

(*Rev. Soc. Geogr. Cuba* IV, 2: 10-12. 1931; *Mem. Soc. Cubana Hist. Nat.* 10, 4: 208-209. 1936). We are describing this species in honor of Brother León, late Director of the Colegio de la Salle in Havana.

The writers are most grateful to Dr. Francis Drouet of the Chicago Natural

History Museum without whose help this paper could not have been written. We would also like to thank the curators of the various herbaria (indicated here by the abbreviations proposed by Lanjou and Stafleu, *Index Herbariorum*, Part I, Ed. 3, 1956) for the privilege of studying the specimens cited here.

## Helminthosporium Leafspot of Palms \*

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The royal palm grower has become alarmed at the destruction that is being wrought by a fungus on palms of all ages. The most critical period is from the seedling stage to five years of age. The primary symptoms of infection are oval to irregular slightly sunken spots with tan centers and definite light green to yellowish-green margins. The fungus, under ideal conditions, sporulates readily on these spots and the spores are disseminated by wind and water to form new infections. These spots may coalesce to form large necrotic areas. At this stage secondary fungi invade the affected plant parts and hasten breakdown of the tissue. The condition prevails until all the foliage is killed and only the stem and leaf rachis remain.

The fungus, *Helminthosporium*, has been recovered consistently in culture. Experimental inoculations have revealed that it is capable of causing primary infection on healthy foliage of seedling palms. The cardinal temperatures for fungus growth are: maximum—96.8°F.; optimum—82.4°F.; minimum—46.4°F.

This malady on palms is not new to Florida. The University of Florida

\*Presented at the Palm Conference, Fairchild Tropical Garden, April 18, 1958.

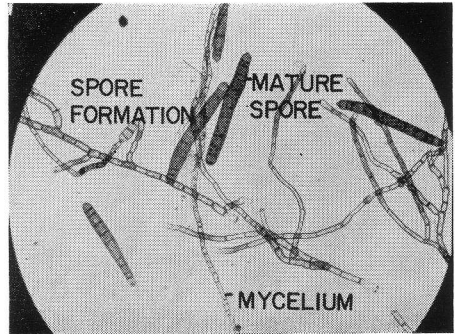


Fig. 55. *Helminthosporium* sp. enlarged 330 times.

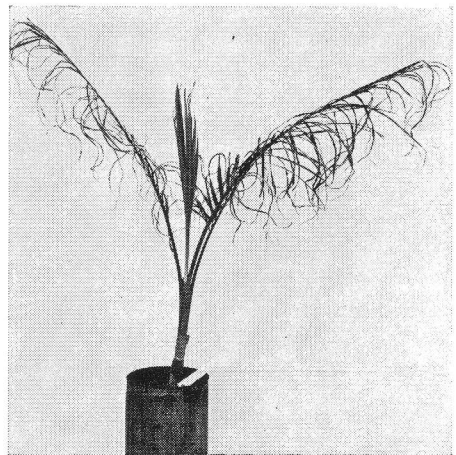


Fig. 56. Typical curling or shredding of the leaflets is shown on this seedling royal palm. The new leaf is normal.

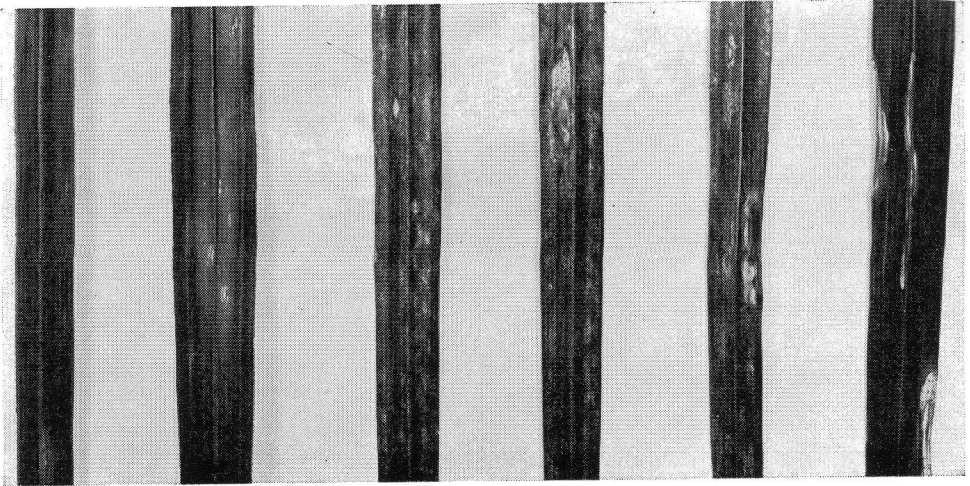


Fig. 57. Progression of fungus infection may be observed from left to right.

Herbarium recorded its occurrence as early as 1925 on *Cocos nucifera*. There are additional records of its occurrence on *Arecastrum Romanzoffianum* (*Cocos plumosa*), *Howeia* (*Kentia* of the trade), *Phoenix* and *Roystonea regia*. Other workers have identified species of this fungus on *Phoenix*, *Sabal* and *Thrinax*.

The following fungicidal materials were recommended to nurserymen, as experimental sprays last September: a, Zineb; b, Maneb; c, Fermate. All materials listed should be applied at the rate of one and one-half pounds per 100 gallons. Since the palm leaves have a waxy surface, a spreader-sticker should be added to assure adhesion of spray material.

The following program is recommended for best results in the control of this fungus:

a. Employ a regular spray schedule at intervals of 7 to 10 days. Use Maneb or Fermate, since these two materials have given the best results, and thoroughly spray the entire plant.

b. Keep plants growing normally. Make use of such nutritional sprays as Ortho-gro and Hy-gro, to maintain healthy growing plants.

c. Provide sufficient growing space when lining out palms in cans. The free circulation of air will help reduce infestation. Closely packed cans provide a natural moist chamber for fungus sporulation. Also, a more thorough spraying is possible when ample space is provided between the rows of cans.

d. Finally, sanitation is an important part of any control program. Removal and burning of plant debris will appreciably reduce the source of fungus inoculum.