

Phytoparasitic Hyphomycetes from Utah (USA) – II

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Cladosporium agoseridis sp. nov. is described and the new combination *Passalora platyspora* is introduced. Some species new to North America and new hosts are recorded.

Keywords: Hyphomycetes, USA, Utah, new records, *Cladosporium agoseridis*, *Passalora platyspora*.

During various excursions in Utah, USA, the senior author collected numerous phytopathogenic hyphomycetes. A *Cladosporium* on *Agoseris glauca* turned out to be a new species. It is described as *Cladosporium agoseridis*. Furthermore, the following new host plants and fungal species new to North America are recorded: *Thermopsis montana* [new host plant of *Cercostigmia thermopsidis* (Earle) U. Braun], *Cladosporium aecidiicola* Thüm. (new to North America), *Perideridia gairdneri* [new host for *Passalora punctum* (Delacr.) S. Petzoldt], *Ramularia lycopi* Hollós on *Lycopus asper* (new to North America, new host). The new combination *Passalora platyspora* (Ell. & Holway) U. Braun is introduced. The present part continues the paper published by Braun & Rogerson (1993).

Cercostigmia thermopsidis (Earle) U. Braun, *Crypt. Bot.* 4: 108 (1993).

= *Cercospora thermopsidis* Earle, *Bull. New York bot. Gard.* 2: 348 (1902).

= *Stigmia earlei* Deighton, *Mycol. Pap.* 151: 8 (1983).

Material examined. – USA: Utah, San Juan Co., Manti-La Sal National Forest, west of Monticello, on *Thermopsis montana* Nutt., Aug. 28, 1988, C. T. Rogerson 88-123 (NY, HAL). Washington Co., Dixie National Forest, north side of Pine Valley Mountains, Whipple Creek Trailhead, Aug. 22, 1991, C. T. Rogerson 91-66 (NY, HAL).

This is the first record of *C. thermopsidis* from Utah and *Thermopsis montana* is a new host species (cf. Farr & al., 1989). There

is a third collection on this host from Arizona [Cochise Co., Coronado National Forest, Rustler Park Campground, west of Portal, Aug. 22, 1994, C. T. Rogerson 94-50 (NY, HAL)].

Cladosporium aecidiicola Thüm., Mycotheca universalis 173 (1876).

Material examined. – USA: Utah, Wasatch Co., Uinta National Forest, Soldier Creek Bay, near Aspen Grove Recreation Site, on aecia of *Puccinia grindeliae* Peck on leaves of *Chrysothamnus viscidiflorus* var. *lanceolatus* (Nutt.) Greene [det. (host plant): N. H. Holmgren], Sept. 8, 1994, C. T. Rogerson 94-51 (NY, HAL).

According to Ellis (1976), this species was only known from Europe. The host is new.

Cladosporium agoseridis U. Braun & Rogerson sp. nov. – Fig. 1.

Maculae amphigenae, subcirculares vel irregulares, 1–3 mm diam. vel confluentes, griseo-brunneae, saepe zonatae, margine tenui atriore brunneo cinctae. Caespituli amphigeni, punctiformes vel subeffusi, brunnei. Mycelium immersum. Hyphae brunneae, septatae, ramosae, ca. 3–10 μm latae, interdum aggregatae, inflatae, ca. 5–15 μm latae, subcuticulares vel intraepidermales. Conidiophora solitaria vel laxe subfasciculata, erumpentia, simplicia, 20–60 x 3–10 μm , erecta, subcylindrica vel curvata, geniculata-sinuosa, saepe apicem versus attenuata, pallide flavida, olivacea vel brunnea, modice crassitunicata, levia. Cicatrices conidiales conspicuae, prominentes, incrassatae, fuscae. Conidia catenata vel ramificata, subglobosa, ellipsoidea-ovoidea, subcylindrica, (10–)12–30(–50) x (5–)6–13(–15) μm , 0–1(–3) septata, pallide flavida, olivacea vel brunnea, dense verrucosa, modice crassitunicata; hila prominentia, incrassata, fusca.

Holotypus. – USA: Utah, Washington Co., northwest side of Pine Valley Mountain, northeast of Diamond Valley, vicinity of Mud Spring, on *Agoseris glauca* (Pursh) Raf. (Asteraceae), June 7, 1994, C. T. Rogerson 94-49 (NY). Isotypus: HAL.

Leaf spots amphigenous, subcircular or somewhat irregular, 1–3 mm diam. or confluent and larger, greyish brown, often somewhat zonate, surrounded by a narrow darker margin or marginal line, finally large leaf segments or entire leaves discoloured, brown, necrotic. – **Caespituli** amphigenous, punctiform to subeffuse, brown. – **Mycelium** internal; hyphae brown, septate, branched, ca. 3–10 μm wide, forming small subcuticular to intraepidermal aggregations of inflated hyphal cells, ca. 5–15 μm wide, brown. – **Conidiophores** solitary or in small loose groups or fascicles, arising from internal hyphae or hyphal aggregations, erumpent, simple, 20–60 x 3–10 μm , straight and subcylindric to curved, geniculate-sinuuous, often wider near the base and attenuated towards the apex, pale yellowish, olivaceous to brown, wall somewhat thickened, smooth; conidial scars conspicuous, prominent, thickened

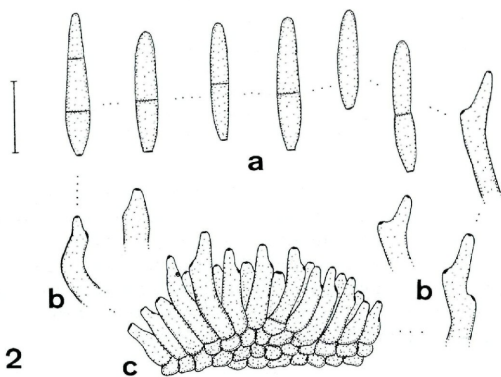
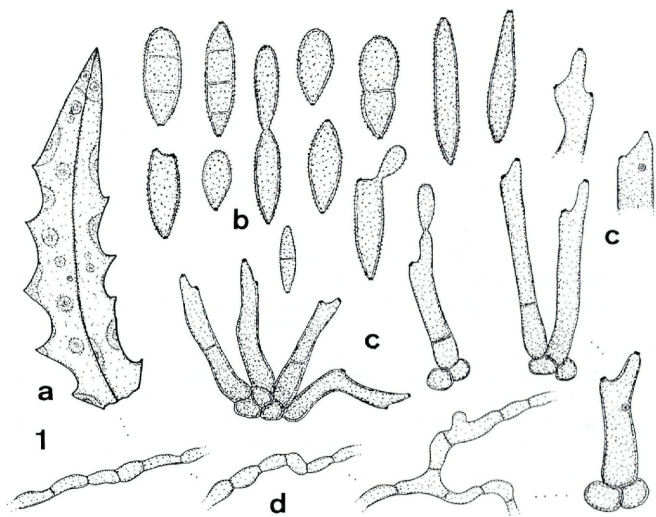


Fig. 1. - *Cladosporium agoseridis* sp. nov. - a. lesions. - b. conidia. - c. conidiophores. - d. hyphae.

Fig. 2. - *Passalora punctum* on *Perideridia gairdneri*. - a. conidia. - b. conidiophores. - c. fascicle of conidiophores. - Bar = 20 μ m. U. Braun del.

and darkened (*Cladosporium* type). – Conidia catenate, often in branched chains, subglobose, ellipsoid-ovoid, subcylindric, (10–)12–30(–50) x (5–)6–13(–15) μm , 0–1(–3)-septate, pale yellowish, olivaceous to brown, wall densely verrucose, somewhat thickened; hila prominent, thickened and darkened (*Cladosporium* type).

C. agoseridis is biologically distinct from *C. herbarum* (Pers.) Link, *C. macrocarpum* Preuss, *C. cladosporioides* (Fres.) de Vries and other saprobic species. The new species is phytopathogenic and causes definite leaf spots. *C. herbarum* and *C. macrocarpum* are morphologically distinguished by much longer nodulose conidiophores and much narrower conidia, mostly 2–5 μm wide. The conidiophores of *C. variabilis* (Cooke) de Vries are similar, but the conidiophores are much longer, often nodulose and tortuous, and spirally coiled aerial hyphae are present. *C. obtectum* Rabenh. (on *Artemisia*, Asteraceae, Sardinia) and *C. gynoxidicola* Petr. (on *Gynoxys*, Asteraceae, Ecuador) are distinguished by having frequently branched conidiophores. The latter species is rather *Mycovellosiella*-like (Ellis, 1971, 1976). Shaw (1973) recorded *Cladosporium* spec. on *Agoseris glauca* from Washington. This record seems to belong to the present species.

Passalora punctum (Delacr.) S. Petzoldt, in Arx, Plant Pathogenic Fungi: 288, Berlin, Stuttgart 1987 (sub „*puncta*“). – Fig. 2.
= *Cercosporidium punctum* (Delacr.) Deighton, Mycol. Pap. 112: 47 (1967).

Material examined. – USA: Utah, Weber Co., Wasatch Mts., Coldwater Canyon, east of Ogden, on *Perideridia gairdneri* (Hook. & Arnott) Mathias (Apiaceae), Aug. 14, 1990, C. T. Rogerson 90-94 (NY, HAL).

This collection is characterized as follows:

Conidiomata punctiform, large, sporodochial; stromata substomatal, large, 30–100 μm diam. – Conidiophores very numerous, in dense fascicles, usually curved, 8–40 x 3–9 μm , continuous or with a single basal septum, olivaceous brown, partly geniculate. – Conidia subcylindric (–obclavate), 25–45 x (4–)5–7(–9) μm , hyaline or subhyaline, smooth.

Perideridia gairdneri has been recorded from North America as host of *Cercosporidium depressum* (Berk. & Br.) Deighton (= *Passalora depressa* (Berk. & Br.) Sacc.) and *Cercosporidium punctiforme* (G. Winter) Deighton (Farr & al., 1989). The latter species differs, however, by having distinctly septate conidiophores and verruculose conidia (distinctly verruculose in the lower half). *Passalora depressa*

is characterized by non-geniculate conidiophores and faintly pigmented conidia.

The genus *Cercosporidium* has been reduced to synonymy with *Passalora* (Arx, 1983; Deighton, 1990; Braun, 1995). *Passalora platyspora* is the correct name for *Cercosporidium punctiforme* in this genus:

Passalora platyspora (Ell. & Holway) U. Braun comb. nov.

- Bas.: *Cercospora platyspora* Ell. & Holway, J. Mycol. 3: 16 (1887).
= *Didymaria platyspora* (Ell. & Holway) Ell. & Ev., North American Fungi, Second Ser., 2873 (1893).
= *Fusicladium depressum* var. *platysporum* (Ell. & Holway) J. J. Davis, Parasitic fungi of Wisconsin: 113 (1942).
= *Fusicladium punctiforme* G. Winter, in Rabenh., Fungi europaei et extraeuropaei 3582 (1886), non *Passalora punctiformis* Otth, Mitt. naturf. Ges. Bern: 66 (1868).
= *Cercosporidium punctiforme* (G. Winter) Deighton, Mycol. Pap. 112: 45 (1967).
= *Passalora winteriana* U. Braun, Nova Hedwigia 55: 214 (1992).

Ramularia lycopi Hollós, Annls Mus. nat. Hung. 5: 467 (1907).

Material examined. – USA: Utah, Weber Co., North Fork County Park, along Cutler Creek, east side of Wasatch Mts., northwest of Liberty, on *Lycopus asper* Greene (Lamiaceae), Aug. 16, 1989, C. T. Rogerson 89-108 (NY, HAL).

This species is new to North America and the host plant is also new.

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