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New evidence of flower infection in olives

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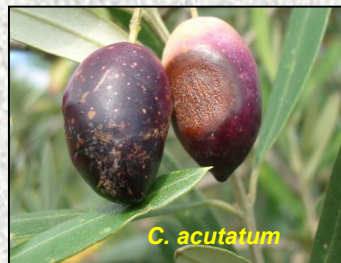
Abstract: New evidence is provided for asymptomatic infection of flowers of olive varieties Barnea and Manzanillo by *Colletotrichum acutatum* and *C. gloeosporioides*. Asymptomatic infection of olive flowers by these species of *Colletotrichum* and the likely latent behaviour of the pathogens resulting in symptomatic disease expression of mature fruits has not been recorded anywhere previously.

Flowers were observed to be infected from the early to late flowering period. Incubation of the flowers showed the presence of the fungus in the calyx, stamens and ovaries. Flower infection continued to express itself until fruit set. The first external visible symptoms occurred on the young, developing fruits when they were at peppercorn (2-4mm) and pea size (5-10mm). The infected fruits at both these stages can drop; however many remain on the tree, carrying the sporulating pathogen. This could be an important source for continued secondary infection. Natural infection of flowers was low in different varieties and locations during 2006 and 2007 seasons. Infection of flowers has important bearing on the type and timing of fungicides to control anthracnose.

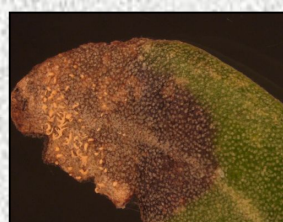
Figures demonstrating the continuous life cycle of *Colletotrichum acutatum* and *C. gloeosporioides* on olives from early flowering to mature fruits



Flower infection pathway from asymptomatic flowers to infection of all floral parts



Infection pathway from fruit set to mature fruits



Mummified fruits and infected leaves are sources for flower infection

Infection of flowers leading to fruit rot is of economic importance as anthracnose results in significant losses in yield and lowers the quality of oil produced from olives infected with *Colletotrichum*.