



Figure 1. Daylily rust pustules and discoloration (inset)

Daylily Rust

Puccinia hemerocallidis Thuem.

(Basidiomycetes, Uredinales)

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Introduction. Daylily foliage infected with a rust fungus (Figure 1) was found at a commercial nursery on the eastern side of Hawaii Island in February 2002, and was later found at Tantalus, Oahu, in early March 2002. The fungus was identified as the daylily rust, *Puccinia hemerocallidis* Thuem., by B. Bushe and D. Ogata of the College of Tropical Agriculture and Human Resources (CTAHR), Agricultural Diagnostic Clinics (ADC), University of Hawaii Hilo & Manoa. Daylily rust was first identified on the southeast U.S. mainland in the summer of 2000 (Williams-Woodward), and now occurs in the south and western U.S. The daylily rust is native to Asia.

Hosts. The daylily rust has been reported on numerous varieties of daylilies. However, certain varieties, such as "Pardon Me," "Lemon Yellow," and "Pandora's Box," appear to be more susceptible (National Plant Board). Some varieties are relatively resistant. The rust can also infect *Patrinia* spp. (Valerianaceae) as an alternate host (spermatogonial /aecial) in the life cycle of the rust fungus, but only daylilies, *Hemerocallis* spp., are susceptible to the commonly found stages of the rust (telial and uredinal) (Williams-Woodward).

Symptoms. A typical symptom of the disease is a yellow to orange colored "powder" (spores of the fungus) on the leaf surface. The leaves and scapes (flower stalks) associated with this "powder" becomes yellowed and then necrotic. The entire leaf eventually shrivels up. On the more resistant varieties, only a fleck may appear (Schubert & Leahy). There are no symptoms on the flowers, however, production may be affected if the plant is severely affected by the disease.

Transmission. Spores of the daylily rust are dispersed by wind, moved by and on people, garden tools or equipment, or transported by infected plant material, including bulbs. The disease does not affect the daylily bulb itself, but spores may hitchhike on the surface of the bulb.

Management. Carefully remove and bag plants or infected plant parts as soon as the disease appears. If the spores are disturbed, they will very easily disseminate to the rest of the daylily plants and cause more disease. Do not wet foliage when watering, as moisture increases the spread of the disease. Fungicides are available for control of the disease.

Acknowledgements. Brian Bushe and Desmond Ogata (CTAHR ADC).

References

- National Plant Board. 2001. Daylily rust pest alert. <http://www.aphis.usda.gov/npb.daylily.html>
- Schubert, T. & Leahy, R. 2001. Daylily rust. Plant Pathology Pest Alert –Florida Department of Agriculture and Consumer Services. <http://doacs.state.fl.us/%7Eepi/enpp/pathology/daylily-rust.html>
- Williams-Woodward, Jean. 2000. Daylily rust alert for Georgia county extension agents and growers. <http://www.ces.uga.edu/Agriculture/plantpath/daylilyrust.html>