

Aroid Leaf Rust

Pseudocerradoa (= *Puccinia*) *paullula* (Syd. & P. Syd.) M. Ebinghaus & Dianese (Pucciniaceae, Basidiomycota)

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Background

Monstera is an important ornamental plant for the landscape industry in Hawai'i, widely grown as houseplants and landscape ornamentals. A new rust pathogen, *Pseudocerradoa paullula*, has been recently reported in several east coast states: Florida (Urbina et al, 2023), South Carolina (Yang et al., 2023), and Virginia (Bily et al., 2024), and has now been confirmed in Hawai'i on *monstera* (*Monstera deliciosa*). Rust fungi are obligate parasites that require living plant tissue to survive (Helfer, 2014). Hawai'i's warm and humid climate, especially in shaded and poorly ventilated areas, provide favorable conditions for rust development. The appearance of rust threatens the health of *monstera*, an important crop for Hawai'i's landscape industry.



Fig. 1. Brown leaf spots can be observed from a distance.

First Detection

On May 9, 2025, Hawai'i Department of Agriculture (HDOA) Plant Pathology Unit, observed rust-colored spots on *Monstera deliciosa* leaves during a plant disease survey visit at a nursery in Kaua'i. The plants were imported from Florida and showed symptoms of brown lesions, small yellow spots, and powdery orange pustules on the lower leaf surfaces. The symptoms were initially suspected to be caused by a rust infection. Symptomatic samples were collected and sent to the Mycology Lab at the University of Hawai'i and USDA's National Identification Services (NIS) in Beltsville, MD. On May 28, the Mycology Lab confirmed through molecular detection, the presence of the *Pseudocerradoa paullula*. On June 6, 2025, NIS confirmed *P. paullula* and that this occurrence is a new record for the state of Hawai'i.

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Pseudocercospora (=Puccinia) *paullula* (Syd. & P. Syd.) M. Ebinghaus & Dianese
(Pucciniaceae, Basidiomycota)

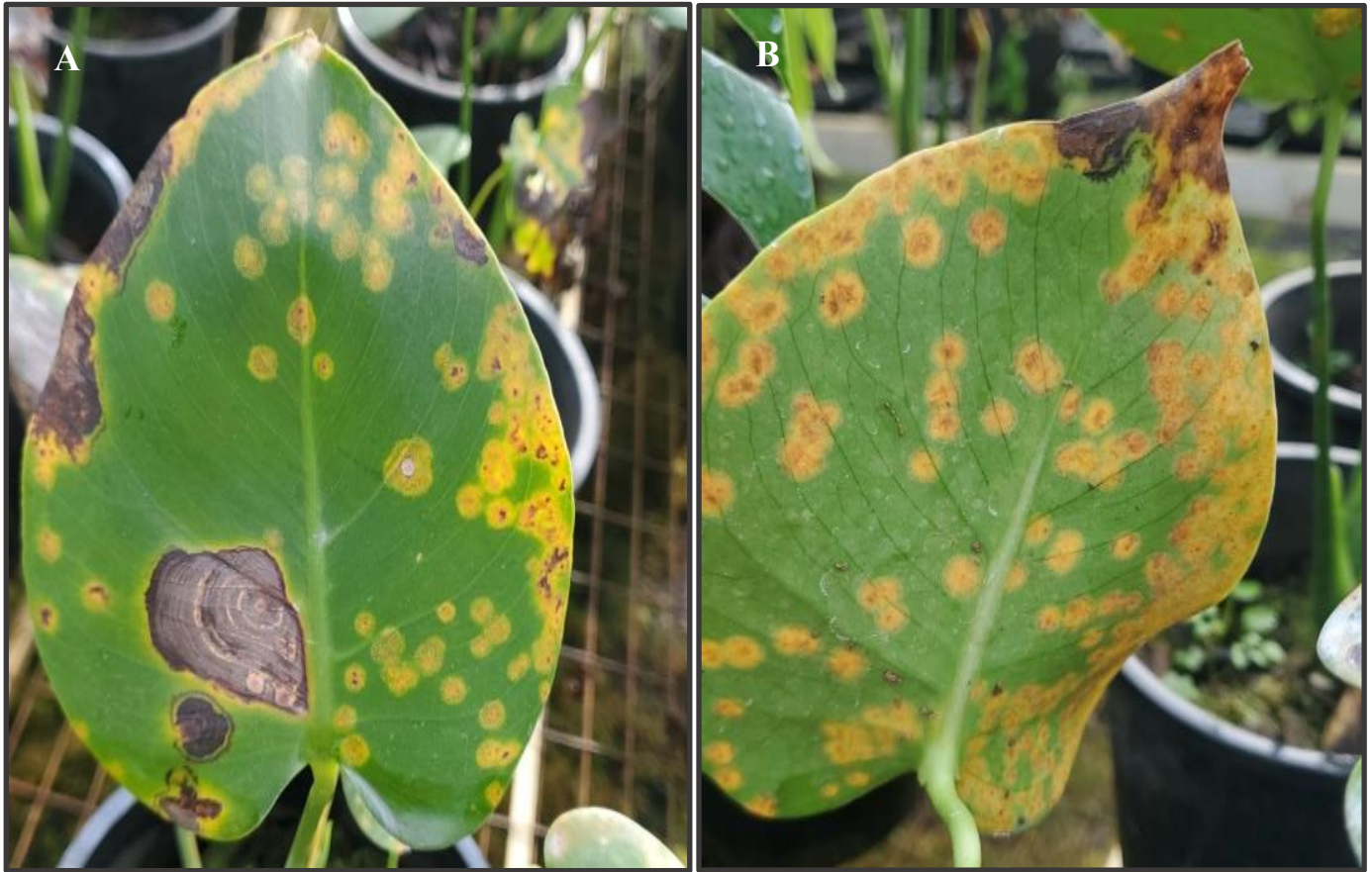


Fig. 2. Symptoms of aroid leaf rust on upper (A) and lower (B) leaf surfaces showing irregularly shaped, yellow to orange powdery pustules.

Symptoms

The symptoms of monstera rust may vary depending on environmental factor and plant susceptibility. These include:

- Brown lesions on the leaves (Fig. 1)
- Spots may enlarge and merge, forming large rust-colored patches (Fig 2A)
- Yellowing or discoloration on the upper leaf surface corresponding to rust pustules underneath (Fig 2A)
- Small orange, reddish-brown, or brown spots on the underside of leaves, often powdery or dusty in texture (Fig. 2B)
- Leaves may become necrotic and drop prematurely
- In some cases, stems and petioles develop orange or red discoloration

How Rust Spreads

- Rust spores can spread by wind, water splash, overhead irrigation, or contact between leaves
- Contaminated pruning tools and hands can transmit spores between plants
- Overcrowded plantings and poor ventilation encourage infection and spread

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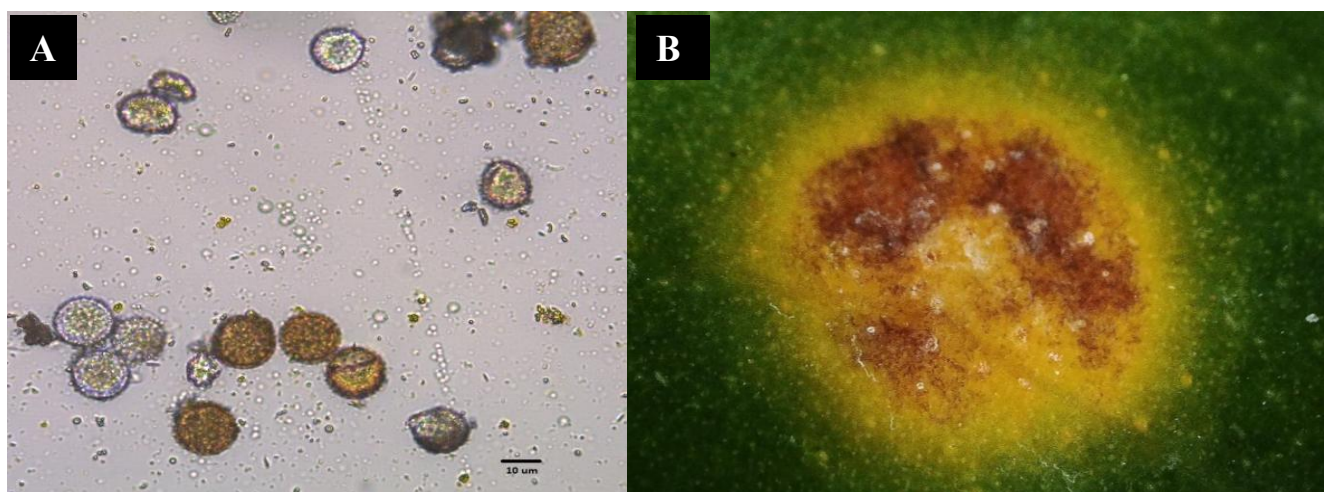


Fig. 3. (A) Pigmented echinulate rust urediniospores under a microscope, and (B) leaf lesion with a central rust-colored pustule surrounded by a yellow halo

Host Range and Distribution

P. paullula is known to infect *Monstera* sp., elephant root yam (*Amorphophallus campanulatus*) (Williams and Liu 1976), and *Alocasia* sp. (Shaw 1984), and more recently dragon-tail plant (*Epipremnum pinnatum*) (Urbina et al, 2024). Even though *Monstera* species originated from Central America, the known distribution of *P. paullula* is mainly within Asia and the Pacific countries like Papua New Guinea, Malaysia, Philippines, Australia, New Caledonia, and Japan (Sakamoto et al., 2023).

Management

Many tactics can be implemented to reduce the risk of an outbreak. These include: removing infected leaves, reducing periods of leaf wetness, and spraying fungicides. Before applying fungicides check with your local extension agent for recommended practices.

- For more information contact the Plant Pathology Unit at hdoa.ppu@hawaii.gov
- To report a suspected case, go to 643pest.org or call 808-643-PEST (7378)

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