

Multihyphal Structures Formed by *Phytophthora ramorum* on Inoculated Leaves of Mediterranean Shrubs¹

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Abstract

Multihyphal reproductive structures produced by the plant pathogen *Phytophthora ramorum*, similar to sporodochia of the mitosporic fungi, have been repeatedly observed one to two weeks after zoospore inoculation of detached leaves and fruits of an assortment of Mediterranean sclerophyll shrubs. The morphology of these structures and their morphogenesis and position on the host tissue were examined by dissecting, compound and scanning electron microscopy. Initials of the fruit bodies developed subcuticularly or subepidermally as small hyphal aggregates by repeated branching, budding, swelling and interweaving, eventually coalescing into prosenchymatous stromata. These always emerged through the adaxial side of the leaf by rupture of the overlying host tissue. Occasionally, short sporangiophores bearing clusters of 20 to 100 sporangia formed above and were associated with the stroma. Packed clusters of chlamydospores were sometimes formed instead. Full descriptions of the already proposed term 'sporangioma' and the newly proposed 'chlamydosorus' are given. Their biological significance is discussed.

Key words: *Phytophthora ramorum*, sporulation, sporangioma, chlamydosorus

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