



First report of *Nigrospora oryzae* causing brown leaf spot on *Mentha spicata*

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During the summer of 2017 and 2018, brown leaf spot symptoms were observed on peppermint (*Mentha spicata* L.) growing in several fields in Hamedan province, Iran. About 20 to 30% of 20 ha of commercial peppermint displayed a severe foliar disease in different fields. The initial symptoms included chocolate brown spots on leaf margins and apices. Small pieces of diseased peppermint were cut and sterilized in 1% (w/v) sodium hypochlorite for 1 min, followed by rinsing three times in sterilized distilled water and then cultured on PDA and incubated at 25 °C. The colonies were initially white and then became grayish to black, wool-like, and growing aerial mycelium covering the entire Petri dish within 7 days. Conidiophores extensively branched, pale brown; sometimes reduced to conidiogenous cell. Conidiogenous cell was monoblastic, ampuliform or subspherical and hyaline. Conidia were solitary, globose or subglobose, black, aseptate and measured 11–14 µm. The pathogen was identified as *Nigrospora oryzae* based on the described morphological characteristics of *N. oryzae* (Wang et al. 2017). To confirm morphological identification, genomic DNA was extracted from a representative isolate (KF75). ITS region and β -tubulin gene region were amplified using primer pairs ITS1 and ITS4, and BT2A and BT2B, respectively. Blastn searches on NCBI GenBank showed that the β -tubulin (MT081384), and ITS (MN263241) sequences of the isolate KF75 had 100% similarity to KY019583 and 99.8% similarity to

MH748173, respectively. Pathogenicity tests were performed in triplicate by inoculating leaves with mycelial plugs (5 mm in diameter) taken from the edges of 5-day-old cultures. Sterile agar plugs were inoculated as control. After 5 days, the inoculated leaves showed typical symptoms similar to those observed in the field. The pathogen was successfully reisolated from these inoculated leaves. No symptoms were seen on the control leaves. The genus *Nigrospora* has been well studied as a plant pathogen (Fukushima et al. 1998) and *N. oryzae* is a known pathogen for several hosts but has not been reported on peppermint (Sharma et al. 2013). To our knowledge, this is the first report of *N. oryzae* on *M. spicata* in Iran as well as worldwide.

References

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