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scochyta Blight of *Cicer montbretii*, a Wild Perennial lgaria. W. J. Kaiser, R. M. Hannan, and F. J. Muehl- RS, Washington State University, Pullman 99164-6402; stitute for Wheat and Sunflower 'Dobroudja' near Gen- lgaria. Plant Dis. 82:830, 1998; published on-line as D- 1998. Accepted for publication 27 April 1998.

Mountains of southeastern Bulgaria, native populations *ii* Jaub. & Spach were found on the edge of a road in an ie village of Gramatikova (42°1′38″N; 27°36′49″E) at bout 125 m. *C. montbretii,* a perennial species, is the p. native to Bulgaria. At the time of collection, necrotic rved on the stems, leaflets, and pods of several plants, were reminiscent of those induced by *Ascochyta rabiei* . The teleomorph (sexual stage) of *A. rabiei, Didymella* ski) v. Arx (syn. *Mycosphaerella rabiei* Kovachevski), n 1936 on overwintered chickpea residue in southern ngus is heterothallic and requires the pairing of two g types for development of fertile pseudothecia. Both *A. rabiei* were isolated previously from naturally in- chickpeas (*C. arietinum* L.) from northeastern and ia (1), and the teleomorph, *Didymella rabiei* Arx, developed on naturally infested chickpea debris s when it was incubated at appropriate environmental ions were made from lesions on the leaflets, stems, f *C. montbretii* by surface disinfecting tissue in 0.25% drying on paper hand towels, and placing small pieces vater agar and Difco potato dextrose agar. Plates were 24°C under fluorescent lights with a 12-h photoperiod. ated from all foliar tissues of the plant, including seeds. were fulfilled by inoculating the foliage of chickpea PI lating the fungus from lesions that developed on the . Six Bulgarian isolates of *A. rabiei* from *C. montbretii* compatible mating type tester isolates of *A. rabiei*, 6501) and MAT 1-2 (ATCC 76502), following the pro- and Kusmenoglu (2). Both mating types were found olates. Two were MAT 1-1 and four MAT 1-2. The ot develop on the small amount of naturally infested tested. Therefore, in Bulgaria, both cultivated and wild cted naturally by *A. rabiei* and both mating types have n these hosts. *D. rabiei* will likely be found in native *bretii* in Bulgaria as more samples of overwintered in- examined for the teleomorph. This is the first report of olight of a wild *Cicer* sp.

Kaiser. Can. J. Plant Pathol. 19:215, 1997. (2) W. J. Kaiser and I. is. 81:1284, 1997.

Natural Infection of *Pisum sativum* subsp. *elatius* by *inodes* in Bulgaria. W. J. Kaiser, F. J. Muehlbauer, and USDA, ARS, Washington State University, Pullman I. M. Mihov, Institute for Wheat and Sunflower General Toshevo, Bulgaria. Plant Dis. 82:830, 1998; as D-1998-0428-02N, 1998. Accepted for publication

L. subsp. *elatius* (Steven ex M. Bieb.) Asch. & Graebn. cies that is native to Bulgaria. It readily crosses to the cies *P. sativum* subsp. *sativum.* Field pea is an impor- n the crop rotation system of the northeast region of known or published on the diseases of wild *Pisum* sub- 997, brown to reddish brown, irregularly shaped lesions meter were found on the leaves and stems of *P. sativum* wing under native conditions in the low growing vege- forest habitat on the Black Sea coast at Albena, Bul-

chlamydospores produced singly or in chains also formed in infected foliar tissues and on potato dextrose agar (PDA) and WA. Isolations were made from the lesions on pea tissue onto WA and PDA after disinfesting in 0.25% NaOCl for 5 min. Koch's postulates were fulfilled by inoculating the foliage of *P. sativum* subsp. *sativum* cvs. Dark Skin Perfection and Sounder and *P. sativum* subsp. *elatius* (W6-20047), and reisolating the fungus from lesions that developed on the inoculated leaves and stems. The wild *Pisum* fungus was identified as *Mycosphaerella pinodes* (Berk. & Blox.) Vestergr. based on cultural and morphological characteristics (2), pathogenicity tests, and by comparing random amplified polymorphic DNA (RAPD) markers with those of American Type Culture Collection (ATCC) isolates 201628 to 201633 of *M. pinodes.* The fungus was identified as a pathogen of cultivated peas in Bulgaria by Kovachevsky and Hristov (1) in 1949. This is the first report of *M. pinodes* infecting *P. sativum* subsp. *elatius* in Bulgaria and other countries where *P. sativum* subsp. *elatius* is a native plant species.

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EMBRAPA - CNPH

Widespread Occurrence of Tomato Geminiviruses in Brazil, Associated with the New Biotype of the Whitefly Vector. S. G. Ribeiro, Embrapa-Biotecnologia, Cx. Postal 2372, Brasília, DF, 70770-900, Brazil; A. C. de Ávila, and I. C. Bezerra, EMBRAPA-Hortaliças, Cx. Postal 218, Brasília, DF, 70359-970, Brazil; J. J. Fernandes, Dep. de Agronomia, UF Uberlândia, MG, 38400-902, Brazil; J. C. Faria, EMBRAPA-Arroz e Feijão, Cx. Postal 179, Goiânia, GO, 74100-000, Brazil; M. F. Lima, EMBRAPA-Semi-Árido, Cx. Postal 23, Petrolina, PE, 56300-000, Brazil; R. L. Gilbertson, Department of Plant Pathology, University of California, Davis, 95616; and E. Maciel-Zambolim and F. M. Zerbini, Dep. de Fitopatologia, UF Viçosa, MG, 36571-000, Brazil. Plant Dis. 82:830, 1998; published on-line as D-1998-0514-01N, 1998. Accepted for publication 12 May 1998.

Although tomato golden mosaic virus (TGMV) was reported in Brazil more than 20 years ago (3), tomato-infecting geminiviruses have not been of economic significance in the country until recently. However, a sharp increase in the incidence of geminivirus-like symptoms in tomatoes has been reported in several areas of Brazil since 1994. This has coincided with the appearance of the B biotype of *Bemisia tabaci,* which, as opposed to the A biotype, readily colonizes solanaceous plants (2). We have isolated geminiviruses from symptomatic tomato plants in the Federal District, in two different areas of the state of Minas Gerais, and in the state of Pernambuco. Tomato plants in these areas showed a variety of symptoms, including yellow mosaic, severe leaf distortion, downcupping, and epinasty. Whitefly infestation was high in all fields sampled, and in some fields, particularly in Pernambuco, incidence of virus-like symptoms was close to 100%, and no tomatoes of commercial value were harvested (1). Using primer pairs PAL1v1978/PAR1c496 and PCRc1/PBL1v2040 (4), DNA-A and -B fragments were polymerase chain reaction (PCR)-amplified from total DNA extracted from diseased plants, cloned, and sequenced. Sequence comparisons of the PCR fragments indicated the existence of at least six different geminiviruses. The nucleotide sequence homologies for DNA-A fragments ranged from 67 to 80% for the 5′ end of the *cp* gene, and from 44 to 80% for the 5′ end of the *rep* gene. Data base comparisons indicated the viruses are most closely related to TGMV, bean golden mosaic virus from Brazil (BGMV-Br), and tomato yellow vein streak virus (ToYVSV), although homologies were less than 80% for the fragments compared. A similar lack of a close relationship with each other and other geminiviruses was obtained with two DNA-B component PCR products compared, corresponding to the 5′ end of the BC1 open reading frame. Infectious, full-length genomic clones from the tomato viruses are being generated for biological and molecular characterization.