First report of tobacco mosaic virus infecting *Lagenaria siceraria* (Molina) Standl. var. *clavata* Makino in China

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Lagenaria siceraria (Molina) Standl. var. *clavata* Makino is an annual diploid plant of the family Cucurbitaceae. It is an economically important crop cultivated worldwide for vegetable production or medicinal purpose. In June 2019, virus-like symptoms, including foliar green-yellow mosaic, and mottling were observed on *Lagenaria siceraria* (Molina) Standl. var. *clavata* Makino in a greenhouse located in Yangzhou City, Jiangsu Province, East China. Leaf samples were collected from five symptomatic plants. All leaf samples were analyzed by Western blot using polyclonal antisera to tobacco mosaic virus (TMV) and cucumber mosaic virus (CMV) (Zhu et al. 2013). Three of five samples reacted positive to TMV but not to CMV. Next, we sequenced the open reading frame (ORF) of the movement protein (MP) of TMV. Total RNA was extracted from the three symptomatic leaf samples for RT-PCR using primers identical to nucleotides 4903 to 4922 (TMV-F: 5'-ATGGCTCTAGTTGTTAAAGG-3') and complementary to nucleotides 5690 to 5709 (TMV-R: 5'-TTAAACGAATCCGATTCGG-3'), which were designed to amplify the complete movement protein region (GenBank Accession No. MK087763). The expected 807 bp amplicon was amplified from the three symptomatic leaf samples that were positive for TMV in Western blotting. RT-PCR products were purified and cloned into the pMD19-T vector (TaKaRa) (Zhu et al. 2018). Selected cDNA clones were sequenced (MT420733) and analyzed. BLASTn analysis indicated that the sequence showed 99.75–100% nucleotide

identity to several TMV isolates for which sequences are available in GenBank (MK087763, JX993906, AB369276, AJ509081, KC007531). *Nicotiana tabacum* inoculated mechanically with sap from symptomatic *Lagenaria siceraria* (Molina) Standl. var. *clavata* Makino showed disease symptoms including green–dark green mosaic and distortion. TMV was detected in symptomatic *N. tabacum* by RT-PCR with the aforementioned primers. To our knowledge, this is the first report of TMV infecting *Lagenaria siceraria* (Molina) Standl. var. *clavata* Makino in China.

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Compliance with ethical standards

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

Research involving human participants and/or animals This article does not contain any studies with human participants or animals performed by any of the authors.

Informed consent This manuscript is new and not being considered elsewhere. All authors have approved the submission of this manuscript.

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