Disease Notes

First Report of a Root Rot Caused by *Rosellinia necatrix* on Camellia in Spain. J. P. Mansilla, O. Aguín, and M. C. Salinero, Estación Fitopatológica "Do Areeiro," Subida a la Robleda s/n, E-36153 Pontevedra, Spain. Plant Dis. 86:813, 2002; published on-line as D-2002-0426-01N, 2002. Accepted for publication 8 March 2002.

Camellias are widely cultivated in gardens and grown in nurseries for plant and flower production in northwestern Spain. *Camellia japonica* L. is most frequently grown, but many other camellia species and hybrids are also produced. In spring 1998, plants of *Camellia* sp. from a garden were observed to be affected by a root fungal pathogen, that formed a white mycelium that covered most of the roots, while aboveground plant parts showed a general decline. Infected roots were macerated and discolored. Fragments of the infected roots were surface-sterilized and placed in petri dishes containing potato dextrose agar and incubated at 24°C in the dark. The fungus formed a white mycelium that turned black in 1 week, developing pyriform swellings characteristic of *Rosellinia necatrix* Prill (1). To confirm pathogenicity, inoculum of the isolate was produced on wheat (*Triticum aestivum* L.) seeds autoclaved in glass vessels for 30 min at 120°C. Wheat seed cultures were started from disks of *R. necatrix* mycelium and grown at 24°C in the dark for 30 days. Pathogenicity tests were conducted on 48 2-year-old plants of the hybrid *Camellia* × *williamsii* cv. Mary Phoebe Taylor, which had been grown in 1.5-liter pots (one plant per pot) filled with soil in a glasshouse. The *R. necatrix* isolate was inoculated by adding 30 g of infected wheat seeds to each pot. The inoculum was mixed thoroughly with the substrate before potting. Another set of pots was left uninoculated, and served as a control. All pots were randomly arranged in a growth chamber at 22 to 24°C with a 12-h photoperiod. Seventeen days after inoculation, aerial symptoms of chlorosis and leaf fall were observed, while control plants remained symptomless. Inoculated plants died 3 months after inoculation. *R. necatrix* was reisolated from roots of all infected plants. To our knowledge, this is the first report of a root rot of camellia caused by *R. necatrix*, a pathogen causing white root rot mainly in deciduous fruit crops.

Reference: (1) S. Freeman and A. Sztejnberg. Pages 71-73 in: Methods for Research on Soilborne Phytopathogenic Fungi. The American Phytopathological Society, St. Paul, MN, 1992.

Two New Races of *Phytophthora phaseoli* from Lima Bean in Delaware. T. A. Evans, C. R. Davidson, J. D. Dominiak, R. P. Mulrooney, and R. B. Carroll, Department of Plant and Soil Sciences, University of Delaware, Newark 19717; and S. H. Antonius, ADM-ASI, Caldwell, ID 83605. Plant Dis. 86:813, 2002; published on-line as D-2002-0424-01N, 2002. Accepted for publication 19 March 2002.

Downy mildew, incited by *Phytophthora phaseoli* Thaxt., is the most important disease of lima bean (*Phaseolus lunatus* L.) on the east coast of the United States. It has been a serious threat to commercial lima bean production in Delaware, Maryland, and New Jersey for the past 5 years. Growers have attempted to manage this disease using resistant cultivars and copper hydroxide fungicides. In August and September 1995, a new pathogenic race of *P. phaseoli* was isolated from infected pods of the lima bean cv. Packer in a production field near Milton, DE. Races of *P. phaseoli* are determined using a modification of a cultivar differential developed by Wester (3). The cv. 184-85, which is resistant to races A, B, C, and D (1), is susceptible to the new race, designated as E. In August 2000, another new pathogenic race of *P. phaseoli* was isolated from infected pods of cv. 184-85 near Middletown, DE. The lima bean line BG2-408, which is resistant to races A, B, C, D, and E, is susceptible to the new race, designated as F. Symptoms produced on lima bean plants infected by races E and F are similar to each other, and to those produced by all other races. All races of *P. phaseoli* have the same cultural characteristics on lima bean pod agar. Evaluations of in field weather station data and disease occurrence indicate that races E and F may have temperature maxima greater than 32°C, whereas race D has a maximum of less than 32°C (2). During the 2000 growing season, 118 isolates of *P. phaseoli* were collected from 44 production fields in Delaware and the eastern shore of Maryland, with 86% characterized as race E and 5% as race F.

References: (1) C. R. Davidson et al. Biol. Cult. Tests 2001:V80. (2) R. A. Hyre and R. S. Cox. Phytopathology 43:419, 1953. (3) R. E. Wester. Phytopathology 60:1856, 1970.

First Report of the Pathogenicity of *Rhizoctonia solani on Salvinia molesta* and *S. minima* in Florida. M. B. Rayachhetry, Fort Lauderdale Research and Education Center, University of Florida, Fort Lauderdale 33314; T. R. Center, Nova High School, Fort Lauderdale, FL 33314; and T. D. Center, P. Tipping, P. D. Pratt, and T. K. Van, USDA-ARS, Invasive Plant Research Laboratory, Fort Lauderdale, FL 33314. Plant Dis. 86:813, 2002; published on-line as D-2002-0425-01N, 2002. Accepted for publication 18 March 2002.

Salvinia molesta Mitchell (giant salvinia) and *S. minima* Baker (common salvinia) are exotic aquatic ferns that have invaded drainage basins in Texas, Louisiana, Alabama, Arizona, California, Florida, Georgia, Hawaii, Mississippi, North Carolina, and Oklahoma (2). These ferns rapidly colonize bodies of water and form thick mats, displace native species, disrupt recreational activities like boating and fishing, block drainage and irrigation intakes, interfere with electricity generation, and degrade water quality (1). Patches of water-soaked lesions were observed on the pinnules and rachises of screenhouse-grown *S. molesta* plants in Florida. Mycelia spread centrifugally from these patches and caused diseased plants to disintegrate and sink. Brown-to-black sclerotia were formed on and around the disintegrated plants. A fungus was consistently isolated from symptomatic tissues of *S. molesta* plants. Seven-day-old cultures turned buff-colored and produced sclerotia on potato dextrose agar, while cultures on water agar were hyaline and produced black sclerotia. Both types of sclerotia were not differentiated into rind and medulla. The mycelia branched at right angles from the main hyphae, were constricted at the base of the angle, and had a septum after the constriction. Vegetative cells were multinucleate. The fungus was identified as *Rhizoctonia solani* Kühn (3,4). Koch's postulates were performed to confirm pathogenicity on *S. molesta* and *S. minima*. Seven-day-old cultures of *R. solani* that were grown in potato dextrose broth were filtered through four layers of cheesecloth and washed with distilled water. Fourteen grams of the mycelial residue was suspended in 28 ml of distilled water and macerated in a small blender for 30 s to obtain a mycelial suspension. Healthy *S. molesta* and *S. minima* plants grown in screenhouse-tanks were immersed in tap water supplemented with 1 drop per 4 liters of surfactant (Tween 80), rinsed thoroughly, and approximately 40 g of the plants was floated in plastic jars (18.5 cm diameter × 7.5 cm high) filled to a depth of 5 cm with tap water. Three jars each of *S. molesta* and *S. minima* were misted with 1.5 ml of the mycelial suspension. Individual jars were covered with a clear plastic lid with a 2.5-cm-diameter hole in the center for ventilation. These jars were placed in a growth chamber maintained at 28 (+1)°C and 12-h fluorescent light cycles. Typical water-soaked lesions appeared on pinnules within 3 to 7 days, spread rapidly, and resulted in disintegration of pinnules and rachises. *R. solani* was consistently reisolated from symptomatic tissues of both *Salvinia* species. To our knowledge, this is the first report confirming pathogenicity of *R. solani* on *S. molesta* and *S. minima*. This fungus should be further evaluated as a potential mycoherbicide for control of *Salvinia* species.

References: (1) K. L. S. Harley and D. S. Mitchell. J. Aust. Inst. Agric. Sci. 47:67, 1981. (2) C. C. Jacono et al. Castanea 66:214, 2001. (3) B. Sneh et al. Identification of *Rhizoctonia* Species. The American Phytopathological Society, St. Paul, MN, 1991. (4) C. C. Tu and J. W. Kimbrough. Bot. Gaz. 139:454, 1978.

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