (2000). It differs from *Oidium meliacearum* in having multilobed appressoria, conidiophores with distinctly curved foot-cells and narrower conidia, 10–14 µm wide.

***Oidium* (*Pseudoidium*) sp.** (Fig. 4)

On *Nelumbo nucifera* (Nelumbonaceae), Germany, Nordrhein-Westfalen, Bonn, University, 'Nees-Institut für Biodiversität der Pflanzen', glasshouse, 2 Nov. 2005, W. Roden (HAL).

Mycelium thin, effuse, whitish; hyphae septate, hyaline, thin-walled, smooth, 2–4 µm wide; appressoria solitary or in opposite pairs, lobed, 4–8 µm diam. Conidiophores solitary, arising from superficial hyphae, terminal, erect, straight, 40–80 µm long, foot-cells cylindrical, 15–40 × 5–9 µm, followed by 1–2 shorter cells. Conidia solitary, primary conidia broadly ellipsoid-ovoid, apex rounded, base more or less truncate, secondary conidia subcylindrical-doliiform, both ends more or less truncate, 20–38(–40) × 10–18 µm.

Notes: Identity and origin of this *Oidium* sp. are unclear. It is possible that under glasshouse conditions an accidental infection happened. In Japan, *Erysiphe takamatsui* Y. Nomura (NOMURA 1997: 208) occurs on *Nelumbo nucifera*. However, the anamorph of the latter species is distinguished by having longer conidiophores, 80–115 µm long, and foot-cells, 50–80 × 7–10 µm, as well as larger conidia, 35–46 × 15–22 µm.

(4) New species of cercosporoid fungi.

Passalora senecionicola U. Braun & Delhey, **anam. sp. nov.** (MB 500518, Fig. 5)
Differt a *P. jacquiniana* conidiophoris ad 120 µm longis, pluriseptatis, conidiis 30–120 µm longis, ad 11-septatis.

Holotype: on *Senecio bonariensis* (Asteraceae), Argentina, Prov. Buenos Aires, Necochea, La Dulce, 16 Apr. 2000, R. Delhey & M. Kiehr 1393 (HAL 1745 F).

Leaf spots amphigenous, indistinct, diffuse to subcircular or somewhat irregular, 2–20 mm wide, at first dingy greenish, later yellowish to ochraceous, pale brownish, finally dingy brown or grey, margin indefinite. Caespituli amphigenous, punctiform, dark brown, scattered to dense. Mycelium internal, occasionally also external, superficial. Internal hyphae 2–4 µm wide, straight to strongly sinuous, often with swellings and constrictions, septate, branched, pale olivaceous or olivaceous-brown, smooth; superficial hyphae emerging through stomata, 2–6 µm wide, branched, sinuous, irregular, pale olivaceous to olivaceous-brown. Stomata lacking to well-developed, ranging from loose hyphal aggregations to dense substomatal stomata, 20–60 µm diam., oli-

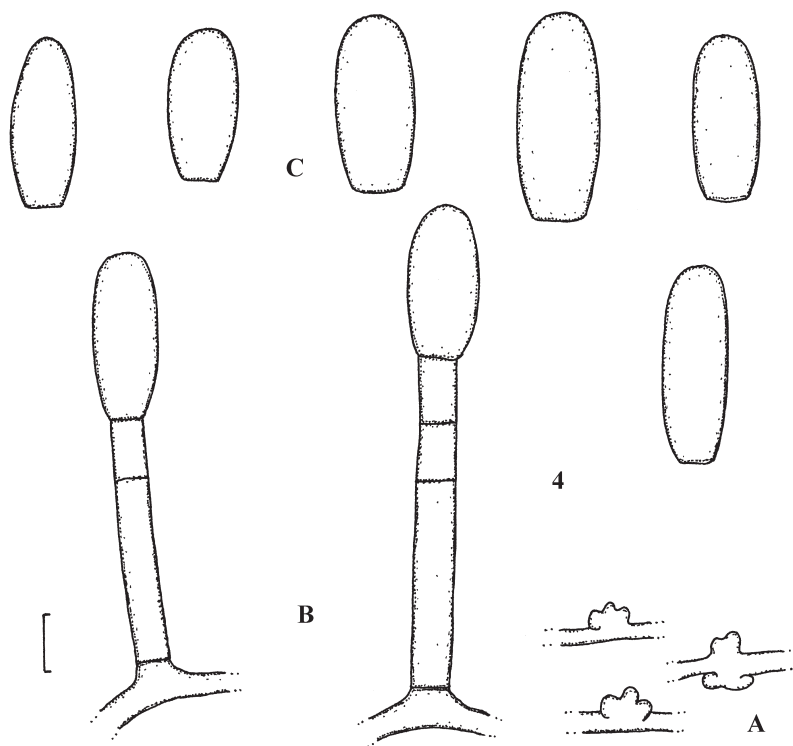


Fig. 4: *Oidium* sp. on *Nelumbo nucifera*, A – appressoria, B – conidiophores, C – conidia, bar = 10 μ m, U. Braun del.

vaceous-brown. Conidiophores in small to moderately large, loose to dense fascicles, arising from stomata, emerging through stomata, erect, occasionally decumbent, $10\text{--}130 \times 3\text{--}6 \mu\text{m}$, rigid to flexuous, subcylindrical-filiform to geniculate-sinuous, unbranched or occasionally branched, aseptate to pluriseptate, subhyaline, pale olivaceous to olivaceous-brown, thin-walled, smooth; conidiogenous cells integrated, terminal or conidiophores occasionally reduced to conidiogenous cells, $10\text{--}40 \mu\text{m}$ long; conidiogenous loci conspicuous, slightly thickened and darkened, $1.5\text{--}3 \mu\text{m}$ diam. Conidia solitary, obclavate-subcylindrical, $30\text{--}120(\text{--}150) \times (3\text{--})4\text{--}7 \mu\text{m}$, $0\text{--}11$ -septate, subhyaline to pale olivaceous or olivaceous-brown, thin-walled, smooth, apex obtuse, base short obconically truncate, $2\text{--}3(\text{--}3.5) \mu\text{m}$ wide, hila slightly thickened and darkened.

Notes: Based on pigmented conidia, the new species has to be placed in *Passalora* Fr. *Passalora jacquiniana* (Thüm.) U. Braun, distributed on various *Senecio* species in Europe as well as North and South America (CROUS & BRAUN 2003), differs from *P. senecionicola* in having shorter, wider conidia, $25\text{--}60 \times 5\text{--}9 \mu\text{m}$, with $1\text{--}3(\text{--}5)$ septa (CHUPP 1954, BRAUN & MELNIK 1997). Type material

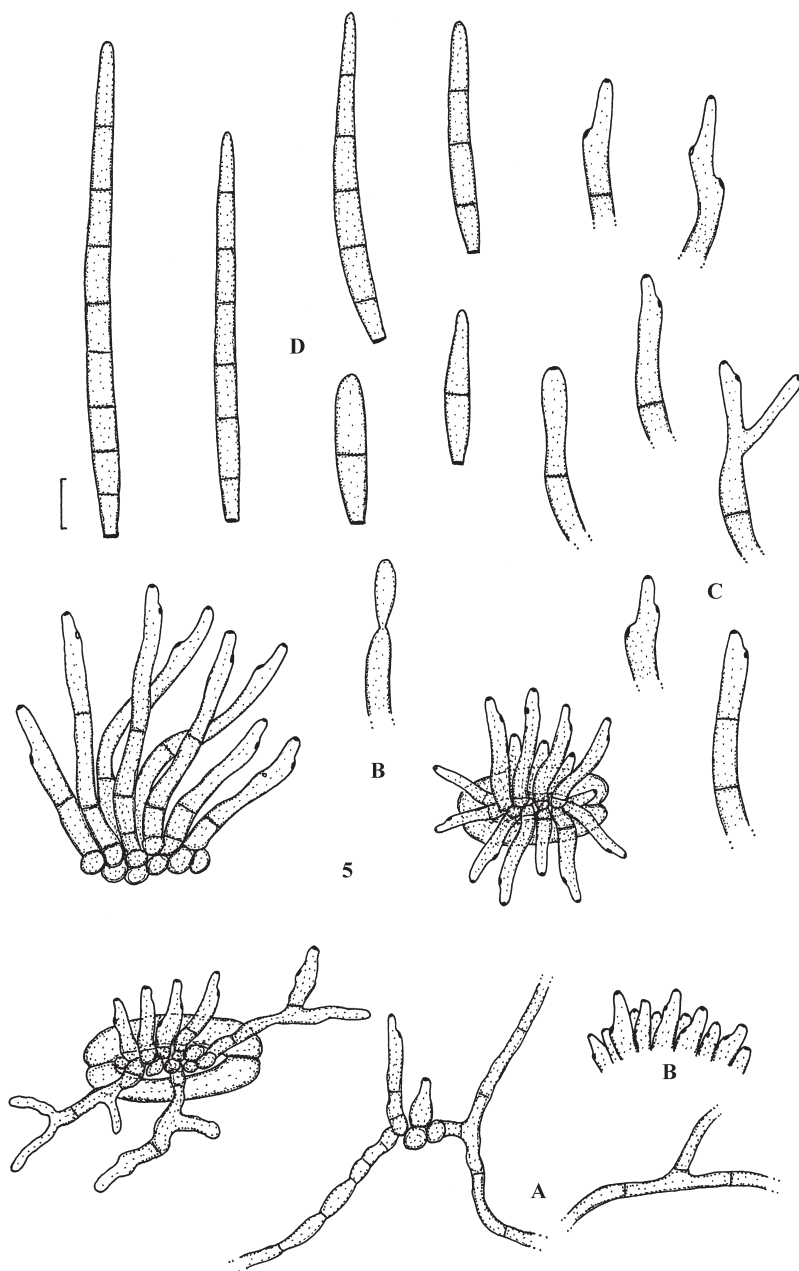


Fig. 5: *Passalora senecionicola*. A – hyphae, B – conidiophore fascicles, C – conidiophores, D – conidia, bar = 10 µm, U. Braun del.

from Europe and collections from North America have been examined. *P. jacquiniana* has also been reported from Argentina as well as Trinidad and Tobago. These collections have not been available for a re-examination. A confusion with the present new species cannot be excluded.

Cercospora senecionis Ellis & Everh., reduced to synonymy with *C. jacquiniana* in CHUPP (1954), is, however, a true *Cercospora* s. str. with colourless acicular conidia, and has been considered a synonym of *Cercospora apii* Fresen. s. lat. by CROUS & BRAUN (2003). *Cercospora senecionicola* Davis is also a true member of *Cercospora* s. str. (CHUPP 1954, CROUS & BRAUN 2003).

Pseudoasperisporium millettiae* U. Braun & Hosag., *anam. sp. nov.

(MB 500519, Fig. 6)

Differt a *P. tupae* et *P. puccinioides* conidiomatibus majoribus, 30–120(–250) × 20–50 µm, immersis; conidiophoris angustioribus, 2–5 µm latis; conidiis minoribus, (10–)14–22(–25) × 4.5–6.5 µm, (0–)1-septatis.

Holotype: on *Millettia peguensis* (Fabaceae), India, Kerala State, Palode, Campus of the Tropical Botanic Garden and Research Institute, 6 Apr. 2001, V.B. Hosagoudar (HAL 1723 F).

Leaf spots amphigenous, angular-irregular, at first minute, 0.2–0.5 mm wide, often vein-limited, pale to dark brown, later confluent, forming large patches, 2–25 mm wide, finally covering large leaf segments or even entire leaves. Caespituli hypophyllous, rarely epiphyllous, punctiform, brown, scattered to gregarious. Mycelium internal; hyphae sparingly branched, septate, 2–4 µm wide, pale olivaceous-brown, thin-walled, smooth to rough-walled. Conidiomata large, sporodochial, medium to medium dark brown, composed of large stromata and numerous densely arranged conidiophores, stromata subglobose to applanate, occasionally irregular or oblong, 30–120 µm wide or up to 250 µm if oblong, and about 20–50 µm deep, at first immersed, later often slightly erumpent. Conidiophores very numerous, arising from stromata, densely arranged, erect, reduced to conidiogenous cells, subcylindrical, conic, ampulliform, unbranched, 5–15 × 2–5 µm, aseptate, subhyaline to pale olivaceous-brown, thin-walled, almost smooth to usually verruculose; conidiogenous cells monoblastic to polyblastic, usually with a single or two conidiogenous loci, 1–2 µm wide, truncate to somewhat convex, almost inconspicuous to subdenticulate, unthickened, not darkened, at most somewhat refractive. Conidia solitary, broadly ellipsoid-ovoid, obovoid, short cylindrical, subfusiform, (10–)14–22(–25) × 4.5–6.5 µm, subhyaline to pale olivaceous or olivaceous-brown, (0–)1-septate, usually non-constricted at the septa, occasionally slightly constricted, wall thin to slightly thickened, verruculose, apex rounded, base short obconically truncate, occasionally peg-like (denticle-like), 1–2 µm wide, hila unthickened, not darkened, occasionally somewhat refractive.

Notes: Based on sporodochial conidiomata and verruculose conidia formed singly, this fungus seemed to be close to species of the genus *Asperisporium* Maubl. However, species of the latter genus are characterised by having conspicuously thickened and darkened, passalora-like conidiogenous loci (scars) and conidial hila (ELLIS 1971, CROUS & BRAUN 2003).

BRAUN (2000) introduced the new genus *Pseudoasperisporium* with *P. tupae* (Speg.) U. Braun (= *Cercospora tupae* Speg.) as type species for asperisporium-like hyphomycetes with unthickened, non-darkened conidiogenous loci. The new species on *Millettia peguensis* agrees well with the concept of *Pseudoasperisporium* and can be placed in this genus easily. *Pseudoasperisporium tupae* is quite distinct from *P. millettiae* by having much smaller substomatal stromata, about 20–50 µm diam., much wider conidiophores (5–12 µm) and much larger conidia, 35–60 × 8–17 µm, with 1–3 septa.

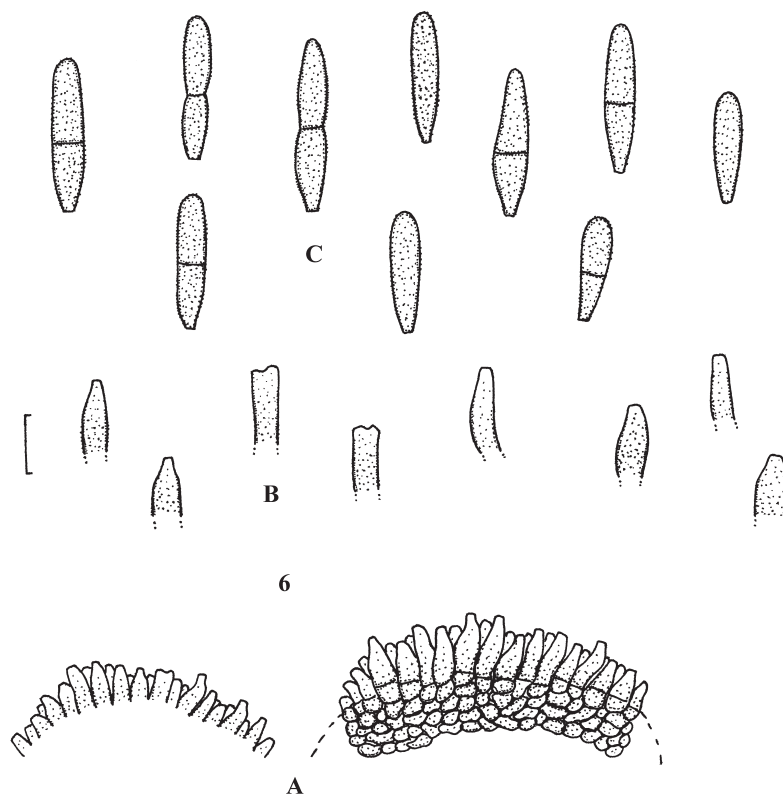


Fig. 6: *Pseudoasperisporium millettiae*. A – conidiophore fascicles (sporodochial conidiomata), B – conidiophores, C – conidia, bar = 10 µm, U. Braun del.

Pseudoasperisporium puccinioides (Cooke) K. Schub. & U. Braun (SCHUBERT & BRAUN 2005) differs from *P. millettiae* in having much longer conidiophores, $10\text{--}40\text{--}(80) \times 5\text{--}8\text{ }\mu\text{m}$, and much larger conidia, $22\text{--}48 \times 6\text{--}8\text{ }\mu\text{m}$.

The conidiogenous cells and loci of *P. millettiae* resemble those of various species of the genus *Fusicladium* Bonord. (emend. SCHUBERT et al. 2003). The conidiomata of *Fusicladium* species are usually non-sporodochial and the conidia are mostly smooth-walled, but there are a few exceptions. *Fusicladium lathyrinum* (Ellis & Galloway) S. Hughes & Piroz., *F. nebulosum* (Ellis & Everh.) Ritschel & U. Braun, *F. oleagineum* (Castagne) Ritschel & U. Braun, *F. pisicola* Linford, *F. phyllyreae* (Nicolas & Aggéry) Ritschel & U. Braun and *F. psoraleae* (Ellis & Barthol.) S. Huges & Piroz. are *Fusicladium* species with verrucose conidia (SCHUBERT et al. 2003). However, these species, with the exception of *F. psoraleae*, possess unilocal, determinate to percurrent conidiogenous cells with conspicuous annellations. The habit of *F. psoraleae* is fusicladium-like, i.e., with subcuticular stromata, solitary or loosely to densely grouped conidiophores, not formed in sporodochia. The taxonomy and phylogeny of *Fusicladium* species with verrucose conidia is not quite clear since molecular examinations and sequence data are not yet available.

(5) New records of cercosporoid hyphomycetes from Argentina

Cercospora apii Fresen. emend. CROUS & BRAUN (2003), on *Jaborosa runcinata* (Solanaceae), Province Buenos Aires, Bahía Blanca, 25 Mar. 2004, R. Delhey 1936 (HAL); *Oxybaphus ovatus* (Nyctaginaceae), Province Buenos Aires, Bahía Blanca, 19 Apr. 2001, R. Delhey 1743; Bahía Blanca, 25 Apr. 2001, R. Delhey 1744 (HAL). New hosts (CROUS & BRAUN 2003).

Pseudocercospora gomphrenae-pulchellae U. Braun, Delhey & Kiehr, on *Pfaffia glomerata* (Amaranthaceae), Province Buenos Aires, Magdalena, Atalaya (riverine forest), 27 Apr. 2004, R. Delhey & C.B. Villamil 1789 (HAL). New host [this species has been described by BRAUN, DELHEY & KIEHR (2001) from Argentina on *Gomphrena pulchella*].

Ramularia galegae Sacc., on *Galega officinalis* (Fabaceae), Province Rio Negro, Viedma, 3 Aug. 2001, R. Delhey & M. Kiehr, 1567, 1568 (HAL). New to Argentina (in South America known from Chile – BRAUN 1998).

Ramularia inaequalis (Preuss) U. Braun (= *R. picridis* Fautrey & Roum., *R. picridicola* Lindr., *R. helminthiae* Bremer & Petr.), on *Hedypnois cretica* (Asteraceae), Province Buenos Aires, Bahía Blanca, 26 Oct. 2001, R. Delhey & M. Kiehr 1583 (HAL); *Picris echinoides* (Asteraceae), Province Buenos Aires, Necochea, Mendoza river, near Energia, 22 Dec. 2000, R. Delhey 1513 (HAL). Hosts new to Argentina (BRAUN 1998).

References

- AMANO, K. 1986: Host range and geographical distribution of the powdery mildew fungi. Tokyo.
- BRAUN, U. 1987: A monograph of the Erysiphales (powdery mildews). Beihefte zur Nova Hedwigia **89**: 1–700.
- BRAUN, U. 1998: A monograph of *Cercospora*, *Ramularia* and allied genera (phytopathogenic hyphomycetes). Vol. 2. IHW-Verlag Eching.
- BRAUN, U. 2000: Annotated list of *Cercospora* spp. described by C. Spegazzini. Schlechtendalia **5**: 57–79.
- BRAUN, U., DELHEY, R. & KIEHR, M. 2000: Notes on some cercosporoid hyphomycetes from Argentina. Fungal Diversity **6**: 19–34.
- BRAUN, U. & MELNIK, V.A. 1997: Cercosporoid fungi from Russia and adjacent countries. Trudy Botanicheskogo Instituta Imeni V.L. Komarova, Rossijskaya Akademiya Nauk, St. Petersburg, **20**: 1–130.
- CHUPP, C. 1954: A monograph of the fungus genus *Cercospora*. Ithaca, New York. Published by the author.
- CROUS, P.W. & BRAUN, U. 2003: *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*. CBS Biodiversity Series **1**: 1–569, Utrecht.
- ELLIS, M.B. 1971: Dematiaceous hyphomycetes. CMI, Kew.
- FARR, D.F., BILLS, G.F., CHAMURIS, G.P. & ROSSMAN, A.Y. 1989: Fungi on plants and plant products in the United States. APS Press, St. Paul, MN.
- GORTER, G.J.M. & EICKER, A. 1985: Two previously undescribed *Oidium* species from South Africa. Mycotaxon **22**: 39–42.
- MATSUDA, S. & TAKAMATSU, S. 2003: Evolution of host-parasite relationships of *Golovinomyces* (Ascomycete: Erysiphaceae) inferred from nuclear rDNA sequences. Molecular Phylogenetics and Evolution **27**: 314–327.
- NOMURA, Y. 1997: Taxonomical study of Erysiphaceae of Japan. Yokendo LTD, Tokyo.

- SCHUBERT, K. & BRAUN, U. 2005: Taxonomic revision of the genus *Cladosporium* s.l. 4. Species reallocated to *Asperisporium*, *Dischloridium*, *Fusicladium*, *Passalora*, *Pseudasperisporium* and *Stenella*. Fungal Diversity **20**: 187–208.
- SCHUBERT, K., RITSCHEL, A. & BRAUN, U. 2003: A monograph of *Fusicladium* s. lat. (Hyphomycetes). Schlechtendalia **9**: 1–132.
- SHIN, H.D. 2000: Erysiphaceae of Korea. Plant Pathogens of Korea **1**: 1–320.
- TO-ANUN, C., KOM-UN, S., SUNAWAN, A., FANGTUK, W., SATO, Y. & TAKAMTSU, S. 2005: A new subgenus, *Microidium*, of *Oidium* (Erysiphaceae) on *Phyllanthus* spp. Mycoscience **46**: 1–8.

Addresses of the authors

- U. Braun, Martin-Luther-Universität, FB Biologie, Institut für Geobotanik und Botanischer Garten, Neuwerk 21, D-06099 Halle/Saale, BR Deutschland. (E-mail: uwe.braun@botanik.uni-halle.de).
- R. Delhey, Universidad Nacional del Sur, Departamento de Agronomía, Altos de Palihue, 8000 Bahía Blanca, Argentina. (e-mail: rdelhey@criba.edu.ar)
- J.C. Dianese, Universidade de Brasília, Departamento de Fitopatologia, 070910-900 Brasília, DF, Brazil. (E-mail: jcarmine@unb.br)
- V.B. Hosagoudar, Tropical Botanic Garden and Research Institute, Palode 695562, Thiurvananthapuram, Kerala, India. (E-mail: hosagoudar@hotmail.com)

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Autor(en)/Author(s): Braun Uwe, Delhey Rolf, Dianese Jose C., Hosagoudar Virupakshagouda B.

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