First report of *Olpidium virulentus* on lettuce in Turkey

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A survey was conducted in lettuce fields in the Central Anatolian of Turkey (Ankara province) during May and July of 2016 to search for soil-borne fungal vectors of viruses associated with lettuce big-vein (BV) disease. Seven soil samples from seven fields in two different locations of Ankara were collected from the root zones of plants showing symptoms of BV. The collected soils were equally put into 10 cm-diameter sterilized pots and then lettuce (*Lactuca sativa* L. var. *capitata*) seeds were sown on them as bait plants. Bait plants were grown by irrigating them with distilled water for five weeks at 24 °C and 60% humidity in a climate chamber to pick up the zoospores of *Olpidium* spp. The lettuce plants showed typical BV symptoms as enlargement of main veins which were similar to symptoms observed in the fields, while control plants did not show any symptoms. Roots were washed with 70% ethanol, then with distilled water to remove soil particles and other soil organisms from their surface. The roots were observed microscopically (×40) for the presence of resting spores of *Olpidium* spp. in their cells. Smooth-walled and honeycomb-shaped resting spores observed microscopically indicate the presence of different species of *Olpidium* (Lange and Insunza 1977). We only observed honeycomb-shaped resting spores. Total nucleic acid was extracted from symptomatic and asymptomatic plant roots using the CTAB method (Cullings 1992) with some modifications. PCR assays

with specific primers OLPvirF, OLPbraF and OLPborF and reverse primer OLPR (Herrera-Vasquez et al. 2009) were used to determine the presence of *Olpidium* spp. *O. virulentus* was detected in all lettuce plants but not in control plants. *O. bornovanus* and *O. brassicae* were not detected in any of the tested plant samples. One of the specific amplicons of the expected size (579 nt) was sequenced, and then deposited in the GenBank (MK054242). Nucleotide BLAST analysis showed 99–98% identity to GBR1 (AY373011) and CTL-1 (KF661296). To our knowledge, this is the first report of *O. virulentus* as vector of viruses causing BV diseases in lettuce in Turkey.

References

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