



First report of tomato spotted wilt virus on chrysanthemum in Bosnia and Herzegovina

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During October and November, 2017 symptoms suspected to be of tospovirus infection were observed in greenhouse-grown chrysanthemum hybrid plants (*Chrysanthemum × morifolium*) in Grude municipality (West Herzegovina, Bosnia and Herzegovina). Affected plants had leaves with yellow blotching, stem necrosis and collapsing often directly under the flower. Approximate disease incidence was 60%. Ten symptomatic and one asymptomatic plants were selected for testing by DAS-ELISA using polyclonal antisera (Bioreba AG, Reinach, Switzerland) against tomato spotted wilt virus (TSWV). The presence of TSWV was further verified by conventional two-step RT-PCR. Total RNAs were extracted with RNeasy Plant Mini Kit (Qiagen, Hilden, Germany). RT-PCR was performed using primers L1TSWVR/L2TSWVF (Mumford et al. 1994) amplifying a portion of RNA dependent RNA polymerase (RdRp) and TSWVCP-f/TSWVCP-r (Vučurović et al. 2012) specific to the nucleocapsid protein (N) gene. TSWV was detected by ELISA and PCR in all 10 symptomatic chrysanthemum samples. Amplicons of RdRp and N genes were sequenced in both directions and sequences were deposited in GenBank under accession Nos. MG976801

and MG976802, respectively. Using BLASTn sequence analyses the obtained RdRp fragment was 99% identical to isolates from tobacco from Bosnia and Herzegovina (KY437076), isolates from tomato and pepper from Italy (KP008130; KP006412; KJ575619), TSWV pepper isolate from South Korea (KC261947), and isolates from various plants from Russia (JX452817–18). The partial N gene sequence revealed the highest nucleotide identity of 100% with isolates from different hosts from Italy (KM096541; KM096536; HQ839729–31; JF290419; FR693218,21,24; DQ915946; DQ376177–83), Serbia (JX468080), France (FR693047) and South Korea (HQ26779–10; HQ260978–79). To our knowledge, this is the first report of TSWV infecting chrysanthemum in Bosnia and Herzegovina (BiH). Since chrysanthemum production is very profitable in west Herzegovina, considering the prevalence of *Frankliniella occidentalis*, one of the vectors of TSWV (Delić et al. 2018), the presence of TSWV may have a negative impact on chrysanthemum production in the area.

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