First report of powdery mildew caused by *Erysiphe russellii* on *Oxalis dillenii* in Korea

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Oxalis dillenii Jacq. is a herbaceous plant native to North America. This plant was introduced to Korea by chance and became invasive in the natural range (Hong et al. 2016). In September 2019, several *O. dillenii* plants growing wild in Hoengseong were found infected with a powdery mildew with 100% disease incidence and followed by 70% and 100% disease incidence in June and July 2020 at two locations of Hongcheon. Symptoms of the disease were white and powdery due to the net-like mycelial mats with abundant conidiophores and conidia on the leaves, stems, and inflorescence. Three voucher specimens were deposited in the Korea University herbarium (KUS-F31151, F31804, and F31837). Hyphal appressoria were lobed and mostly solitary. Conidiophores ($n=20$) were erect, $70\text{--}160\times 4\text{--}6\text{ }\mu\text{m}$, and 3–4-celled. Singly formed conidia ($n=20$) were oval to fusiform, $24\text{--}42\times 14\text{--}18\text{ }\mu\text{m}$, devoid of fibrosin bodies, and produced germ tubes on the perihilar position. The morphological features of the fungus were consistent with those of *Erysiphe russellii* Clint. (Braun and Cook 2012). Chasmothecia were not observed until the infected plants died in winter. Molecular identification was performed according to the nucleotide sequences of ITS regions and 28S rDNA gene amplified using ITS1-F/PM6 and PM3/TW14 primer pairs, respectively. Obtained sequences were deposited into the GenBank with accession Nos. OM033225 (534 bp), OM033226 (530 bp) for ITS and OM033227 (1028 bp) for 28S rDNA gene. BLASTN search results for ITS and 28S rDNA gene showed 100% identity with sequences LC010056 and LC009922 of *E. russellii* in GenBank. *E. russellii* has been known on several species of *Oxalis* including *O. dillenii* globally

(Farr and Rossman 2022). Although this fungus was recorded on *O. corniculata* and *O. corymbosa* in Korea (Farr and Rossman 2022), this is the first report of *E. russellii* on *O. dillenii*.

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Declarations

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

Conflict of interest The authors declare no conflict of interest.

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