Report of *Alternaria alternata* causing leaf spot on *Gerbera jamesonii* in Brazil

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Gerbera jamesonii (family Asteraceae) is a popular perennial ornamental cut flower and potted plant with considerable economic importance. In April 2018, symptoms of leaf spots were observed on *G. jamesonii* ‘Comum’ in commercial fields of cut flower in Frederico Westphalen, Rio Grande do Sul state, Brazil. The symptoms of the disease on the leaves were characterized by the development of black, small, scattered dots, which gradually enlarged and coalesced to form large, oval, circular or irregular, black lesions. Leaf lesion samples were surface sterilized and placed on potato dextrose agar. Colonies were round, comprising a cottony mycelium of dark olivaceous hyphae. Conidiophores were septate, light-to-olive golden brown with a conidial scar from which conidia were produced. Conidia ($n = 50$) were obclavate to obpyriform, golden brown, with a cylindrical or coniform beak at the tip, and measured 26.3 to $60.2 \mu\text{m} \times 12.1$ to $18.1 \mu\text{m}$ with 2 to 5 transverse and 1 to 3 longitudinal septa. To further confirm the identification, molecular characterization was performed through the amplification and sequencing of the ITS, GAPDH, RPB2, TEF-1 α gene regions, using the primers and method described by Woudenberg et al. (2013). Sequences of the studied DNA regions were submitted to GenBank (ITS: MH819177; GAPDH: MH822960; RPB2: MH822961; TEF-1 α : MH822962). BLAST searches showed 99%–100% identity with the existing sequences (including ex-type CBS 916.96)

of *Alternaria alternata*. To confirm Koch’s postulates, seven plants of *G. jamesonii* ‘Comum’ were inoculated with a spore suspension (10^5 conidia/ml) of *A. alternata* from a 10-day-old culture. After inoculation, the detached leaves were covered with plastic bags to maintain high relative humidity, maintained at 25°C and monitored daily for symptom development. A set of seven non-inoculated plants was considered as control, with only distilled water applied. Five days after inoculation, leaves displayed symptoms similar to those observed in the field, while controls remained symptomless. Cultures re-isolated from inoculated leaves had the same morphological and molecular traits as the initial isolates. To our knowledge, this is the first report of *A. alternata* on *G. jamesoni* in Brazil.

Compliance with ethical standards

Conflict of interests We have no conflict of interest to declare.

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References

- Woudenberg JHC, Groenewald JZ, Binder M, Crous PW (2013) *Alternaria* redefined. Stud Mycol 75:171–212

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