Dieback of natural regeneration of Flowering ash (*Fraxinus ornus*) in a hilly area of central Tuscany

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A widespread dieback of flowering ash (*Fraxinus ornus* L.) regeneration was observed during spring and summer 2018 in the Colline Metallifere area in central Tuscany. Incipient cankers occurred at the start of the growing season as small depressed lesions, with a discoloured bark (from purple brown to light brown) and crack initials in the centre of the lesions. Many seedlings reacted vigorously to the infection, producing callus tissue in an attempt to callus over the lesions. In other instances, the typical sunken, light-brown cankers formed on the bark, completely girdling the stems of the seedlings and killing them. The results of infection thus ranged from small, inconspicuous, occasionally callused cankers, to extended, lethal cankers with longitudinal cracks. Fruiting bodies (pycnidia) occasionally erupted through virulent cankers. In the laboratory, when the outer bark was stripped off, a light-brown discoloration of the inner bark and sapwood was revealed at the border between infected and healthy (undiscoloured) tissue. Isolations from cankered tissue yielded a number of fungal entities. *Botryosphaeria dothidea* (Moug.) Ces. & De Not. was the most frequently associated with active cankers. Sequencing of the ITS-rDNA region confirmed the identity of this fungus, with a 100 per-cent sequence homology with a Swiss isolate of the species. Information on the disease cycle of *B. dothidea* in the investigated forest ecosystem is limited. The fungus is known to live in healthy trees as an endophyte, but infections were also often found to originate in new growth, often moving from the lateral shoots to the stem. Disease incidence was high (about 80%), with most of the infected seedlings dying back later because multiple cankers formed along the axis, or a virulent canker completely girdled the stems. Cankers also sporadically formed on the lower branches of adult trees. Since environmental conditions are often determining factors in canker formation, it seems reasonable to suppose that flowering ash becomes more susceptible to *B. dothidea* infection when it grows on dry sites. The dry climate of the Colline Metallifere hilly range, exacerbated by low soil moisture and extended summer drought, may have predisposed this species to *B. dothidea* infection.