

First report of *Seiridium unicorne* causing bark cankers on a Monterey cypress in California

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In June 2009, dieback of distal branches, and resin exudation associated with bark lesions were observed in an adult *Cupressus macrocarpa* tree in Sonoma County, California (Glenn Ellen; 38° 21' N, 122° 31' W; 233 m elevation). The fungal pathogen *S. unicorne* was obtained by plating fragments of necrotic bark from the margins of branch cankers on PDA (potato dextrose agar). Identification was based on cultural, morphological, and molecular traits (1, 2). Colonies on PDA were dense, cottony, off-white at first, then turning pale grey-green, 2.3 and 4.3 cm in diameter after one week and two weeks of growth at 20°C, respectively. Colonies of the fungus showed a faster radial growth at 20°C than at 25°C. Acervuli were abundantly produced on WA (water agar) amended with autoclaved cypress seeds after 2-3 weeks at 18°C under a mixture of fluorescent and near ultraviolet light. Conidia were six-celled (5-euseptate), fusiform, 20.9-35.2 x 7.11-10.57 µm, straight or slightly curved, with four brown median cells and with end cells bearing unbranched appendages 2-5 µm long. The DNA sequence of a portion of the β-tubulin locus (GenBank accession HQ678171) revealed a 100% homology with sequences of *S. unicorne* isolates from Portugal and South Africa, while being clearly distinct from sequences of *S. cupressi* and *S. cardinale* isolates (2). Greenhouse stem inoculations were performed by underbark placement of a 3-mm plug taken from the margins of a colony of the fungus grown on PDA. Inoculations were repeated twice in the Spring and Fall of 2010, on 10 *C. macrocarpa* saplings, grown in pots for three years. Three months post-inoculation, the pathogen could be successfully re-isolated from the edges of 15-30 mm-long elliptical lesions, present on each one of the inoculated saplings. The observed *S. unicorne* isolate is atypical because of its shorter appendages compared to the form reported in the literature (1, 2). Due to its shorter conidial appendages and to its in vitro temperature optimum of 18-20°C, the fungus described here is similar to an unnamed *Coryneum* sp. observed by Wagener on *C. macrocarpa* (3). *S. unicorne* is a pathogen of many Cupressaceae in Africa, New Zealand, Japan and some US states (Georgia, South Carolina, Kansas and Texas) (1), and although it was mentioned in a USDA Plant Quarantine Division report from 1963 as found on cypress in San Francisco (4), it has never been officially reported from California. Since similar disease symptoms were observed on many Cupressaceae in the course of an extensive survey performed in 2009 in California, it may be important to evaluate the relative

incidence of *S. unicorne* compared to that of *S. cardinale*, a pathogen more commonly reported in association with the disease (3).