North American species of the genus Symphyotrichum (‘asters’ or ‘Michaelmas daisies’) are popular, widely cultivated ornamentals, some of which have become invasive and widely naturalised in Europe, posing threats to natural ecosystems.

A rust fungus was collected in October 2017 on naturalised Symphyotrichum lanceolatum in Baumgarten an der March, Lower Austria (voucher specimen WU 43136 deposited in the fungarium of the University of Vienna); and in October 2020 on Symphyotrichum novae-angliae in a garden in St. Willibald, Upper Austria (voucher specimen WU 43601). Infected plants displayed chlorotic spots on the upper leaf surfaces and uredinia with powdery urediniospores on the lower leaf surfaces and stems (Figs. 1-3). Urediniospores were ellipsoid to oblong-ellipsoid, polyangular, verrucose, 29–34 × 19–22 µm (Fig. 4). Based on these characteristics and the hosts, the rust fungus was identified preliminarily as Coleosporium montanum (McTaggart & Aime, 2018).

To confirm the species identification, we sequenced the ITS2-LSU and the LSU regions of samples WU 43601 and WU 43136, respectively. DNA was extracted from uredinia using an innuPREP DNA Micro Kit (Analytik Jena, Germany) following the manufacturer’s instructions, with a lysis time of 20 hours. The ITS2-LSU and LSU were amplified and sequenced with primer pairs RUST2inv - LR5 and Rust28SF - LRS, respectively (McTaggart & Aime, 2018 and references therein). The obtained sequences were deposited in GenBank (Accession Nos. MW284588, MW284589). An nBLAST analysis revealed 99.7–100% identity to sequences of Coleosporium montanum. In a molecular phylogenetic analysis, the collections were placed in a subclade of Coleosporium montanum composed of North American and Korean accessions from Symphyotrichum hosts (Fig. 5).

Coleosporium montanum is native to North America and has been introduced into Asia (McTaggart & Aime, 2018). To our knowledge, our records are the first for Europe, but there were a few recent Central European records from Symphyotrichum spp. that were likely misidentified as Coleosporium asterum (Scheuer, 2015; Ellis, 2020). Sequence differences between Coleosporium montanum accessions from Symphyotrichum and Solidago (Fig. 4) indicate that it may contain two host-specific cryptic species (McTaggart & Aime, 2018). So far, from Europe, only the closely related Coleosporium asterum has been confirmed from Solidago spp. (Beenken et al., 2017). No Coleosporium montanum teliospores were seen, but they were reported for an Austrian collection (as Coleosporium) from Symphyotrichum otina (Scheuer, 2015). Occurrences on potential alternate hosts, 2- or 3-needled pines (Pinus spp.), are as yet unknown in Europe. As the disease was observed only late in the season, it may have a minor impact on its Symphyotrichum hosts, but may affect their ornamental horticultural value.

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