

First Report of Boxwood Blight Caused by *Cylindrocladium pseudonaviculatum* in the United States.

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In September and October 2011, a new disease was observed on *Buxus* spp. in North Carolina (NC) and Connecticut (CT), respectively. In NC, over 10,000 containerized *B. sempervirens* (American boxwood) were affected at one location. A few weeks later the disease was found in CT on entire plantings of *B. sempervirens* ‘Suffruticosa’ (English boxwood) at two residential properties, and shortly thereafter on over 150,000 plants at two production nurseries. Initial foliar symptoms appeared as light to dark brown spots, often with dark borders. Spots enlarged and coalesced, often with a concentric pattern, and black streaks or cankers developed on stems. Infected leaves became brown or straw colored and dropped quickly after foliar symptoms were visible. Branch dieback and plant death were also observed in CT. Cultures were isolated from symptomatic leaves and stems and identified as *Cylindrocladium pseudonaviculatum* Crous, Groenewald & Hill 2002 (1) (syn. *Cylindrocladium buxicola* Henricot 2002 (2)) based on morphological characteristics. Macroconidiophores were single or in groups up to 3 and were comprised of a stipe, stipe extension and a penicillate arrangement of fertile branches. The stipe extension was septate, hyaline (89 to 170 × 2 to 4.5 µm) and terminated in an ellipsoidal vesicle (6 to 11 µm diameter) with a papillate or pointed apex. Conidia were cylindrical, straight, hyaline, and one septate (48 to 62 × 4 to 6 µm), occurring in slimy clusters. No microconidiophores were observed. Chlamydospores were medium to dark brown, thick-walled and smooth to rough. Microsclerotia were observed on PDA (1). A portion of β-tubulin gene sequence from two CT (Genbank accession nos. JQ866628, JQ866629) and two NC isolates showed 100% similarity with only *C. pseudonaviculatum* strains. USDA-APHIS-PPQ confirmed this new U.S. record on 24 Oct 2011. Pathogenicity was confirmed by inoculating three one-gallon container plants of *B. sempervirens* ‘Suffruticosa’ in NC and four liners of *B. sinica* var. *insularis* X *B. sempervirens* ‘Green Velvet’ in CT with a spore suspension of approx. 5.0 × 10⁶ conidia (NC) or 1.0 × 10⁶ conidia (CT) on the foliage of each plant; untreated control plants were sprayed with water. After incubation at ambient temperature, all inoculated plants developed foliar and stem lesions within 3 to 4 days and blighting occurred within 2 weeks; control plants remained asymptomatic. *C. pseudonaviculatum* was re-isolated from inoculated plants. To our knowledge, this is the first report of *C. pseudonaviculatum* in the U.S. *C. pseudonaviculatum* causes a serious disease of *Buxus* spp. in the United Kingdom and

several other European countries as well as New Zealand (1). Confirmation of boxwood blight in the U.S. is significant because of the popularity of boxwood as a landscape plant, and because of the potential economic impact this disease may have on commercial growers; boxwood production in the U.S. has an annual wholesale market value of approx. \$103 M (3).

References: (1) P. Crous, et al. *Sydowia* 54:23, 2002. (2) B. Henricot and A. Culham *Mycologia* 94: 980, 2002. (3) USDA-NASS, *Census of Horticulture*, 2010.