Disease Notes

First Report of *Cristulariella moricola* on Kenaf in Louisiana. G. E. Holcomb, Department of Plant Pathology and Crop Physiology, and H. P. Viator II and L. P. Brown, Iberia Research Station, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge 70803. Plant Dis. 76:642, 1992. Accepted for publication 28 January 1992.

Kenaf (*Hibiscus cannabinus* L.) is grown on about 240 ha in Louisiana for use as an absorbent in oil field and animal production operations. A severe leaf spot that resulted in 50% defoliation of all plants was observed on cultivars Cuban 108 and Everglade 71 in a 0.5-ha experimental planting in July 1991. *Cristulariella moricola* (Hino) Redhead (syn. *C. pyramidalis* A. M. Waterman & R. P. Marshall) was identified on the basis of conidial morphology from necrotic zonate leaf spots that were up to 15 mm in diameter. The fungus, originally isolated from leaf spots on 2% water agar, produced microconidia and sclerotia, but no macroconidia, on potato-dextrose agar (PDA). Typical zonate leaf spots developed on 4-wk-old seedlings 5–7 days after they were inoculated with mycelial disks from PDA and held in a dew chamber for 48 hr at 27 C. *C. moricola* was reisolated from leaf lesions that developed on nine of 12 inoculated plants. The fungus, previously reported from kenaf (1), is now recognized as having a fairly large host range in the United States (2).

References: (1) F. G. Pollack and H. E. Waterworth. Plant Dis. Rep. 53:810, 1969. (2) J. C. Trolinger et al. Plant Dis. Rep. 62:710, 1978.

First Report of Plumeria Rust, Caused by *Coleosporium plumeriae*, in Hawaii. D. Y. Ogata, Agricultural Diagnostic Service Center, Plant Disease Clinic, University of Hawaii at Manoa, Honolulu 96822, and D. E. Gardner, National Park Service CPSU, Department of Botany, University of Hawaii at Manoa, Honolulu 96822. Plant Dis. 76:642, 1992. Accepted for publication 2 March 1992.

Plumeria rust, caused by *Coleosporium plumeriae* Pat. (= *C. domingensis* (Berk.) Arth.) (1), was first identified on *Plumeria obtusa* L. (Singapore plumeria) and several forms of *P. rubra* L. (red plumeria or frangipani) in Hawaii on the island of Oahu in January 1991. The rust has since been reported on the island of Kauai. *C. plumeriae* is known from tropical and subtropical regions of the Western Hemisphere, including southern Florida and Texas, where it defoliates ornamental *P. rubra*. *P. obtusa* shows tolerance to *C. plumeriae* in Hawaii, with only isolated pustules on leaves, whereas cultivars of *P. rubra* are severely attacked. Masses of powdery, chiefly hypophyllous, bright yellow-orange uredinia are conspicuous. Abundant darker yellow-orange, waxy-appearing telia are associated with uredinia in older infections. Small, angular chlorotic spots 2–3 mm in diameter are first produced on upper leaf surfaces, followed by leaf curling and drop, with defoliation sometimes approaching 100%.

Reference: (1) J. A. Traquair and E. G. Kokko. Can. J. Bot. 58:2454, 1980.

Dodder Transmission of Tomato Ringspot Virus. R. A. Welliver, Pennsylvania Department of Agriculture, Harrisburg 17110, and J. M. Halbrendt, The Pennsylvania State University Fruit Research Laboratory Biglerville 17307. Plant Dis. 76:642, 1992. Accepted for publication 15 January 1992.

Tomato ringspot virus (TmRSV), causal agent of Prunus stem pitting, is transmitted by dagger nematodes (*Xiphinema* spp.) to fruit trees in the northeastern United States. Because weed reservoirs of TmRSV have been identified as important factors in virus spread (1), *Cuscuta gronovii* Willd. ex Roem. & Schult., a common dodder species in Pennsylvania, was tested for its ability to vector TmRSV between weed hosts. *C. gronovii* seed was collected from flowering strands established on *Chenopodium album* L. in a Pennsylvania peach orchard. The dodder seed was cogerminated with *Chenopodium quinoa* Willd. in the greenhouse. Dodder seedlings tested negative for TmRSV and tobacco ringspot virus by enzyme-linked immunosorbent assay (ELISA). The dodder was first trained to TmRSV-infected *Chenopodium quinoa* and, when established, was trained back to healthy *Chenopodium quinoa* or *Cucumis sativus* L. Healthy plants were shaded for 1 wk after contact with dodder. TmRSV infection was confirmed by systemic symptom development and by ELISA in 21 of 26 plants. Our results indicate that dodder could have a role in local epidemiology of Prunus stem pitting by facilitating TmRSV transmission among weed species.

Reference: (1) C. A. Powell et al. Plant Dis. 68:242, 1984.

Identification of Resistance to Tomato Spotted Wilt Virus in Lettuce. M. Wang and J. J. Cho, Department of Plant Pathology, University of Hawaii, Honolulu 96822; R. Provvidenti, Department of Plant Pathology, Cornell University, New York State Agricultural Experiment Station, Geneva 14456; and J. S. Hu, Department of Plant Pathology, University of Hawaii, Honolulu 96822. Plant Dis. 76:642, 1992. Accepted for publication 14 January 1992.

The progenies of an interspecific cross between *Lactuca sativa* L. and *L. saligna* L. originating from the Institute of Field and Garden Crops ARO, Israel, were screened for resistance to tomato spotted wilt virus (TSWV) in greenhouses. Plants from 130 lines of this cross were tested by mechanical inoculations for sensitivity to a TSWV-L strain isolated from lettuce in Maui, Hawaii. Of the 4,489 plants inoculated, only 192 from 42 lines survived virus infection and grew to maturity. Enzyme-linked immunosorbent assay (1) was used to test for TSWV in TSWV-inoculated leaves and newly developed leaves of survivors at the flowering stage and before harvest. After inoculations of the resistant accessions in which the majority of plants survived, TSWV was detected in the inoculated leaves but not in new growth. Additional testing confirmed the resistance of the surviving progenies. Breeding with the resistant lines and commercial susceptible lettuce cultivars is under way.

Reference: (1) M. Wang and D. Gonsalves. Plant Dis. 74:154, 1990.

A New Threat from Brown Root Rot of Cocoa, Caused by *Phellinus noxius*, in Papua New Guinea. J. J. C. Dennis, Senior Plant Pathologist, PNG Cocoa and Coconut Research Institute, P.O. Box 1846, Rabaul, Papua New Guinea. Plant Dis. 76:642, 1992. Accepted for publication 12 November 1991.

In June 1991, an 18-mo-old balsa tree (*Ochroma lagopus* Sw.) growing in an area previously planted with cocoa (*Theobroma cacao* L.) died as the result of a root infection by *Phellinus noxius* (Corner) G. Cunn. The first symptom was yellowing and wilting of leaves, beginning at the branch tips; in less than 2 wk, the tree was totally defoliated. A brown/black fungal crust was on the surface of the trunk at ground level, and brown encrustations covered the surface of the roots. This disease can result in significant losses of mature cocoa, and the symptoms on the infected balsa were similar to those on infected cocoa (1) or other trees. This is the first report of balsa infected with *P. noxius* in Papua New Guinea. The disease is of great economic importance to growers redeveloping cocoa-growing areas with new cash crops and to the government, which is researching and promoting cash crop diversification. Balsa and black pepper (*Piper nigrum* L.) are two of the crops being considered for such diversification, and *P. noxius*-infected plants of both species were found in June 1991. The disease also occurs on *Leucaena leucocephala* (Lam.) de Wit, which is commonly used to provide shade for cocoa and as a support for pepper. Because *P. noxius* infects tree stumps, then spreads by root-to-root contact (1), all stumps in an infested area must be removed before replanting is done.

Reference: (1) F. C. Henderson. Papua New Guinea Agric. J. 9:45, 1954.

First Report of *Alternaria porri* on Garlic in South Africa. Theresa A. S. Aveling, Margaretha Mes Institute for Seed Research, University of Pretoria, Pretoria 0002, and S. P. Naude, V.O.P.R.I., Private Bag X293, Pretoria 0001, South Africa. Plant Dis. 76:643, 1992. Accepted for publication 30 December 1991.

A leaf disease of garlic (*Allium sativum* L.) causing severe foliage damage was recurrently observed in the Natal and Transvaal provinces of South Africa. Leaf symptoms varied from small, elliptic white lesions to large, sunken purple lesions with concentric dark and light zones where sporulation was heavy or sparse, respectively. *Alternaria porri* (Ellis) Cif., the causal organism of purple blotch of garlic and onion, was consistently isolated from both types of lesions and from diseased leaf tips that were dying back. Pathogenicity of an isolate of *A. porri* from a garlic leaf (deposited with the National Collection of Fungi, South Africa, designated PREM 50716) was shown by inoculating leaves of 25 garlic plants (cv. Large Egyptian White). Inoculated plants were placed in a mist chamber for 12 hr, then returned to the glasshouse. After 9 days, symptoms resembling those observed in the field were apparent. *A. porri* was reisolated from these plants and produced cultures identical to those of the original isolate. Our observations indicate that heavy dew or rain at any time of the year encourages the development of purple blotch of garlic.

Natural Occurrence of Freesia Mosaic Virus in *Alstroemeria* sp. M. G. Bellardi, M. Vibio, and A. Bertaccini, Istituto di Patologia Vegetale, Università degli Studi, Bologna, Italy 40126. Plant Dis. 76:643, 1992. Accepted for publication 20 December 1991.

During a survey in Italy on viruses infecting *Alstroemeria* sp., electron microscopic examination of crude sap revealed potyvirus particles 720–850 nm long. Immunoelectron microscopic techniques showed that the serum to Alstroemeria mosaic virus (AlMV) reacted only with some particles. Several other antisera to the following potyviruses were then tested: potato virus Y, iris severe mosaic, iris mild mosaic, bean yellow mosaic, turnip mosaic, tobacco etch, asparagus virus 1, pea seedborne mosaic, and freesia mosaic (FMV). FMV was the only antiserum other than AlMV that gave a strong decoration of the virus particles (1); Laboratorium vor Bloembollenonderzoekh, Lisse, Netherlands, supplied the FMV antiserum. Double-infected *Alstroemeria* plants showed deformed and chlorotic leaves but symptomless flowers. Mechanical inoculation of crude sap from these plants transmitted FMV to virus-free freesia seedlings that showed no symptoms 3 mo after inoculation, although the virus was detected serologically. This is the first report of the natural occurrence of FMV in *Alstroemeria* and in a genus other than *Freesia*.

Reference: (1) M. J. Foxe and U. F. Wilson. Acta Hortic. 164:291, 1985.

Occurrence of *Heterodera iri* in Putting Greens in the Northeastern United States. J. A. LaMondia, Department of Plant Pathology and Ecology, Connecticut Agricultural Experiment Station, Windsor 06095, and R. L. Wick, Department of Plant Pathology, University of Massachusetts, Amherst 01003. Plant Dis. 76:643, 1992. Accepted for publication 11 February 1992.

Cyst nematodes were recovered from putting green soils from 17 sites in Connecticut, Massachusetts, Maine, New York, New Hampshire, and Rhode Island. The greens sampled were a mixture of annual bluegrass (*Poa annua* L.) with creeping bentgrass (*Agrostis palustris* Hudson) and/or velvet bentgrass (*A. canina* L.). Several of the greens showed stress consistent with cyst nematode damage, and other plant-parasitic nematodes were also present. Cyst nematodes from seven sites in Connecticut, Massachusetts, Rhode Island, and New York were identified as *Heterodera iri* Mathews (1). In the United States, this nematode had previously been identified only in New York and Michigan (2). The pathogenicity and host range of *H. iri* remain unknown. In a preliminary greenhouse test, however, new cysts, eggs, and juveniles were produced on roots of creeping bentgrass (cv. Penncross) inoculated with *H. iri* juveniles. Mature cysts were pale to dark brown and spheroid to lemon-shaped, with a small vulval cone and well-developed neck. The vulval cone was bifenestrate with a strong vulval bridge and conspicuous bullae. Fenestrae ($n = 33$) averaged 44 × 25 μm. Males were numerous in samples taken in late May but not in those obtained during the summer. Males ($n = 30$) had constricted head regions and were 1,232 × 31 μm with a strong stylet averaging 30 μm long. Spicule length averaged 39 μm. Second-stage juveniles ($n = 100$) averaged 611 × 23 μm and had strong stylets 25 μm long with slightly concave basal knobs. Juveniles had true tails, 89 μm from anus to tail tip and a long (56 μm) clear tail. Eggs containing juveniles ($n = 100$) averaged 132 × 50 μm.

References: (1) H. P. Mathews. Nematologica 17:553, 1971. (2) C. L. Murdoch et al. Plant Dis. Rep. 62:85, 1978.

First Report of Root Rot of Monterey Pine in California Caused by *Phytophthora citricola*. C. M. Sandlin, M. L. Wadsworth, and D. M. Ferrin, Department of Plant Pathology, University of California, Riverside 92521, and L. Sanchez, Entomological Services Incorporated, Corona, CA 91720. Plant Dis. 76:643, 1992. Accepted for publication 10 December 1991.

Phytophthora citricola Sawada was isolated from roots of field-grown Monterey pines (*Pinus radiata* D. Don) from Christmas tree plantations in Riverside and San Diego counties in southern California. Diseased trees were severely stunted, the foliage was chlorotic, and roots were sparse and darkly discolored. Trees at both sites had died. To confirm pathogenicity, 15 1-mo-old seedlings in 3-L pots (17.5 × 15.5 cm) were inoculated with an isolate from Riverside County (nine colonized millet seeds per pot); 15 controls were treated in the same manner using noninfested millet seeds. Disease was evaluated 3 mo later. Root rot was evident on all inoculated seedlings, four of which were as stunted and chlorotic as the original diseased trees. The pathogen was reisolated from diseased roots. Mean shoot height, mean dry root weight, and mean dry shoot weight of the inoculated seedlings were 83, 47, and 59% of the controls, respectively. These differences were significant ($P < 0.01$) as determined by t tests.

Lettuce Infectious Yellows Virus Infecting Watermelon, Cantaloupe, Honey Dew Melon, Squash, and Cushaw in Texas. R. S. Halliwell and J. D. Johnson, Department of Plant Pathology and Microbiology, Texas A&M University, College Station 77843. Plant Dis. 76:643, 1992. Accepted for publication 17 February 1992.

In 1988, lettuce infectious yellows virus (LIYV) was detected in cantaloupe plant tissue collected in southwestern Mexico. During late summer and fall of 1991, LIYV was identified infecting cantaloupe (*Cucumis melo* L. var. *cantalupensis* Naudin) and honeydew melon (*C. m. inodorus* Naudin) in north central Texas, watermelon (*Citrullus lanatus* (Thunb.) Matsum. & Nakai) in central Texas, and squash (*Cucurbita pepo* L.) and cushaw (*Cucurbita moschata* Duchesne) along the upper Gulf Coast of Texas. The incidence of LIYV infections was noted to coincide with the presence of the virus vector, *Bemisia tabaci* (Gennadius). Infected plants were stunted and leaves were yellow and cupped. Infected foliage died from the crown outward. In many cases, LIYV was observed in multiple infections with one or more of the endemic cucurbit viruses, i.e., watermelon mosaic virus, papaya ringspot virus, and zucchini yellow mosaic virus. LIYV was identified on the basis of virion morphology (flexuous rods 1,200–1,800 nm) and serospecificity (ELISA, ISEM) (1). LIYV was first reported in the desert southwest in 1982 (2). This is the first report of LIYV diseases in Texas.

References: (1) J. K. Brown and B. T. Poulos. J. Rio Grande Valley Hortic. Soc. 42:13, 1989. (2) J. E. Duffus et al. (Abstr.) Phytopathology 72:963, 1982.