



First report of *Alternaria alternata* causing leaf spots on *Hibiscus syriacus* in Italy

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During the summer 2019, in a private garden near Biella (northern Italy), 50% of 20 one-year-old plants of *Hibiscus syriacus*, Malvaceae family, showed brown leaf spots surrounded by a chlorotic halo. After a few days, a hole appeared on the center of the necrotic tissues. Pieces taken from the margins of the necrotic areas were plated on potato dextrose agar and oliveaceous fungal colonies were isolated. A monoconidial culture grown on PDA produced dark-brown, ovoid or ellipsoid conidia characterized by 1 to 3 transverse, 0 to 2 longitudinal and 0 to 3 oblique septa. Conidia measured 12.1 to 42.2 (average 22.6) × 4.9 to 11.9 (average 8.6) μm ($n = 50$), some of them showed a small light brown beak, measuring from 2.1 to 9.1 μm (average 4.4). These morphological characteristics lead to identify the isolated fungus as *Alternaria* sp. (Simmons 2007). From the isolate coded 19/52 we amplified ITS, *rpb2*, *endoPG* and OPA 10–2 region (GenBank Accession Nos. MN654969; MN649031; MN649030; MN649032) (Woudenberg et al. 2015). BLASTn analysis showed 100% identity with the ex-type CBS 916.96 of *Alternaria alternata* in ITS, and *rpb2* regions (AF347031, KC584375) and 99% identity in OPA10–2 and *endoPG* portions (KP124632, JQ811978). Three pathogenicity tests were performed on unwounded leaves of three healthy plants of *H. syriacus* by

spraying conidial suspension at a concentration of 10^5 conidia/ml (5 ml/plant). Three plants inoculated with deionized water served as control. Plants were covered with a plastic transparent bag for 5 days and maintained in a greenhouse at a temperature of 20–25 °C. After five days, leaf spots appeared on the inoculated plants and *A. alternata* was re-isolated, while the controls remained healthy. This pathogen is previously reported on *H. syriacus* (Farr and Rossman 2020) and this is the first report of *A. alternata* on *H. syriacus* in Italy and Europe.

References

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