

## First report of powdery mildew of *Acacia mangium* in Brazil

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*Acacia mangium* Willd. is a fast growing exotic species cultivated in Brazil with purposes to recuperation of degraded areas. Specifically at Roraima state, *A. mangium* plantations have been established to wood exploration since 1999, and actually the cultivated area reaches 27,000 ha. With the implementation of homogeneous stands, phytosanitary problems have been detected.

In 2005 at Boa Vista city, Roraima state, plants cultivated in nursery presented powdery mildew symptoms in leaflets and occasionally in phyllodes. Microscopic examinations revealed epiphytic mycelium, conidiophores single, hyaline, with 2 to 3 cells, 65-74 x 7.8-10 µm, slightly lobed appressoria. Conidia cylindrical to ovoid, hyaline, not in chains, 28-40 x 11-20 µm, no fibrosin bodies present. Straight to slightly flexuous footcells, 30-51 µm long. Teleomorph was not observed. According to the combination of these features, this profile indicates this specimen is close to *Oidium* subgenus *Pseudoidium* (Braun et al., In: Bélanger et al. The Powdery Mildews: a Comprehensive Treatise. p.13-55, 2002).

To perform pathogenicity tests, spores of the pathogen were collected from symptomatic plants using a wet brush, and deposited on healthy pinnate leaves of twenty plants growing in pots, maintaining in a humid chamber for 24 h. Other twenty plants rubbed only with a wet brush were used as control. After 14 days pathogen signs were observed only in inoculated plants.

Only few powdery mildew species, which occur in the genera *Acacia*, are well established: *Leveillula taurica* (Lév.) Arnaud, *Microsphaera acaciae* (Blumer) Braun (syn. *Erysiphe acaciae* Blumer), *M. trifolii* (Grev.) Braun and *Phyllactinia guttata* (Wallr.) Lév. (Burchill, In: Spencer, The powdery mildews, p.473-493, 1978; Braun, A monograph of the Erysiphales (powdery mildews). Nova Hedwigia, v.89, p.1-700, 1987), and none of them have been recorded in *A. mangium*. However, molecular studies reveals that *Oidium* subgenus *Pseudoidium* species occurring in genus *Acacia*



**Figure 1.** Powdery mildew symptoms in pinnate leaves of *A. mangium* (A); signs of *Oidium* sp. in a phyllode of *A. mangium* (B); conidiophore and conidium of *Oidium* subgenus *Pseudoidium* (C) (bar= 10 µm).

have a close genetic relationship with the powdery mildew fungi associated with a wide range of tropical trees (Limkaisang. Mycoscience. 47:327. 2006).

This is the first report of *Oidium* sp. subgenus *Pseudoidium* in *A. mangium* in Brazil, and the incidence of *Oidium* sp. in *A. mangium* is also recorded in Australia, Japan, Malaysia, Philippines, Thailand, United States and Venezuela. Powdery mildew was only detected on nursery-grown plants, at shadowing environment. However, under conducive conditions, the disease presents potential to reduce nursery stands and cause economic losses.

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