

First Report of the White Pine Blister Rust Fungus, *Cronartium ribicola*, on *Pedicularis bracteosa*. P. J. Zambino, B. A. Richardson, and G. I. McDonald, USDA Forest Service, Rocky Mountain Research Station, Moscow, ID 83843. Plant Dis. 91:467, 2007; published online as doi:10.1094/PDIS-91-4-0467A. Accepted for publication 26 December 2006.

Until recently, *Cronartium ribicola* J.C. Fisch. was thought to utilize only *Ribes* spp. (Grossulariaceae) as telial hosts in North America. During 2004, *Pedicularis racemosa* Dougl. ex Benth. and *Castilleja miniata* Dougl. (Orobanchaceae) were proven as natural telial hosts at a subalpine site (48.634109°N, 116.570817°W, elevation 1,800 m) near Roman Nose Lake, ID, where whitebark pine (*Pinus albicaulis* Engelm.) and western white pine (*Pinus monticola* Dougl. ex D. Don) are aecial hosts, and *Pedicularis*, *Castilleja*, and *Ribes* spp. are common herbs/shrubs (2). During August 2006, teliospore columns typical of *C. ribicola* or the morphologically indistinguishable (2) *C. coleosporioides* J.C. Arthur were found on two *Pedicularis bracteosa* Benth. plants at this site, within 3 m of a large, sporulating canker on whitebark pine. ITS/5.8S rDNA regions were sequenced using detached teliospore column samples from the two plants, ITS1F and ITS4 primers (3), and standard PCR protocols (2). One sample sequence was identified as *C. ribicola* and the other as *C. coleosporioides* (GenBank Accession Nos. EF185857 and EF185858, respectively), by exact matches in comparisons with published sequences (2). Artificial inoculation confirmed *P. bracteosa*'s ability to host *C. ribicola*. Sections of leaves collected near Freezeout Saddle, ID (47.00885°N, 116.00846°W, elev. 1,600 m) were rinsed in water, placed abaxial side up on moistened filter paper in 150-mm petri plates, inoculated with seven diverse sources of urediniospores/aeciospores, misted with distilled water, and incubated at 18°C with 12 h of light. A single leaf section produced urediniospores 17 days and teliospores 26 days after inoculation with one of two Roman Nose aeciospore sources. Urediniospores from this leaf section caused infections on *Ribes nigrum* L., and teliospore columns yielded a DNA sequence that matched *C. ribicola*. Though *P. bracteosa* is confirmed as yet another natural host of *C. ribicola* in North America, it may be producing less *C. ribicola* inoculum for pine infection than do the *P. racemosa* and *Ribes* spp. telial hosts at the collection site. Uredinia and telia of *C. ribicola* on *P. bracteosa* were much less frequent and smaller than those on *P. racemosa* and *Ribes* spp. and those of *C. coleosporioides* on this same host (2). *Pedicularis* (but not *Castilleja*) spp. are significant telial hosts of *C. ribicola* strains at some high elevation sites in eastern Asia (1). Discovery of multiple North American telial hosts in the Orobanchaceae suggests unrecognized complexity in *C. ribicola*'s ability to exploit ecological niches in recently established pathosystems of North America (2).

References: (1) G. I. McDonald et al. Pages 41-57 in: Forest Pathology: From Genes to Landscapes. J. Lundquist and R. Hamelin, eds. The American Phytopathological Society, St. Paul, MN, 2005. (2) G. I. McDonald et al. For. Pathol. 36:73, 2006. (3) T. J. White et al. Pages 315-322 in: PCR Protocols: A Guide to Methods and Applications. M. A. Innis et al. eds. Academic Press, San Diego, CA, 1990.

*The e-Xtra logo stands for "electronic extra" and indicates this Disease Note online contains supplemental material not included in the print edition.

First Report of *Alternaria dianthicola* Causing Leaf Blight on *Withania somnifera* from India. C. K. Maiti, S. Sen, A. K. Paul, and K. Acharya. Botany Department, Calcutta University, Kolkata, West Bengal, India. Plant Dis. 91:467, 2007; published online as doi:10.1094/PDIS-91-4-0467B. Accepted for publication 19 November 2006.

Withania somnifera (L.) Dunal, a potential medicinal plant used for the treatment of nervous disorders, intestinal infection, leprosy, and cancer, is a perennial herb belonging to Solanaceae and distributed throughout the drier parts of India. Leaf blight disease of this plant generally occurs during March in various districts of South Bengal, India. At the initial stage of infection, symptoms appear as small, light brown spots, gradually becoming irregular, dark brown, concentrically zonate with a diffuse margin, frequently surrounded by light yellow haloes, conspicuous brownish concentric rings in the advance stage of infection. A species of

Alternaria was isolated from the lesions. The pathogen was isolated on potato dextrose agar (PDA) media. On PDA, the fungus grew slowly with colonies reaching approximately 35 to 40 mm in diameter in 7 days when incubated at 30°C. Conidiophores arose singly or in groups, straight or flexuous, cylindrical, septate, pale to olivaceous brown, as much as 155 µm long, 4 to 5.5 µm thick; conidia were straight, obclavate, pale olivaceous brown, smooth, with up to 15 transverse and rarely 1 or 2 longitudinal or oblique septa and measured 50 to 115 × 5 to 10 µm. Pathogenicity tests were carried out three times on 6-month-old plants (*n* = 10). Plants were sprayed with a conidial suspension of 10⁵ conidia/ml; control plants were sprayed with sterilized water. Plants were covered with polyethylene bags for 10 days. Disease symptoms appeared after 12 ± 1 day after inoculation. Symptoms on the leaves were similar to those of a naturally occurring diseased plant. The fungal pathogen was consistently reisolated from inoculated plants. The pathogen was identified as *Alternaria dianthicola* and further confirmed by the Agharkar Research Institute, Pune, India. A literature survey reports the occurrence of some fungal diseases (1), but to our knowledge, this is the first report of *A. dianthicola* on *W. somnifera*.

References: (1) P. Sinha et al. Page 14 in: Recent Progress in Medicinal Plants. Vol. 6 Diseases and their Management. Sci Tech Publishing LLC, Houston, TX, 2000.

First Report of *Yucca* Phyllody Associated with 16SrI-A Phytoplasmas in Texas. I.-M. Lee and K. D. Botner, Molecular Plant Pathology Laboratory, USDA, ARS, Beltsville, MD 20705; and M. C. Black, Department of Plant Pathology and Microbiology, Texas A&M University Agricultural Research and Extension Center, Uvalde, TX 78802-1849. Plant Dis. 91:467, 2007; published online as doi:10.1094/PDIS-91-4-0467C. Accepted for publication 12 January 2007.

Buckley's yucca (*Yucca constricta* Buckl.) is a native flowering perennial plant widely distributed in Texas and northeast Mexico. It is also grown as an ornamental plant in its native range as well as in other dry regions in the United States and Mexico. In 2006, during an extended drought, Buckley's yucca plants sporadically exhibited phyllody and abnormal bud proliferation on the inflorescence in Uvalde County in southwestern Texas. Symptoms resembled those caused by phytoplasma infection. Samples from four symptomatic and two asymptomatic yucca plants were collected. Total nucleic acid was extracted from abnormal bud tissue. To assess the etiological aspect of the disease nested PCR using phytoplasma specific primer pair P1/16S-SR or P1/P7 followed by R16F2n/R16R2n was employed for the detection of putative phytoplasmas (2). An amplicon of approximately 1.2 kb was amplified from all four symptomatic yucca plants but not from asymptomatic plants. Restriction fragment length polymorphism (RFLP) patterns of 16S rDNA digested singly with *AluI*, *KpnI*, *HpaII*, *MseI*, *HhaI*, and *RsaI* endonucleases indicated that affected yucca plants were infected by a phytoplasma belonging to aster yellows group 16SrI ('*Candidatus* Phytoplasma asteris'), subgroup 16SrI-A (1). Nucleotide sequence analysis of cloned 16S rDNA (GenBank Accession No. EF190067) confirmed the results on the basis of RFLP analyses. Yucca phyllody has not been reported elsewhere. This disease appears to be newly emerging in Texas with only a few affected plants. To our knowledge, this is the first report of 16SrI-A phytoplasma infecting a *Yucca* sp.

References: (1) I.-M. Lee et al. Int. J. Syst. Bacteriol. 48:1153, 1998. (2) I.-M. Lee et al. Int. J. Syst. Evol. Microbiol. 54:337, 2004.

(Disease Notes continued on next page)