



First report of tomato spotted wilt virus infecting *Epipremnum aureum* in Korea

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Epipremnum aureum (family Araceae), a tropical vine commonly known as pothos, is grown commercially worldwide for ornamental use as a garden and indoor plant (Tian et al. 2018). In February 2021, tospovirus-like symptoms including foliar necrotic spots, mosaic, wilting, and yellowing were observed in approximately 20% of plants in a commercial greenhouse in Gwangju, South Korea (Parrella et al. 2003). To identify the causal virus, sap extracts of symptomatic leaf samples from five *E. aureum* plants were examined by transmission electron microscopy after negative staining with 1% uranyl acetate; tospovirus-like spherical particles of 80 to 100 nm in diameter were observed in all samples. Ten symptomatic leaf samples and two asymptomatic leaf samples were further analyzed with DAS-ELISA kits (Agdia, Elkhart, IN, USA) using antisera to major tospoviruses reported in Korea, including impatiens necrotic spot virus and tomato spotted wilt virus (TSWV). TSWV was detected in all symptomatic plants, but not in asymptomatic plants. To confirm the presence of TSWV, total RNA was extracted from ELISA-positive samples and analyzed by RT-PCR using TSWV-specific primers (Choi et al. 2018). The amplified fragments were cloned into pGEM-T vector (Promega, Madison, WI), and sequenced. The sequences of each fragment were identical, and a representative isolate named TSWV-EA (LC622166), was found to show 95.8% to 99.5% nucleotide identity with known TSWV isolates. Healthy *E. aureum* plants mechanically inoculated with sap from TSWV-infected *E. aureum* plants showed mild mosaic and systemic necrosis at 14 days post-inoculation. TSWV was subsequently detected in inoculated *E. aureum* based on RT-PCR analysis using the aforementioned primers. To

the best of our knowledge, this is the first report of TSWV infecting *E. aureum* in Korea; therefore, large-scale monitoring for TSWV infection in *E. aureum* is required to prevent the spread of this viral disease.

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Declarations

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

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

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