First report of cucumber mosaic virus subgroups I and II with satellite RNA infecting *Nicotiana glauca* in Mexico

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Cucumber mosaic virus (CMV) strains are divided into two subgroups (CMV-I and CMV-II), and several strains are associated with a satellite RNA (satRNA) that modulates their replication and pathogenicity (Zitter and Murphy 2009). The presence of CMV-I, CMV-II and satRNA was determined in *Nicotiana glauca* plants with mosaic, leaf deformation and yellowing symptoms. RT-PCR for detection of CMV-I, CMV-II and satRNA (Chen et al. 2011) was performed on double-stranded RNA obtained from one asymptomatic, and seven symptomatic plants. Both subgroups were detected from three samples showing mosaic, leaf deformation and yellowing, and only CMV-II from four samples with mosaic and leaf deformation; satRNA was amplified from all symptomatic samples. No amplification was observed in the asymptomatic plant. The amplified DNA fragments were sequenced (Macrogen, Korea), and a representative sequence of each subgroup of CMV and satRNA were deposited in the GenBank. BLAST analysis of CMV-I sequence (MH633492) showed a 98% identity with 242 isolate (AJ585520) from Australia, the CMV-II (MH633495) showed a 99% identity with “R” isolate (Y18138) from France, and satRNA (MH633497) 93% identity with isolate To/1991/4.1 (Z75871) from Spain. A CMV-II + satRNA isolate was mechanically inoculated in *Nicotiana tabacum*, *N. glutinosa*, and *Chenopodium amaranticolor*. Five days post inoculation

(dpi), necrotic local lesions were observed in *C. amaranticolor* and after 8 dpi mosaic was observed in *N. tabacum* and *N. glutinosa*, systemic necrosis was also observed in the latter at 14 dpi. This is the first report of CMV-I and CMV-II with satRNA infecting *N. glauca* in Mexico.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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