

PHYTOPATHOLOGICAL NOTES

Anthracnose of Statice in Southern Florida

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ABSTRACT

Colletotrichum gloeosporioides causes crown rot and lesions on leaves, stems, and flower parts of *Limonium bonduellii* 'Gold Coast'. Cultivars Iceberg, Midnight Blue, and Roselight of *L. sinuatum* are only slightly susceptible. Benomyl controls the disease effectively.

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Additional key words: *Cercospora insulata*, *Colletotrichum armeriae*, *Gloeosporium armeriae*, frog-eye.

In 1971, *Colletotrichum gloeosporioides* Penz. was isolated from plants exhibiting crown rot, and from lesions on leaves, stems, and flower parts of *Limonium bonduellii* (Lest.) Kuntze 'Gold Coast' growing in southern Florida. Although cultivars Iceberg, Midnight Blue, and Roselight of *L. sinuatum* (L.) Mill. were frequently present in the same planting with Gold Coast, they were apparently only slightly susceptible to the disease. Leaf lesions (Fig. 1) were the most prevalent symptoms, and were about the same size as frog-eye lesions caused by *Cercospora insulata* Sacc. They were dark brown to tan, however, and were easily distinguished from frog-eye lesions, which are tan, surrounded by reddish brown to orange margins.

Only two references associating species of *Colletotrichum* or *Gloeosporium* with members of the *Plumbaginaceae* were found in the literature. Saccardo lists *G. armeriae* Allesch. (2) as occurring on *Armeria vulgaris* var. *sibiricae* in Greenland, and a report from France in 1942 designates *C. armeriae* Nicolas & Aggery as a new species occurring on dead stems and leaves of *Armeria plantaginea* Willd. (1).

We have obtained effective control of both anthracnose and frog-eye in commercial plantings by using benomyl (0.25 lb. of 50% wettable powder) applied as a foliar spray in 50 gal of water/acre per week during the past growing season.

Our study distinguishes among *C. gloeosporioides*, *C. armeriae*, and *G. armeriae*, and establishes *C. gloeosporioides* as a pathogen of statice.

MATERIALS AND METHODS.—Cultures of *C. gloeosporioides* used in the preparation of inoculum for pathogenicity tests were grown on potato-dextrose agar (Difco, 39 g/liter in demineralized water). After 7 days' growth, 5 ml of demineralized water were added to each plate, and

the colony surface was brushed lightly to free the conidia. The contents of each plate were filtered through a double thickness of cheesecloth, adjusted to contain 20,000 conidia/ml, blended for 30 sec after adding 0.5 ml of Triton B-1956 (active ingredient, 77% modified phthalic glyceryl alkyd resin) per 20 ml of suspension, and sprayed on leaves of five plants each of the cultivars Gold Coast, Iceberg, Midnight Blue, and Roselight. Leaves of control plants were sprayed with water containing Triton B-1956. All plants were maintained in a mist chamber for 24 hr after the inoculum was applied, then placed in a greenhouse for the duration of the experiment.

RESULTS.—Small water-soaked spots, 0.5-1 mm in diam, were apparent on leaves of all plants of the cultivar Gold Coast 72 hr after inoculation. As the spots enlarged, they became light tan, then brown to dark brown in color. After 7-10 days, many of the leaves were rotted off at the axis. At the end of 2 weeks, seven of the 10 plants were dead from crown rot.

Leaves of the cultivars Iceberg, Midnight Blue, and



Fig. 1. Lesions caused by *Colletotrichum gloeosporioides* on A) portion of a flower stalk; and B) a leaf of statice.

Roselight exhibited a few small, brown lesions up to 5 mm in diam. All of these plants survived without any loss of leaves, but the fungus was recovered from leaf lesions on each of the cultivars. These results are in agreement with observations of the disease in field plantings.

The pathogen.—Acervuli are irregularly circular, sessile, black, 136-218 μ in diam; setae are dark brown to brown at the acute tips, multiseptate, mostly straight, 56-182 \times 3.5-6.5 μ ; conidia hyaline, cylindrical, guttulate, 13.6-24.1 \times 3.5-6.5 μ . In mass, the conidia vary from cream to orange in color.

C. gloeosporioides differs from *C. armeriae* in that

conidia of the latter are falcate, and strongly resemble those of *C. dematium* (Pers. ex Fr.) Grove. Conidia of *C. armeriae* are smaller (5-9 \times 2-4 μ) than those of *C. gloeosporioides*, and are oval as compared with cylindrical in shape for the latter.

LITERATURE CITED

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