DISEASE NOTES

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First Report of *Fusarium equiseti* as the Causal Agent of Seed Rot of *Matthiola longipetala* in Serbia

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Matthiola longipetala (Vent) DC, commonly known as “night-scented stock” or “evening stock”, is the most widely cultivated species of the genus *Matthiola* in the family Brassicaceae. It is a common garden flower, available in a variety of colors, many of which are heavily scented and also used in floristry. An elevated incidence of *Fusarium* was observed during a routine quality control seed assay of *M. longipetala* obtained from a private production facility in Đurđevo (South Bačka District) in 2018. Fungal infection was noticed on an average of 30% of the tested seed, followed by a reduction in germination. The infected seed was covered with white to beige mycelium. Prior to isolation, seeds were surface sterilized for 10 min with a 1% sodium hypochlorite solution to reduce contaminants, washed twice in sterile water, and plated on potato dextrose agar (PDA). After 7 days of incubation at 25°C under a 12-h/12-h photoperiod of fluorescent light, 14 *Fusarium* (JBL4089/1 to 14) isolates were single spored and subcultured on both PDA and

carnation leaf agar (CLA). Pathogenicity was performed in vitro using a modified PDA slant method in a test tube (Porter et al. 2015). A piece of mycelium of each isolate grown on PDA for 7 days was placed at the bottom of each tube, and dried *M. longipetala* seed was carefully placed 2 cm above the inoculum. After 10 days, fungal mycelia of 14 isolates completely covered the seedlings, causing seed rot and seedling decay. The *Fusarium* was reisolated on PDA and used for further analysis in order to morphologically identify the species. Isolate JBL4089/2 formed abundant, loosely floccose, whitish aerial mycelium with beige pigmentation. After transfer to CLA, the isolate formed macroconidia with a tapered and elongated apical cell and prominent foot-shaped basal cell, which were typically four to five septate, with average dimensions of 21 to 60 × 2.8 to 4.6 µm. The isolate formed chlamydospores, but microconidia were not observed. Based on the morphological characteristics, isolate JBL4089/2 was identified as *Fusarium equiseti* (Corda) Sacc. according to Leslie and Summerell (2006) and Gerlach and Nirenberg (1982). Identification of isolate JBL4089/2 was confirmed by amplification and sequencing of a portion of the translation elongation factor-1 alpha (EF-1α) gene. Total DNA was extracted directly from fungal mycelium with a DNeasy Plant Mini Kit (Qiagen, Hilden, Germany), and PCR amplification was performed with primer pair EF-1/EF-2 (O'Donnell et al. 1998). Sequence analysis of the EF-1α gene revealed 100% nucleotide identity of isolate JBL4089/2 (GenBank accession no. MK061538) with the EF-1α sequences of two *F. equiseti* isolates from Canada (KU587617 from *Pisum sativum* and MH315936 from *Glycine max*) and a *Hyssopus officinalis* isolate (MK061540) of *F. equiseti* from Serbia. To our knowledge, this is the first report of *F. equiseti* as a causal agent of seed rot on *M. longipetala* in Serbia. The presence of the pathogen could cause significant economic losses in *M. longipetala* production, and for that reason control strategies for the management of the disease should be implemented.

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