



First report of *Pseudomicrostroma juglandis* (syn. *Microstroma juglandis*) causing downy leaf spot of walnut in Argentina

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During October of 2016, diseased trees (2 years-old) of *Juglans regia* cv. Chandler in Vista Alegre, Neuquen, North Patagonia, of Argentina, showed characteristic downy leaf spot symptoms (disease incidence 80%). Symptoms were characterized by a whitish efflorescence containing fungal structures and spores on the lower surface of the affected leaf, often concentrated along the veins with polygonal shape and a yellowish discoloration on the corresponding upper surface of the leaf. Microscope examination revealed that the whitish polygonal efflorescences were basidia on stromata forming oval basidiospores ($5.5\text{--}8 \times 2.5\text{--}3.4 \mu\text{m}$). Isolations on PDA using small pieces of surface-sterilized leaf tissue yielded white to cream, mucoid and yeast-like colonies (Begerow et al. 2001; Kijpornyongpan and Aime 2017). Based on morphological characteristics the fungus was identified as *Pseudomicrostroma juglandis* (syn. *Microstroma juglandis*). The amplification of the rDNA/ITS was conducted for three monosporic cultures using ITS4/ITS5 primers. Sequence of the three isolates were the same (GenBank accession No MG786554) and BLAST analysis of the 620-bp consensus in GenBank showed 97% identity with strain of *Pseudomicrostroma juglandis* (syn. *Microstroma juglandis*)

(GenBank: DQ789988.1 – CBS 287.63) (Kijpornyongpan and Aime 2017). Pathogenicity tests were performed on leaves of walnut seedlings (2 year-old) by spraying and dripping with 1×10^8 conidia ml^{-1} . Inoculated leaves were covered with polyethylene bags for 5 days ($25^\circ \pm 2^\circ\text{C}$ and 75–80% RH). Control leaves were treated with water. Symptoms identical to those observed in walnut orchards became visible 30 days after inoculation. Infected leaves were checked microscopically and the causal agent was re-isolated on PDA. Downy leaf spot symptoms were observed generalized on whole walnut orchards of the region to mid-December. According to our knowledge, this is the first report of downy leaf spot on walnuts caused by *Pseudomicrostroma juglandis* in South America. The disease must be observed due to the increase of the areas implanted with walnuts in the region.

References

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