First report of powdery mildew caused by *Erysiphe convolvuli* on *Calystegia hederacea* in Korea

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In 2016–2019, *Erysiphe convolvuli* DC. was observed on *Calystegia hederacea* Wall. (a noxious weed) in four localities in Korea, including a public garden in Seoul. Previously *E. convolvuli* was recorded on several species of *Calystegia* in Europe and China (Farr and Rossman 2020). Powdery mildew symptoms were observed on leaves and stems of *C. hederacea*. Initially the infected plants displayed white powdery spots on both sides of leaves and on stems. As the disease progressed, the spots grew larger and denser. Eventually, the leaves turned yellow and proceeded to die or fall off. Conidiophores, which arose from epiphytic hyphae, were straight, 3–4-celled, $60\text{--}114 \times 7\text{--}9 \mu\text{m}$, with straight foot cells $25\text{--}35 \mu\text{m}$ long. Conidia, formed in chains, were cylindrical to ellipsoid-cylindrical, $32\text{--}48 \times 14\text{--}20 \mu\text{m}$. Chasmothecia, scattered to gregarious, were formed on leaves and stems in autumn. They were $80\text{--}124 \mu\text{m}$ diameter, with 10–40 appendages in the lower half of the ascomata. Appendages were mycelioid, simple, or sometimes 1–2 times irregularly branched, interlaced with each other, with walls hyaline, thin, smooth to rough, sometimes with the lower half pigmented yellowish to brownish, septate, $4\text{--}8 \mu\text{m}$ wide. Asci were 4–8, sessile or short-stalked, broad ellipsoid-ovoid, saccate, $50\text{--}64 \times 30\text{--}40 \mu\text{m}$, 4–6-spored. Ascospores were ellipsoid-ovoid, $16\text{--}24 \times 12\text{--}16 \mu\text{m}$, and colorless (Braun and Cook 2012). The ITS1/2 rDNA and LSU rDNA regions were amplified and sequenced with ITS5/P3 and NL1/NLP2 (Mori

et al. 2000) primers, respectively. The ITS 1/2 and LSU sequences showed 99–100% similar to *E. convolvuli* (AB104518, LC270835, LC270857, LC328325). Voucher specimens were deposited in the Korea University Herbarium (KUS). Both sequences were deposited in GenBank (Accession No. MT377709, MT380913). This is the first report of powdery mildew caused by *E. convolvuli* on *C. hederacea* in Korea.

Compliance with ethical standards

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

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