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DISEASE NOTES

First Report of Leaf Spot Caused by *Colletotrichum kahawae* on Cultivated Rocket (*Eruca sativa*) in Italy

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ABSTRACT

Eruca sativa common name cultivated rocket, is an annual species in the Brassicaceae, grown for fresh consumption. In fall 2014, in a commercial plastic-house in northern Italy, where the crop was grown for 7 years in the same soil, a new leaf spot was observed on rocket plants ('Coltivata') 7 to 35 days after sowing. The incidence ranged from 5 to 15% in the more humid area of the tunnel, with 5 to 75% of the affected leaf area showing white spots. Symptoms first appeared on the tip or edge of leaf as pale white or cream-colored circular spots 5 to 50 mm in diameter. Spots had thin dark brown or black borders. They enlarged, with round or irregular shapes, to form extensive dead areas. The disease developed at 20 to 28°C and 75 to 90% relative humidity. Isolations were carried out from affected leaf tissues (1 mm^2) dipped in 1% sodium hypochlorite for 1 min, then rinsed in sterilized water, and placed onto PDA amended with 25 mg/liter of streptomycin sulfate. A *Colletotrichum* sp. (Bailey and Jeger 1992) was consistently recovered. Hyaline, cylindrical, aseptate, and thin-walled conidia (9.3 to 16.5 × 3.4 to 6.3 µm, avg. 14.4 × 4.7 µm; n = 41) were produced abundantly in acervuli (79.0 to 91.5 µm; n = 15) in gray mycelium. Genomic DNA was extracted from 10 mg of fresh mycelium collected from PDA plates of one representative, single-conidium isolate. The ITS1-5.8S-ITS2 region of ribosomal DNA (rDNA) and a fragment of the beta-tubulin 2 gene (TUB2) between exons 2 and 6 were amplified using 200 ng of genomic DNA as template. Amplicons were analyzed by electrophoresis, purified (ExoSAP-IT), and sequenced in both directions. BLASTn sequence analysis was performed (Morgulis et al. 2008). The 489- and 600-bp fragments of ITS rDNA (GenBank Accession No. KT259854) and TUB2 (KT259853), respectively, showed 100% similarity with ITS and TUB2 sequences of *C. kahawae* (JN715847.1 and KC425710.1, respectively). Pathogenicity tests were performed on healthy, 25-day-old Coltivata plants by spraying leaves with a conidial and mycelium suspension from PDA plates of one isolate of the pathogen, adjusted at 1 × 10^5 conidia/ml. Control plants were sprayed with sterilized water. Fifteen plants/treatment were used. The plants were covered with plastic bags for 5 days, and kept in a growth chamber at 25°C under white

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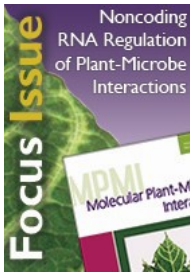

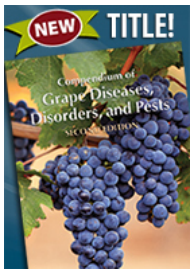

fluorescent lamps (12-h photoperiod). Spots similar to those on the plants with natural infections were observed 7 to 10 days after inoculation; control plants remained healthy. A *Colletotrichum* sp. similar to *C. kahawae* was reisolated consistently from inoculated plants; no fungal colonies were obtained from control plants. *C. kahawae* has been reported in Italy on olive (Schena et al. 2014). This is, to our knowledge, the first report of *C. kahawae* on *E. sativa* in Italy and worldwide. Due to the wide host range of *C. kahawae* and the economic value of cultivated rocket, this disease could be a threat for this crop in other production areas in Italy.

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