



St. Augustine Orchid Society

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The Dreaded Thai Disease Orchid Alert

Courtesy of Dr. Martin Motes, Motes Orchids, from his book *Vandas*

Phyllosticta capitatus, also known as *Guignardia* is most commonly referred to in Florida as Thai fungus. In fairness to the Thais, it is in fact cosmopolitan. Amateur growers have exceptional difficulty controlling this disease largely because of a lack of understanding of its life cycle. An understanding of this fungus makes it no more difficult to control than any other of the leaf spotting fungi such as *Cercospora*.

Phyllosticta seems to appear suddenly on otherwise healthy plants; usually after they have been subjected to cold stress in the late fall or early winter. The distinct, rough, often diamond shape lesions are in fact the fruiting bodies of the fungus. The fungus has been present in the leaves for some time and the sudden appearance of the lesions is analogous to the appearance of "fairy rings" of toadstools after a heavy rain. Just as mystery surrounded the latter phenomenon for ages, many growers cling to the mistaken notion that *Phyllosticta* is a systemic problem like a virus. Strictly speaking this fungus is a disease of the leaf not the entire plant. The disease spreads upward on the plant from lower infected leaves to the newly formed leaves as they emerge. Only under the most adverse growing conditions is this disease fatal to the plant. It is, however extremely persistent. To control this highly successful organism requires equal persistence on the part of the grower.

In Florida, *Phyllosticta* is spread from August through early October. Ironically, for the remainder of the year this disease is difficult to transmit. The corky lesions of the fruiting bodies need to be wet for a prolonged period in order to open and release their spores. For much of the year, *Phyllosticta* is much less virulent than most fungi but alas; the slow drizzles of late summer and early fall provide ideal conditions for this fungus to spread. Awareness of this period of peril is critical to control of the disease.

As with all disease control programs; an ounce of prevention is worth a pound of cure. Good air movement, bright light, and adequate plant spacing are all of great importance. In Florida September, these good cultural measures are not enough if the pathogen is already present in the collection. When infected plants are present to provide inoculum, the entire collection needs to be immunized with systemic fungicides. Early and consistent spraying, beginning in mid-May is the best practice. Thiophanate Methyl (Cleary's 3336 or Thiomil) is the systemic most readily available to homeowners.

An initial spraying in early to mid May should be followed by a second spraying in two weeks. This second spraying should be followed with regular spraying every 4-6 weeks. Consistency is particularly important when using Thiophanate methyl to control *Phyllosticta* as some strains may have developed some resistance. Strobins such as Heritage (azoxystrobin) are also effective in controlling *Phyllosticta*.

A proper spray program will give complete control of *Phyllosticta* but isolating infected plants and removing leaves that bear the spore carrying lesions are also good practice. Some growers have had limited success painting the lesions with clear nail polish to prevent the emergence of the spores. The other virtue of the spray program outlined is that nearly total control of other leaf spotting fungi will result. *Cercospora* and anthracnose will be eliminated as well. *Fusarium* infections will also be severely curtailed or eliminated.



Guignardia on vanda leaf, note the raised, diamond shaped lesions