First report of onion yellow dwarf virus in Ukraine

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Received: 28 February 2019 / Accepted: 4 June 2019 / Published online: 17 June 2019
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Keywords Onion yellow dwarf virus · garlic · potyvirus · Ukraine

During the last two years, large-scale production of garlic led to wide occurrence of virus-like symptoms on *Allium sativum* plants in Ukraine. In spring 2018, we collected garlic plants exhibiting yellowing, leaf mosaic, stunting and wilting from four regions of the country (Kyiv, Poltava, Cherkassy and Vinnytsia). Transmission electron microscopy of plant sap confirmed the presence of filamentous virions (720–820 × 16 nm) typical of *Potyvirus* genus.

Onion yellow dwarf virus (OYDV) is one of the potyviruses infecting garlic in many countries including eastern EU states (Vončina et al. 2016), but was never reported from Ukraine. Using double-antibody sandwich enzyme-linked immunosorbent assay with virus-specific antibodies (Loewe Biochemica, Germany), OYDV was detected in 63% of samples from all four screened regions of Ukraine.

Using OYDV coat protein-specific primers (Parrano et al. 2012), partial nucleotide sequence of one of the OYDV isolates (OYDV-UA_2018_vinn collected from Vinnytsia region) was amplified, sequenced and deposited in GenBank database (Accession number MK177281).

Phylogenetic analysis of OYDV-UA_2018_vinn showed the partial sequence to be distinct from any published sequence, with highest identity of 89% to Chinese OYDV isolates Yuhang (AJ510223) and YH1 (AJ292231), and lower identity to other Chinese isolates (AJ307033, AJ409309, and AJ409312) and other isolates of worldwide origin. This is the first report of OYDV in Ukraine, where occurrence was found to be widespread.

References

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