Disease Notes (*continued*)

Natural Epiphytotic of the Rust *Puccinia psidii* on *Melaleuca quinquenervia* in Florida. M. B. Rayachhetry and M. L. Elliott, Fort Lauderdale Research and Education Center, University of Florida, Fort Lauderdale 33314; and T. K. Van, USDA-ARS Aquatic Weed Research Laboratory, 3205 College Avenue, Fort Lauderdale, FL 33314. Plant Dis. 81:831, 1997; published on-line as D-1997-0506-01N, 1997. Accepted for publication 1 May 1997.

Melaleuca quinquenervia (Cav.) S. T. Blake (melaleuca), a tree of Australian origin, is an invasive weed of natural areas in southern Florida and has been listed as a federal noxious weed. During January 1997, severe incidence of a rust disease was detected on new growth of about 70% of the melaleuca trees over a 2-km strip in Broward and Dade counties. These top-pruned trees were 3 to 5 m tall with bushy appearance and had many new shoots. The rust was observed on melaleuca saplings and trees in a 20-km radius in January through March 1997. Leaf lesions began as chlorotic flecks that expanded, produced spores, and developed into necrotic spots. Infected leaves were severely distorted. Branches were severely defoliated and succulent twigs were often girdled by lesions, causing dieback of the new growth. Yellow uredinia were observed on all young leaves and some petioles and twigs. Urediniospore morphology and dimensions (17 to 27 × 15 to 24 µm) are consistent with the description of *Puccinia psidii* G. Wint. (1) and the University of Florida's herbarium material of *P. psidii* on *Pimenta dioica* (L.) Merr. (allspice) (2). An inoculation test was conducted with 40-cm-tall melaleuca seedlings. Fully expanded leaves and terminals of these seedlings were brushed or sprayed with freshly collected urediniospores, covered with plastic bags, and placed in a growth chamber maintained at 16°C (night) and 26°C (day) with a corresponding 12-h light cycle for 72 h. The plastic bags were then removed and the seedlings maintained in high humidity and ambient temperatures in a shadehouse. Typical symptoms and sporulation occurred after 10 and 12 days, respectively, following inoculation. Although *P. psidii* has been recorded on 11 genera in Myrtaceae in the Americas (1,2), including melaleuca, an epiphytotic of this magnitude on melaleuca has not been reported. A different race of *P. psidii* has been suspected to cause sudden epiphytotics on *Pimenta officinalis* Lindl. in Jamaica (1). Further research related to host range is warranted to determine the specificity of *P. psidii*, as this rust may have potential as a microbial biological control agent of melaleuca.

References: (1) G. F. Laundon and J. M. Waterson. C.M.I. Descriptions of Pathogenic Fungi and Bacteria No. 56, 1965. (2) R. B. Marlatt and J. W. Kimbrough. Plant Dis. Rep. 63:510, 1979.

First Report of Bean Common Mosaic Necrosis Potyvirus (BCMNV) Infecting Common Bean in California. P. Guzman, M. R. Rojas, and R. M. Davis, Department of Plant Pathology, University of California, Davis 95616; K. Kimble, R. Stewart, and F. J. Sundstrom, California Crop Improvement Association (CCIA), University of California, Davis 95616; and R. L. Gilbertson, Department of Plant Pathology, University of California, Davis 95616. Plant Dis. 81:831, 1997; published on-line as D-1997-0508-01N, 1997. Accepted for publication 2 May 1997.

During the 1996 growing season (June to September) an outbreak of bean common mosaic was detected in a navy bean field (cv. Snow Bunting) in Colusa County, CA. Early field inspections (August 1996) revealed an incidence of 5 to 10% infection, whereas a late field inspection (September) showed an incidence of 70 to 90% infection. Enzyme-linked immunosorbent assay (ELISA) was performed on 18 leaf samples from symptomatic plants collected from this field with two monoclonal antibodies (Mab): Mab I-2, which detects bean common mosaic necrosis virus (BCMNV) strains (previously necrotic or serotype A bean common mosaic potyvirus [BCMV] strains), and Mab 197, which detects BCMV strains (previously non-necrotic or serotype B BCMV strains) and BCMNV (3). ELISA results indicated BCMNV infection in all 18 samples. In order to confirm ELISA results and to further characterize the viral isolate(s), primary leaves of the differential bean cvs. Black Turtle Soup (BTS) T-39, Topcrop, Amanda, and Sutter Pink were inoculated mechanically with sap prepared from the same leaves used for ELISA. Within 1 week, BTS T-39 and Topcrop plants showed necrotic spots on inoculated leaves and systemic necrosis and death (black root rot symptoms), Sutter Pink showed typical systemic mosaic symptoms, and Amanda showed necrotic spots and restricted vein necrosis on inoculated leaves. These reactions were consistent with infection by the NL-3 strain of BCMNV (1). Reverse transcriptase–polymerase chain reaction was used to amplify a portion of the genome of the virus that contains the 3′ end of the coat protein (CP) gene and the 3′ untranslated region (UTR). A DNA fragment of approximately 670 bp was amplified and DNA sequence analysis revealed that the nucleotide sequences of the 3′ end of the CP and the UTR region of the California BCMNV isolate were 98 and 94% similar to those of the Michigan isolate of the BCMNV NL-3 strain (2), respectively. Together, these results suggest that the outbreak of bean common mosaic in the cv. Snow Bunting navy beans was caused by a pathogroup VI BCMNV isolate, and DNA sequence information suggests that it is similar to the NL-3 strain of BCMNV. This is the first report of BCMNV in California.

References: (1) E. Drijfhout et al. Neth. J. Plant Pathol. 84:13, 1978. (2) G. F. Fang et al. Virus Res. 39:13, 1995. (3) G. I. Mink et al. Arch. Virol. S:397, 1992.

First Report of Sorghum Ergot Caused by *Sphacelia sorghi* in Mexico. J. Aguirre R., H. Williams A., N. Montes G., and H. M. Cortinas-Escobar. Instituto Nacional de Investigaciones Forestales, Agricolas y Pecuarias. P.O. Box 70, Progreso, TX 78579. Plant Dis. 81:831, 1997; published on-line as D-1997-0523-01N, 1997. Accepted for publication 22 May 1997.

In the winter of 1996–1997 ergot was observed in sorghum (*Sorghum bicolor*) plants growing in several locations of Tamaulipas, Mexico, including San Fernando, Soto La Marina, Manuel, Cuahutemoc, and Altamira. The disease in sorghum plants was associated with high humidity and low temperatures during the blooming stage in February, 1997. The most obvious symptom was the exudation of honeydew from the infected flowers. Microscopic analysis of the honeydew revealed the presence of the asexual conidia of a *Claviceps* sp. The abundance, size, and shape of conidia were characteristic of *Sphacelia sorghi* (1). Honeydew was also observed in plants of *Sorghum halepense*, forage sorghum and volunteer plants of sorghum, which are also hosts. The first report of ergot in the Americas was made in 1995 in Brazil (2), where it was probably introduced via contaminated seed from Africa. The disease spread rapidly from Brazil to Argentina, Bolivia, Colombia, Paraguay, and Venezuela. The pathogen was probably dispersed and introduced to Mexico by contaminated seed, wind, or insects from South America. The disease represents a serious threat to the 800,000 ha of sorghum grown in Tamaulipas. Due to its confirmed extraordinary capacity to spread rapidly, ergot could affect sorghum growing in regions adjacent to Tamaulipas, including Nuevo Leon in Mexico, and Texas in the U.S.

References: (1) D. E. Frederickson et al. Mycol. Res. 95:1101, 1991. (2) E. M. Reis et al. Plant Dis. 80:463, 1996.

First Report from Morocco of *Phytophthora infestans* Isolates with Metalaxyl Resistance. M. Sedegui, R. B. Carroll, and A. L. Morehart, Department of Plant and Soil Sciences, University of Delaware, Newark 19717-1303; and A. Arifi and R. Lakhdar, Ministry of Agriculture (MAMVA), Rabat, Morocco. Plant Dis. 81:831, 1997; published on-line as D-1997-0523-02N, 1997. Accepted for publication 17 May 1997.

Late blight of potato (*Solanum tuberosum* L.) caused by *Phytophthora infestans* (Mont.) de Bary first appeared in Africa in 1941. It has been observed sporadically in Morocco for decades but only recently became a major problem. Significant losses have been recorded in the last two growing seasons in spite of the use of various disease control programs that included combinations of systemic and protectant fungicides. *Phytophthora infestans* was cultured from diseased foliage collected from commercial potato fields near Larache, Morocco. Isolates were analyzed to determine pathogenicity on several potato and tomato cultivars, mating type, genotype at two allozyme loci (2), and relative sensitivity to metalaxyl. Responses of the isolates to metalaxyl were assayed by mycelial radial growth on metalaxyl-amended agar, by floating leaves inoculated with *P. infestans* on metalaxyl solutions, and via potato tuber disks placed on filter paper saturated with metalaxyl solutions (1). Koch's postulates were completed; all isolates were pathogenic to potato and tomato cultivars tested, are consistent with the A1 mating type, and have the same allozyme pattern (Gpi 100/100, Pep 92/100) as US-6 genotype. All tests indicated resistance to metalaxyl up to 250 ppm.

References: (1) K. L. Deahl et al. Am. Potato J. 70:779, 1993. (2) S. B. Goodwin et al. Plant Dis. 79:1181, 1995.

(*Disease Notes* continued on next page)