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Disease Notes

First Report of Bacterial Canker of Walnut Caused by *Brenneria nigrifluens* in France

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Since the summer of 2000, vertical oozing cankers have been observed on trunks and branches of Persian walnut trees (*Juglans regia*). Cvs. Fernor, Chandler, Mayette, and Hartley were the most frequently affected, but cvs. Lara and Franquette could also be affected. *Brenneria nigrifluens* (synonym *Erwinia nigrifluens*) (3) was isolated from diseased trees from 13 orchards and nurseries in southwestern (Aquitaine, Périgord, Charentes, and Quercy), southeastern (Grenoble areas), and western (near Angers) France. Cankers were observed on trunks and branches where brown-to-black exudates staining the bark appeared mainly in the summer. Isolations were performed primarily from exudates but also from infected tissues by using King's medium B. Colonies similar in appearance to *Brenneria nigrifluens* (1) were purified and characterized. Gram reaction, Kovac's oxidase, oxidative-fermentative metabolism, and urease activity were assayed for all isolates. API Biotype 100 kits (BioMérieux, Marcy l'Etoile, France) were used as recommended, except that incubations were at 28°C for 4 days. When compared with the reference strain (French Collection of Plant Pathogenic Bacteria (CFBP) 4998^T = National Collection of Plant Pathogenic Bacteria (NCPPB) 564^T = American Type Culture Collection (ATCC) 13028^T) from California, 14 isolated strains were identified as *B. nigrifluens* on the basis of physiological and biochemical characteristics. These 14 strains were deposited in the CFBP under Accession Nos. 6746 to 6759. Pathogenicity of three selected strains (CFBP 6746, 6747, and 6758) was confirmed by inoculating branches of 7-year-old walnut trees with 10^8 CFU of each isolate introduced in wounds (2). The reference strain (CFBP 4998^T) and water were similarly inoculated as controls. Two and five months later, necrotic lesions were observed in the inner bark and dark lines were observed in internal wood, but no external cankers were observed on any trees inoculated with the local and reference strains. *B. nigrifluens* was reisolated from the dark lines in internal wood up to approximately 10 cm from the inoculation site. To our knowledge, this is the first report of this bacterium in France.

References: (1) L. Hauben et al. Syst. Appl. Microbiol. 21:384, 1998. (2) M. Ridé and S. Ridé. Proc. Int. Conf. Plant Pathogenic Bacteria, 4th, 2:957, 1978. (3) E. E. Wilson et al. Phytopathology 47:669, 1957.