



First report of the infection of alfalfa mosaic virus in *Salvia sclarea* in Hungary

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In summer 2016 bright yellow mosaic symptoms were detected in plants of wild growing populations of *Salvia sclarea* L. (clary sage) near Lake Velencei (Middle-West Hungary). Similar symptoms caused by alfalfa mosaic virus (AMV) infections were reported earlier affecting clary sage in Italy and Bulgaria (Bellardi et al. 1999; Dikova 2014).

Inoculation of test plants with extracts of diseased clary sage leaves demonstrated the presence of a mechanically transmitted plant virus named isolate Ssc. The Ssc isolate caused mild mosaic in *Nicotiana clevelandii*, *N. glutinosa* and *N. tabacum* cv. Xanthi-nc, reddish necrotic lesions in *Vigna sinensis*, and systemic necrosis in *Chenopodium quinoa*. *Ocimum basilicum* plants reacted with bright yellow mosaic (calico) symptoms. All of the reactions of test plants, especially those of *O. basilicum* strongly suggested the infection with alfalfa mosaic virus (AMV).

For molecular characterization, RT-PCR primers were designed based on the consensus sequence of five different AMV CP gene sequences. Total nucleic acid was isolated from symptomatic leaves of inoculated tobacco plants, and RT-PCR was carried out using the forward primer

(5'-TGGTGGGAAAGCTGGTAAAC-3') and reverse primer (5'-TCTCTCGACCCAACTTCGT-3'). The PCR product of expected size (559 bp) was cloned and sequenced, and the sequence was deposited in GenBank (KY860733). Blast analysis showed a nucleotide sequence homology of 99% with the CP genes of other AMV isolates. The presence of the virus in *Salvia sclarea* was confirmed by Northern blot using the cloned PCR product as a probe. Based on bioassay and molecular studies, the virus was identified as isolate Ssc of AMV. This is the first report of the natural infection of *S. sclarea* by AMV in Hungary.

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References

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