First report of *Alternaria alternata* causing leaf spot on *Salvia involucrata* in Italy

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In the summer-autumn 2019 plants of *Salvia involucrata* (Lamiaceae family) grown in a private garden near Biella (northern Italy), showed light-brown leaf spots that progressively enlarged causing the fall of the leaves. The disease affected 20% of the plants. From the margins of the necrotic tissues olivaceous fungal colonies were isolated with a frequency of 90%. The fungus grown on PDA produced dark-brown, ovoid or ellipsoid conidia, with 1 to 3 transverse and 0 to 1 longitudinal septa. They measured 8.7 to 36.9 (average 19.1) $\times$ 4.5 to 12.4 (average 8.4) μm ($n = 50$) and some of them showed a light or brown short beak, 1.5 to 5.6 (average 3.6) μm . On the basis of these morphological characteristics the fungus was identified as *Alternaria* sp. (Simmons 2007). From the DNA of the isolate coded 19/47 a PCR was carried out for ITS, *rpb2*, *endoPG* and OPA 10–2 region (Woudenberg et al. 2015) (GenBank accession Nos. MN622996; MN615843; MN615842; MN615844, respectively). A BLASTn analysis exhibited 100% identity with the ex-type CBS 916.96 of *Alternaria alternata* in ITS, and OPA10–2 (AF347031, KP124632, respectively), and 99% identity in *rpb2*, and *endoPG* regions (KC584375, JQ811978, respectively). Three repeated pathogenicity tests (three plants/test) were carried out on plants of *S. involucrata*. Leaves were sprayed with a water

suspension (5 ml/plant) at a concentration of 10^5 conidia/ml. Three plants inoculated with deionized water served as control. The plants, covered with plastic transparent bags for 5 days, were maintained in a greenhouse at 20–25 °C. Leaf spots were observed on inoculated plants and *A. alternata* was re-isolated with a frequency of 90% while the controls showed no symptoms. *A. alternata* was reported on several species of sage (Farr and Rossman 2020). This is the first report of *A. alternata* on *S. involucrata* in Italy as well as elsewhere.

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