Survival of the Clove Pathogen *Colletotrichum gloeosporioides* on the Weed Clerodendron in India

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ABSTRACT

KARUNAKARAN, P., M. CHANDRASEKHARAN NAIR, and C. GOKULAPALAN. 1980. Survival of the clove pathogen *Colletotrichum gloeosporioides* on the weed Clerodendron in India. Plant Disease 64:415-416.

A severe leaf spot disease on the weed Clerodendron (*Clerodendron infortunatum*) caused by *Colletotrichum gloeosporioides,* newly reported in clove gardens of Kerala, India, may serve as a source of inoculum for the leaf spot, twig blight, and flower shedding disease of clove (*Eugenia caryophyllata*). The causal organism survives well under adverse conditions on infected leaves of Clerodendron.

A leaf spot disease of Clerodendron (*Clerodendron infortunatum*) was severe in many parts of Kerala during the 1978–1979 season. A *Colletotrichum* sp. was associated with this leaf spot disease on Clerodendron weeds in clove gardens.

The purpose of our investigation was to determine the etiology of leaf spot disease of Clerodendron and to study the relationship of the causal organism with that causing the leaf spot disease on clove, which is a serious problem in Kerala (1).

On Clerodendron, the disease was characterized by a large number of irregularly circular spots on all parts of the leaf lamina. The symptoms originally were brown pinhead spots with concentric yellow halos. Gradually the spots enlarged, and two or more adjacent spots coalesced to form necrotic patches (Fig. 1). In advanced stages of infection, a large number of spots covered almost all leaves. Under high humidity, fruiting bodies appeared as black dots on the surface of the necrotic patches.

Isolations were made from diseased leaves of Clerodendron on potato-

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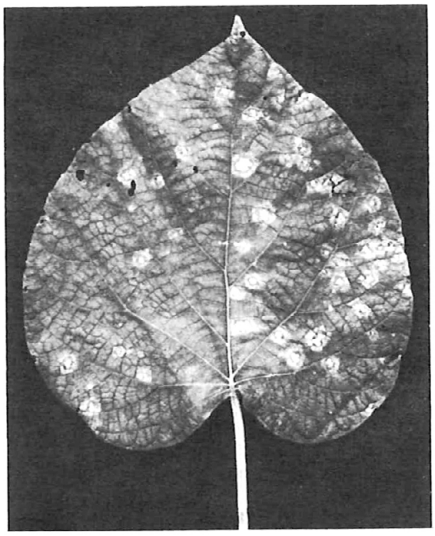

Fig. 1. Leaf spot on *Clerodendron infortunatum* caused by *Colletotrichum gloeosporioides.*

dextrose agar, which consistently yielded a *Colletotrichum* sp.

Pathogenicity tests were made by inoculating healthy Clerodendron plants with the spore suspension of the organism from 7-day-old cultures. Symptoms developed 3–4 days after inoculation but took 7–12 days to develop fully. Artificial inoculation produced symptoms similar to naturally occurring symptoms, and the same organism was reisolated from the artificially inoculated plants.

The causal organism grew and sporulated well on potato-dextrose agar. The acervuli were abundant in culture. The description of this organism agrees with that of *Colletotrichum gloeosporioides* Penz. (2,4) and was identified as such.

The perfect state of the organism (*Glomerella cingulata*) was found in old cultures and also on inoculated leaves kept under high humidity.

Because the leaf spot disease of Clerodendron was so common in clove gardens, we tested the pathogenicity of the organism on clove. Potted 2-yr-old clove seedlings were inoculated by spraying them with the conidial suspension obtained from 7-day-old cultures of *Colletotrichum gloeosporioides* isolated from Clerodendron. Typical symptoms developed as pinpoint brown specks on clove leaves 4–5 days after inoculation. The spots gradually coalesced to form bigger necrotic patches (Fig. 2). The same causal organism was reisolated.

Thus, *Clerodendron infortunatum* growing as a common weed in clove gardens in Kerala can be a host for the leaf spot organism of clove and may cause heavy economic losses.

Colletotrichum clerodendri Died. has been recorded on the living leaves of *Clerodendron infortunatum* (3), but our report is the first record of *Colletotrichum gloeosporioides* on this host plant.

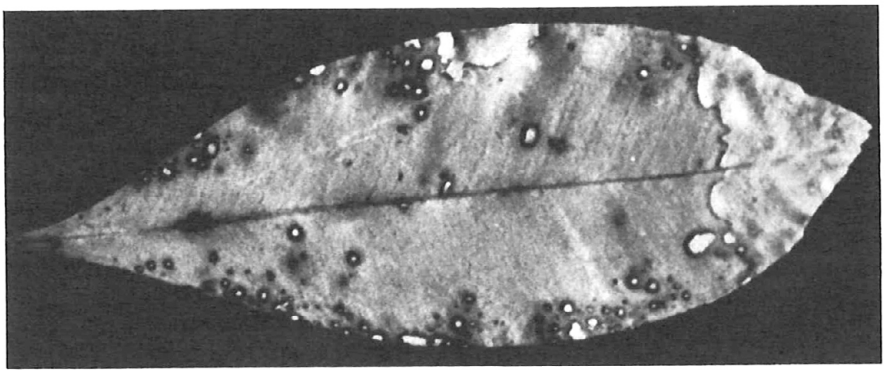

Fig. 2. Leaf spot on clove (*Eugenia caryophyllata*) caused by *Colletotrichum gloeosporioides.*

ACKNOWLEDGMENTS

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