

Sclerotinia Blight of Stephanotis Flowers

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ABSTRACT

A flower blight of *Stephanotis floribunda* was found resulting from infection by *Sclerotinia sclerotiorum*. The symptoms included brown-to-tan spots and some distortion of the flowers, and were similar to those reported on this plant resulting from infection by the closely related fungus, *Botrytis elliptica*. *Phytopathology* 61: 1524-1525.

Additional key words: ascospore infection.

Stephanotis floribunda Brongn. is a tropical vine frequently grown in greenhouses for its clusters of white, waxy flowers, which are commonly used in bridal bouquets. Recently, in the San Francisco Bay area, a flower blight occurred resulting from infection by *Sclerotinia sclerotiorum* (Lib.) d By. The symptoms appeared as tan-to-brown spots, several millimeters to a centimeter in diameter. Occasionally, the spots were numerous and coalesced so that nearly whole flowers were affected. The tissues in small spots tended to be firm, but were soft in the larger spots. Any spots made the flowers unsalable. No other portions of the plants were affected.

To prove pathogenicity, the isolate of *S. sclerotiorum* and an isolate from bean (*Phaseolus vulgaris* L.) were grown on potato-dextrose agar slants until sclerotia could be easily shaken from the cultures. In October, these sclerotia were buried in moist, sterile, coarse sand in deep petri dishes which were placed outdoors in the shade. In about 3 months, apothecia were produced. Mature apothecia were added to sterile water blanks and shaken so that

a suspension of ascospores resulted. This spore suspension was atomized on clusters of cut flowers, the peduncles of which were in small beakers of water. Clusters of flowers sprayed with distilled water served as checks. All flowers were placed in glass moist chambers and placed outdoors. After 4 days, small spots were visible on the inoculated flowers, but not on the checks. Within a week, the spots had enlarged or were similar to those on diseased flowers found in the greenhouse. After 2 weeks in the moist chambers, the inoculated flowers had turned soft and mushy, and were covered with fluffy hyphae; and production of sclerotia had started. This advanced stage was not seen in the greenhouse. The isolates of *S. sclerotiorum* from bean and stephanotis were equally pathogenic when used to inoculate stephanotis flowers.

Symptom development was most prominent on flowers fully open at the time of inoculation. Some symptoms were produced on flower buds just showing white color at the time of inoculation. Flowers partially open at inoculation failed to open completely, and were partially distorted (Fig. 1).

The greenhouse in which the disease was found to occur was formerly used for growing cucumbers, but no record could be found of *S. sclerotiorum* occurring there. However, the fungus is listed as occurring on cucumbers in many parts of the country, particularly in greenhouses (5). As the stephanotis flowers were grown on overhead trellises, infection by means of airborne ascospores was indicated. Ascospore infection of gloxinia flowers was reported in California (3). Flower infection of chrysanthemum by *S. sclerotiorum* was reported from Louisiana (2) and Maryland (1), and though no mention was made as to how infection occurred, because of the height of the flowers, ascospores are suspected as the inoculum source.

A disease of stephanotis flowers resulting from infection by *Botrytis elliptica* (Berk.) Cooke was reported by Tompkins & Hansen (4). Except for a slight difference in color of the spots and in the amount of distortion, the symptoms are similar in

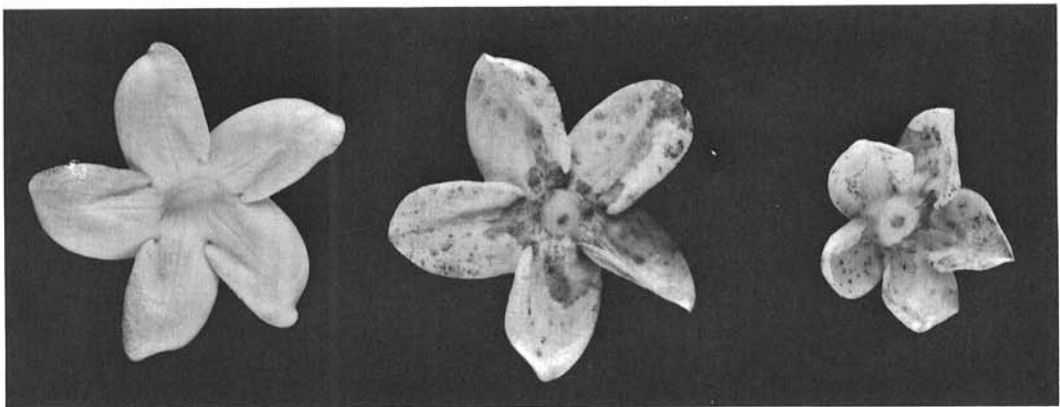


Fig. 1. *Sclerotinia sclerotiorum* infection of stephanotis flowers. (Left) Noninoculated check. (Center) Flower inoculated with ascospores from bean isolate. (Right) Flower inoculated with ascospores from stephanotis isolate. Flower at right was inoculated when just opening, and failed to open further as a result of infection.

these two diseases of the same host which result from infection by somewhat closely related but distinctly different fungi.

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