CACTUS CANKER CAUSED BY BOTRYTIS CINEREA PERS.

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[Read 10 June 1954]

Epiphyllum crenatum, which is one of the commonest Cactus varieties grown in Victoria, usually remains remarkably free from disease. In November, 1953, however, a plant grown at Orbost, in south-eastern Victoria, was submitted to the Plant Research Laboratory, Burnley, for disease diagnosis.

The symptoms comprised "soft rot" of flower buds and phylloclades. Later, the phylloclade infection developed into a severe form of cankering, which was the most conspicuous feature of the disease. (Pl. I, fig. 1).

Botrytis cinerea was isolated from both flower buds and phylloclade lesions and the pathogenicity of these isolates was confirmed by the inoculation of detached phylloclades.

In these pathogenicity tests, the fungal hyphae were inserted into four incisions, approximately 0·5 cm. in length, made in the tissue of the phylloclade, on either side of the midrib. Both inoculated and control specimens were then placed in closed polythene bags and kept at room temperature.

Three days later, circular-elliptical "Chestnut-Brown" Ridgway[3] (Pl. 14) soft-rotted areas, approximately 1 cm. diameter, appeared at the site of the inoculation. On the fourth day after inoculation, a clearly defined but undifferentiated barrier appeared at a distance of $\frac{1}{4}$-$\frac{1}{2}$ cm. beyond the margin of rotted tissue. (Pl. I, fig. 2.) After 18 days, the rot extended as far as this barrier, which eventually became suberized and differentiated to form cork. When the rotted tissue finally dried out, a typical canker was formed. (Pl. I, fig. 3.)

In Europe, *B. cinerea* has been found to cause "stem rot" and "watery rot" in various genera of the *Cactaceae* (see References 1, 2, 4 and 5), but *Epiphyllum crenatum* has not been recorded as a host. Furthermore, this is the first time that *B. cinerea* has been found to cause "canker" in the *Cactaceae.*

There is no previous record of *B. cinerea* infecting any species of the *Cactaceae* in Australia.

References

1. Flachs, K., 1935. Krankheiten und Schadlinge an Kakteen. (Cactus diseases and pests.) *Nachr. Schädl. Bekämpf.,* Leverkusen, Vol. 10, 4, pp. 184-193, 13 figs.
2. Petrak, F., 1931. Beiträge zur Kenntnis einiger Pilzkrankheiten der Kakteen. (Contributions to the knowledge of some fungus diseases of Cacti.) *Zeitschr. für Parasitenkunde,* Vol. 5, 2-3, pp. 226-249, 2 figs.
3. Ridgway, R., 1912. Color Standards and Color Nomenclature. Washington, D.C.
4. Walter, Marta, 1935. Botrytisfäule an Kakteen. (*Botrytis* rot of *Cactaceae.*) Ratschl. Haus, Garten, Feld, Vol. 10, 6, pp. 91-93, 1 fig.
5. Zerova, M. Y., 1940. Diseases of Cactus caused by the fungi *Glocosporium amoenum* Sacc., *Macrophoma opuntiae phaeoacanthae* sp. nov., and *Botrytis cinerea* Pers. *J. Bot. Acad. Sci. Ukr.,* Vol. 1, 2, pp. 301-303, 5 figs.

Explanation of Plate I

Illustrating disease symptoms of *Epiphyllum crenatum,* infected with *Botrytis cinerea.*

Fig. 1.—Natural infection of phylloclade. $\frac{3}{4}$ natural size.

Fig. 2.—Artificial infection of phylloclade, 4 days after inoculation. 2/5 natural size. Top, control. Below, inoculated specimen.

Fig. 3.—Artificial infection of phylloclade, two months after inoculation. 1/3 natural size. Top, control. Below, inoculated specimen.

The photographs were taken by Mr. C. Richardson and Miss C. Guest.