

Pest Alert

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Florida Department of Agriculture and Consumer Services Division of Plant Industry

Phyllanthus acidus, Phyllanthus Rust, Gooseberry Rust

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INTRODUCTION: In late January 2016, the California Department of Food and Agriculture (CDFA) informed the Florida Department of Agriculture and Consumer Services Division of Plant Industry (FDACS DPI) of an interception at a United States Postal Service facility of a rust sample on *Phyllanthus acidus* (L.) Skeels that originated in South Florida. The CDFA and United States Department of Agriculture (USDA) determined the rust to be a match to *Phakopsora phyllanthi* Dietel, a rust of *Phyllanthus* species. FDACS DPI conducted field inspections at three locations in South Florida known to grow *Phyllanthus acidus* (Tahitian gooseberry). Symptomatic foliage was collected from the three locations and confirmed to be *Phakopsora phyllanthi* by the FDACS DPI Plant Pathology lab in Gainesville, Florida, and the USDA Systematic Mycology and Microbiology Laboratory in Beltsville, Maryland.

IDENTIFICATION: Tahitian gooseberry (Fig.1) bears pale yellow to white sour fruits held in numerous, dense clusters. Historically in Asian cultures, people have cooked and eaten the leaves as well as used the fruits to make candies, pickles, chutneys, relish and preserves. The number of gooseberry plants currently grown in Florida is small; however, there is potential for future increase in dooryard plantings as well as for the growth of the industry and its products.

Symptoms of gooseberry rust consist of necrotic yellow leaf spots on upper and lower leaf surfaces (Fig. 2). Within the leaf lesions are erumpent, powdery, white to brownish colored pustules (Fig. 3). Leaf drop occurs following heavy infection resulting in barren branches and thinning of the tree canopy. In addition, pustules and lesions form on infected fruit (Fig. 4). The most likely means of dispersal of this rust fungus is through rain and wind-blown inoculum (uredospores). *Phakopsora phyllanthi* probably completes its life cycle on one host (autoecious). It is unknown if other species in the genus *Phyllanthus*, including aquatic plants, trees, shrubs, annual and perennial herbs are susceptible to gooseberry rust.



Fig. 1. *Phyllanthus acidus* plant.
Photo credit: Mark Spearman, FDACS



Fig. 2. Chlorotic and necrotic spots on upper and lower leaf surfaces of *Phyllanthus acidus* caused by *Phakopsora phyllanthi*.
Photo credit: Jeff Lotz, FDACS



Fig. 3. Rust pustules of *P. phyllanthus* on *Phyllanthus acidus* leaf undersides.
Photo credit: Mark Spearman, FDACS



Fig. 4. *Phyllanthus acidus* fruits with pustule containing lesions.
Photo credit: Mark Spearman, FDACS

REFERENCES:

Hawaii Department of Agriculture, New Pest Advisory No. 15-03. October 2015. Phyllanthus Rust. <http://hdoa.hawaii.gov/pi/files/2013/01/NPA-Phakopsora-phyllanthi-FINALversion.pdf>

USDA, NPAG Report, 2016. *Phakopsora phyllanthi* Dietel: Leaf and fruit rust.



Florida Department of Agriculture and Consumer Services
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