Sclerotinia pseudotuberosa as the cause of black rot of chestnuts in Greece

George T. Tziros¹ · Stephanos Diamandis¹

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Abstract

In November 2014 a disease was observed on nuts collected from chestnut orchards in Northern Greece (Kozani) causing significant yield losses (ca. 50%). Diseased fruits of European chestnut (*Castanea sativa*) were black and rotted, although appearing healthy and without external symptoms.

Keywords *Castanea sativa* · *Sclerotinia pseudotuberosa* · ITS sequencing · Pathogenicity

In November 2014 a disease was observed on nuts collected from chestnut orchards in Northern Greece (Kozani) causing significant yield losses (ca. 50%). Diseased fruits of European chestnut (*Castanea sativa*) were black and rotted, although appearing healthy and without external symptoms. Nuts were surface disinfested in 1% sodium hypochlorite for 10 min and then dried in an air flow cabinet. The outer shell was removed from each nut with a sterile scalpel and small pieces of infected tissue were plated onto potato dextrose agar (PDA) and incubated in the dark at 25 °C for one week. Single spore cultures from the isolates derived gave rise to dark grey to black colonies. Symptoms as well as morphological characteristics of the fungus tally with those of *Sclerotinia pseudotuberosa* (syn. *Ciboria batschiana*) (Ellis and Ellis 1997). The ITS1–5.8S–ITS2 region was amplified with primers ITS1 and ITS4 and sequenced (GenBank Accession Nos. MF991953–MF991960). BLAST search revealed 100% identity with sequences of various *S. pseudotuberosa* isolates (e.g., AY526234 from isolate CBS 655.78). PDA-plugs with actively growing mycelia were transferred to wounded, previously disinfested fruit surfaces. Internal decay was observed

when inoculated fruits were cut vertically two weeks after inoculation while controls inoculated using PDA disks without mycelia showed no rot symptoms. *S. pseudotuberosa* was consistently reisolated from inoculated nuts. Black rot caused by *S. pseudotuberosa* has been reported previously as a post harvest disease of nuts of *C. sativa* and acorns of *Quercus* spp. (Vettraino et al. 2005). Although *C. batschiana* has previously been reported from Greece as a saprobe on chestnut cupule (Diamandis and Perlerou 2001), to our knowledge this the first report of this fungus causing a chestnut rot in the country.

References

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✉ George T. Tziros
gtziros@yahoo.gr

¹ Hellenic Agricultural Organization, Forest Research Institute, 57006 Vassilika, Thessaloniki, Greece