

Stagonospora chrysopyla



Fungal Planet 317 – 24 November 2014

***Stagonospora chrysopyla* Romberg & Rooney-Latham, sp. nov.**

Etymology. Named after the location where this fungus was collected, Golden Gate Park Conservancy, San Francisco, California, USA, *chryso* = gold, *pyla* = gate.

Leaf spots spreading longitudinally along the leaf, angular, reddish brown, up to 5 cm in length, edges indistinct. *Conidiomata* immersed, globose to subglobose, up to 250 µm diam, dark brown, scattered, subepidermal; wall of 3–6 layers of brown *textura intricata*, ostiole indistinct, only present on abaxial surface, 30–50 µm diam. *Conidiophores* reduced to conidiogenous cells. *Conidiogenous cells* hyaline, smooth, lining inner cavity, ampulliform to subglobose, 10–20 × 5–12 µm. *Conidia* solitary, hyaline, smooth, cylindrical, straight, apex obtuse to subobtuse, base truncate, (3–)5–6(–7)-septate, (48–)50–65(–69) × (5–)7–8(–10) µm.

Culture characteristics — Colonies flat, circular, with even margins, 50 mm diam after 2 wk at 20 °C in dark on PDA. Aerial mycelium sparse, cream-coloured at first, becoming pale olivaceous-grey to olivaceous-grey, reverse olivaceous-grey (Rayner 1970).

Typus. USA, California, Marin County, Golden Gate Park Conservancy, on leaves of *Scirpus microcarpus* (Cyperaceae), 15 Jan. 2014, A. Shor (holotype BPI892895, culture ex-type CBS 137792; ITS sequence GenBank KM033942, TUB sequence GenBank KM033943, MycoBank MB809083).

Notes — Of the more than 500 names in *Stagonospora*, fewer than 20 are represented in the NCBI GenBank. Shown in the table is a comparison of conidial measurements and number of septa for the species of *Stagonospora* currently described from *Scirpus*, as well as larger-spored *Stagonospora* spp. described from hosts in the Cyperaceae that are not represented in GenBank (Tehon 1933, Cunnell 1957, Castellani & Germano 1977). The conidia of *Stagonospora chrysopyla* are larger than those of other species of *Stagonospora* on *Scirpus* and it is also the first *Stagonospora* described from *Scirpus microcarpus*. Of the larger-spored *Stagonospora* on Cyperaceae, *S. chrysopyla* most resembles *S. dolosa*, but differs in having smaller and thinner conidia that are 5–6-septate rather than mainly 5-septate. The conidial size of *S. chrysopyla* also overlaps with that of *S. foliicola*; however, the examined herbarium specimens of *S. foliicola* show a great deal of variation and the circumscription of this species may need to be re-examined. The ITS region of *S. chrysopyla* has 90 % identity to *S. foliicola* (GenBank KF251256).

ITS. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits of the ITS sequence had highest similarity to *S. paludosa* (GenBank KF251257; Identities = 493/518 (95 %)) and *S. pseudocaricis* (GenBank KF251260; Identities = 494/517 (96 %)). Both of these species differ from *S. chrysopyla* in conidial size and reported host (Crous et al. 2013, Quaedvlieg et al. 2013).

TUB. Based on a megablast search of NCBI's GenBank nucleotide database, the closest hits of the TUB sequences are *S. paludosa* (GenBank KF252740, Identities = 392/416 (94 %)) and *S. pseudocaricis* (GenBank KF252741, Identities = 395/420 (94 %)).

Table Comparison of conidial measurements and number of septa for selected species of *Stagonospora*.

Species	Conidia (µm) ¹	No. of septa	Specimen(s) examined	Reported host(s)
<i>Stagonospora aquatica</i>	25–30 × 5–6	3	–	<i>Scirpus</i>
<i>S. aquatica</i> var. <i>sexseptata</i>	32–35 × 5–6	6	–	<i>Scirpus</i>
<i>S. chrysopyla</i>	50–65 × 7–8	5–6	BPI 892895	<i>Scirpus</i>
<i>S. cylindrica</i>	48–78 × 8–11.5	3(–4)	–	<i>Phragmites</i>
<i>S. dolosa</i>	60–70 × 10	5	BPI 374901	<i>Phragmites</i>
<i>S. elegans</i>	52–84 × 8.5–14	(3–)4–6	–	<i>Phragmites</i>
<i>S. foliicola</i>	35–90 × 5.5–9.5	6–12	BPI 374911 / BPI 374909	Various
<i>S. gigaspora</i>	58–84 × 10–14	6–9	BPI 374955	<i>Carex</i>
<i>S. maritima</i>	16–20 × 4–6.5	2	–	Various
<i>S. scirpi</i>	20–28 × 5–6.5	(3–)4–5	–	<i>Scirpus</i>
<i>S. scirpicola</i>	12–18 × 2.5–3	3	BPI375122	<i>Scirpus</i>
<i>S. scirpini</i>	20 × 3–4	1–4	BPI375126	<i>Scirpus</i>

¹ Conidial measurements as presented in species descriptions in Tehon (1933), Cunnell (1957), Castellani & Germano (1977) and/or determined upon examination of herbarium specimens.

Colour illustrations. Leaves of *Scirpus microcarpus* growing at the Golden Gate Park Conservancy (photo: A. Shor); leaf surface with ostiole, pycnidial surface (bar = 100 µm), pycnidium (bar = 100 µm), conidiogenous cells and conidia (bars = 10 µm).

Megan K. Romberg, USDA APHIS PPQ NIS, 10300 Baltimore Ave, Beltsville, MD 20705;
e-mail: Megan.K.Romberg@aphis.usda.gov
Suzanne Rooney-Latham, California Department of Food and Agriculture, 3294 Meadowview Road, Sacramento, CA 95832;
e-mail: slatham@cdfa.ca.gov