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DISEASE NOTE

First report of collar and root rot caused by *Phytophthora nicotianae* on *Lycium barbarum*

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Goji (*Lycium barbarum* L.) is a Chinese-origin crop recently introduced in Italy. In October 2016, collar and root rots associated with severe twig dieback and foliage desiccation were observed on more than 30% of two-year-old Goji plants in an orchard in Bari province (Southern Italy). A *Phytophthora* sp. was consistently isolated by plating small pieces of collar and root decayed tissues on a BNPRAH selective medium (Erwin and Ribeiro 1996). All isolates formed white arachnoid colonies on potato-dextrose-agar, with papillate, persistent, pyriform to spherical sporangia of 31–48 × 22–34 μm in size, and globose chlamydospores of 20–32 μm in diameter, both terminal and intercalary singly formed. Oospores were not observed. Phenotypic characteristics matched those of *Phytophthora nicotianae* (Erwin and Ribeiro 1996). To confirm morphological identification, DNA of a representative *Phytophthora* isolate was amplified using the primers ITS1/ITS4 and OomCoxILevup/OomCoxI-Levlo (Robideau et al. 2011). Sequences showed 100% identity with *P. nicotianae* strains (AF266776 and HQ261378) and were deposited in GenBank (Accession Nos. MF447452 and MH011396, respectively). To fulfil Koch's postulates, ten plants were inoculated burying the colonized medium in the compost around the roots at a rate of 3% (*w*/*v*). Plants inoculated with sterile medium served as a control. All plants were maintained at 25 ± 5 °C. Ten weeks after inoculation, plants showed typical symptoms of the disease, and the re-isolated colonies exhibited the same traits of the strain used for inoculation. To the best of our knowledge, this is the first report of collar and root rot caused by *P. nicotianae* on *Lycium barbarum*. There is only another report of *P. nicotianae* on Goji from Korea, but on *Lycium chinense* L. (Cho and Shin 2004).

References

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