Disease Note

FIRST REPORT OF MYROTHECIUM RORIDUM CAUSING ROUND SPOT ON DENDROBIUM CANDIDUM IN CHINA

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Dendrobium candidum (family Orchidaceae) is grown as a medicinal plants in China. In July 2013, in some plastic greenhouses of Puer (Southwest Yunnan) round spots were observed on the leaves of D. candidum plants with 20-30% incidence. Initial symptoms included black to brown circular or subcircular lesions 0.5-2.0 cm in diameter, surrounded by water-soaked tissue and later by concentric rings, grey brown and dark green. Infected leaves turned yellow, wilted, and decayed. Symptomatic leaf tissues (4x5 mm fragments) were surface-sterilized and cultured onto potato dextrose agar (PDA) at 25°C in darkness. Developing colonies were dark greyish-green concentric rings bearing slimy spore masses. Conidia were smooth, hyaline, cylindrical with rounded ends, 4.9-8.9x1.4-2.8 μm in size. DNA was extracted from a fungal isolate denoted YNPE-SH9 using a DNA extraction kit (OMEGA, USA). The internal transcribed spacer (ITS) region and 5.8S rDNA gene were amplified using primer pair of ITS1 and ITS4 (White T.J., Burns T.D., Lee S.B., Taylor J.W., 1990). BLAST search of the obtained sequence (GenBank accession No. K986053) revealed a 100% identity with two Myrothecium roridum strains (AJ301995, AJ302001). Leaves of 10 healthy greenhouse-grown D. candidum plants at the seedling stage were inoculated by injecting a conidial suspension of M. roridum (1.1x10⁵ conidia per ml) and kept at 28°C, 80% relative humidity and 14-h photoperiod. Seedlings inoculated with sterile distilled water served as controls. Symptoms like those seen in naturally infected plants were observed in all inoculated D. candidum seedlings seven days post inoculation while control plants remained symptomless. To our knowledge, this is the first report of natural infection by M. roridum on Dendrobium spp. in China.

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Disease Note

IDENTIFICATION AND MOLECULAR CHARACTERIZATION OF TOBACCO MILD GREEN MOSAIC VIRUS IN HUNGARY

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Pepper (Capsicum annuum L.), an important crop in Hungary, is frequently infected by Cucumber mosaic virus (CMV), Tobacco mosaic virus (TMV) and, recently, also by Pepper mild mottle virus (PMMoV) and Tomato spotted wilt virus (TSWV). In the spring of 2015, mild mosaic symptoms were observed on cv. H6 F1. Symptoms on the fruits were more obvious, consisting of reduction in size, mottling and color changes, brown necrotic streaks and spots. To identify the putative pathogen(s), symptomatic fruits were collected and used for host range determination. Symptoms on mechanically inoculated Nicotiana tabacum cv. Samsun, N. tabacum cv. Xanthi-nc, Nicotiana benthamiana, Capsicum annuum cv. Albaregia (L+ gene), C. annuum cv. Fehérozön (L1) and C. annuum cv. Brendon F1 (L3) suggested the presence of a tobamovirus belonging to pathotype 0 (Boukema, 1980). Moreover, total RNA was extracted from a symptomatic pepper fruit with the RNeasy plant mini kit (Qiagen, Germany) and used in RT-PCR using universal tobamovirus primers for the coat protein gene (Kálman et al., 2001). A products of the expected size (700 bp) was obtained, cloned into pGEM-T Easy Vector (Promega, USA) and sequenced (Biomi, Hungary). The sequence was deposited in GenBank under the accession No. KT374823. Blast analysis showed a 99% identity at nucleotide level with a Spanish isolate (P04/17, accession No. FN594859) of Tobacco mild green mosaic virus (TMGMV). To our knowledge, this is the first report of TMGMV on pepper in Hungary.


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