First Report of Twig Canker of Blueberry Caused by *Sporocadus lichenicola* (Corda) in Oregon

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In April 2008, 15 twig pieces (3 to 10-mm diameter) from a 12-year-old 'Herbert' highbush blueberry plant (*Vaccinium corymbosum*) in Parkdale, OR, were submitted to the Oregon State University Plant Clinic with stem cankers. The damage was first noticed in a scattered pattern, affecting fewer than 5% of the field during early spring of the previous year. All twigs had multiple, grey-white cankers with reddish margins associated with nodes and ranged from 1 cm to the entire length of the twig piece (Fig. 1). Dark brown to black fruiting bodies were associated with these cankers on all 15 twigs submitted (Fig. 2). Isolations were made to two different media and the resulting fungus was hyphal-tipped and subsequently single-spored for use as future inoculum. Two twigs were also placed in a moist chamber, and conidia observed after four days. These dark brown conidia were on average 15 µm long and 5.5 µm in diameter, with 1 to 3 thick transverse septa (Fig. 3). PCR using primers ITS4 and ITS1-F for amplification of the ITS1/5.8S rDNA/ITS2 region (3) from fungal DNA extracts yielded a product with a sequence sharing 99% identity (570/574 bp) with the same ribosomal DNA region of *Discostroma fuscellum* (GenBank: AF377284.1). Conidial morphology (4) and DNA sequencing (deposited into Genbank: GU244511) thus identify the fungus as *Sporocadus lichenicola* (Corda) (teleomorph *Discostroma fuscellum*).
To satisfy Koch’s postulates, four one-year-old ‘Brigitta’ blueberry plants were inoculated with agar plugs (half strength potato dextrose agar) of 11-day-old single-spored cultures of \textit{S. lichenicola} previously isolated from symptomatic twigs of the original ‘Herbert’ plant. Agar plugs contained both mycelia and conidial masses. Two of these plants were wounded prior to inoculation, by making incisions into stems (8 mm long, 1 mm deep) and laminas (8 mm long, into mesophyll), and the other two plants were left intact. Another two plants were used as negative controls and inoculated with uncolonized agar plugs, one plant wounded and the other kept intact. For each plant, three leaves and three stems were inoculated. All agar plugs were kept in place by wrapping Parafilm strips around inoculated stems and leaves. Plants were moistened and each enclosed in separate plastic bags for seven days. Plants were evaluated for symptoms two weeks later. Small cankers developed on two of the six wound-inoculated stems and necrosis developed around one of the six wound-inoculated leaves. The entire experiment was repeated and symptoms developed on all six wound-inoculated stems and on one of the six wound-inoculated leaves. No symptoms developed on control plants or on plants inoculated without wounding. Small black pycnidia of \textit{S. lichenicola} were present in the center of new lesions 3 to 4 weeks after successful stem inoculations, and \textit{S. lichenicola} was isolated from all stem and leaf lesions, fulfilling Koch’s postulates.

Results indicate that \textit{S. lichenicola} can infect blueberry plants and cause extensive stem cankers, girdling and twig death of blueberry following mechanical injury. Presumably plants suffering winter injury, sunscald, and damage from other sources would also be susceptible. Since \textit{S. lichenicola} requires host predisposition for infection to occur, we suspect that more wounds might have been infected if the plants were placed under increased environmental stress. This disease was first reported from blueberry in Massachusetts in the late 1950s and later from Michigan (2). \textit{S. lichenicola} also causes Ascospora dieback on red and black raspberry, and Himalaya and evergreen blackberry (1), which could potentially act as a source of inoculum for blueberry. To our knowledge, this is the first report of \textit{S. lichenicola} causing stem cankers of blueberry in the western United States.

\textbf{Literature Cited}
