



# First report of powdery mildew caused by *Podosphaera erigerontis-canadensis* on *Conyza sumatrensis* in Korea

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*Conyza sumatrensis* (Retz.) E. Walker (syn. *Erigeron sumatrensis* Retz.) native of South America is considered a highly invasive, troublesome weed worldwide. It was accidentally introduced into Korea in the 1930s, and has been naturalized mostly in the southern part of Korea. In 2019, powdery mildew colonies on the leaves of *C. sumatrensis* were found in Busan (35°07'11"N; 129°00'45"E), Korea. Fresh collections were examined. Hyphal appressoria were nearly absent but nipple-shaped. Conidiophores with immature catenate conidia were hyaline, upright, and 100–210 × 10–13 µm. Conidia were ellipsoid-ovoid to doliform, 30–42 × 18–22 µm with a length/width ratio of 1.4 to 2.1, and contained conspicuous fibrosin bodies. No chasmothecia were observed until the plant withered in late autumn. These features were consistent with the conidial state of *Podosphaera erigerontis-canadensis* (Lév.) U. Braun & T.Z. Liu (Braun and Cook 2012). To confirm the morphology-based identification, rDNA was extracted from KUS-F31525 (Korea University Herbarium). PCR products were amplified using the primer ITS1F and PM6 for internal transcribed spacer (ITS), and PM3 and TW14 for the large subunit (LSU) of the rDNA. The resulting sequences were registered to GenBank (Accession No. MT740620 for ITS, MT740685 for LSU). A Blastn search using ITS and LSU sequences showed 100% identity with *P. erigerontis-canadensis* (e.g., MT309698, MN593370, MN332238 for ITS; AB462772 for LSU).

*Podosphaera* (syn. *Sphaerotheca*) species on *Conyza* spp. have been recorded globally (Farr and Rossman 2020). Nevertheless, *C. sumatrensis* was listed as a host plant of *Sphaerotheca fuliginea* only from Japan (Amano 1986). To our knowledge, this is the first report of powdery mildew associated with *P. erigerontis-canadensis* on *C. sumatrensis* in Korea.

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## Compliance with ethical standards

**Conflict of interest** The authors declare no conflict of interest.

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