



St. Augustine Orchid Society

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Bacterial Brown Spot on Orchids – *Acidovorax* (syn. *Pseudomonas*) by Sue Bottom

From March through May, we received many questions about orchids suffering from Bacterial Brown Spot. Bacterial Brown Spot is an infection caused by the bacteria *Acidovorax* (syn. *Pseudomonas*). The symptoms may appear anywhere on the leaf as a small, soft, water soaked blister. Initially dirty green in color, the infected spot enlarges, coalesces and eventually becomes brown or black, dried up and sunken. It oozes bacteria-laden liquid. Bacterial brown spot is a common and severe problem with phalaenopsis orchids although many other orchid genera can be affected.



This phalaenopsis leaf shows the characteristic sunken spot surrounded with a yellowish or pale green halo. Spots coalesce, and the infection spreads rapidly.

This phalaenopsis shows a rapidly invading infection with the yellow outer halo, inner green halo and necrotic center of infection. If the diseased area invades the crown, the plant will die.



In cattleyas, the infection usually affects older leaves. It appears as sunken black spots that are clearly delimited. It advances slowly and is rarely fatal.



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Bacterial brown spot can infect young tender cattleya growths where the sunken brown spots rapidly coalesce. The infected tissue must be cut away from the new growth quickly or it will ruin the new growth.

This dendrobium leaf has a newly formed bacterial infection evidenced by the yellow and green halo surrounding the sunken spots. (this leaf also exhibits edema, the swollen corky spots on the leaf). Both conditions are likely caused by being watered in the late afternoon during the cool months.



Vandas can suffer from bacterial brown spot as evidenced by this photograph courtesy of Robert Cating.



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Thin leaved orchids like this zygopetalum can also be afflicted with bacterial brown spot. The sunken brown spots coalesce as the infection spreads.

Treatment for bacterial brown spot is straightforward, you must kill the bacteria and possibly change the environmental conditions to prevent recurrence. If the infection is localized, you can pour straight hydrogen peroxide over the infected tissue. If this does not stop the spread of the disease or the leaf is moderately to severely damaged, you will need to remove the infected portion of the leaf down an inch or so below any discolored area with a sterile razor blade. Next spray the plant and its neighbors with a bactericide - fungicide. Copper fungicides are an excellent choice, just don't use copper on your dendrobiums. Consan, Physan or pool algacide can also be used. Spray the affected plants as well as surrounding plants because the bacteria are easily spread from splashing water. Increasing air movement and decreasing leaf wetness can also help prevent an outbreak from occurring.