First report of cucumber mosaic virus infecting *Morinda officinalis* in China

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Morinda officinalis How (*M. officinalis*), an emerging medicinal plant, has gained popularity all over China. During a survey in 2019, we collected 10 *M. officinalis* plants at each of 5 different sites where 30% of the plants exhibited virus-like symptoms including foliar mosaic and deformation, and plant stunting in Deqin County, Guangdong Province, China. Total RNA was extracted from symptomatic leaves for high throughput sequencing by Illumina Hiseq 4000 (Illumina, USA) to identify pathogens associated with diseased plants (Kwon et al. 2018; Wang et al. 2018). Sequence analyses revealed three long contigs which covered almost the full-length genome sequence of cucumber mosaic virus from the genus *Cucumovirus* in the family *Bromoviridae*. No other virus was detected. The sequence of contigs was affirmed by de novo sequencing. RNA1, RNA2 and RNA3 of CMV isolate from *M. officinalis* (CMV-MO) are 3473 nt (GenBank accession No. MT371431), 3078 nt (MT371432) and 2255 nt (MT371433) long, respectively.

RT-PCR was conducted to confirm CMV in *M. officinalis* plants, by using three primers (CMVMO1_F_5'-ATTCACCTCTCCACGGGTCG-3' and CMVMO1_R_5'-TCAACCAGAACCTACTAACA-3'; CMVMO2_F_5'-TTGAACCA CCGCTATCTGT-3' and CMVMO2_R_5'-GCCACAGCCTTACTCAACCT-3'; CMVMO3_F_5'-TAACCCACGGTCGTATTGCT-3' and CMVMO3_R_5'-CTAATACGCAACGAAATCACT-3') designed according to the CMV-

MO sequences, respectively. Fragments of 413, 574 and 672 bp were separately obtained for RNA1, RNA2 and RNA3 respectively, and sequenced. BLASTn analysis revealed that the 413 bp fragment shared 96.2% nucleotide identity with CMV isolate JC from Korea (MH594044), the 574 bp fragment shared 96.9% nucleotide identity with CMV isolate 20 from Taiwan (MH798143), and the 672 bp fragment shared 94.2% nucleotide identity with CMV isolate yang-ss3-2 from China (MK778782). CMV was also identified in additional samples of *M. officinalis* plants with mosaic-like symptoms in other fields in the same county. This is the first report of CMV and of any virus in *M. officinalis*.

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