New Disease Reports

First report of *Puccinia psidii* (myrtle rust) on *Syzygium jambos* in Venezuela

S.R. Mohali [1]* and M.C. Aime [2]

[1] *Centro de Estudios Forestales y Ambientales de Postgrado (CEFAP). Laboratorio de Fitopatología. Facultad de Ciencias Forestales y Ambientales. Universidad de Los Andes. Mérida 5101-A. Venezuela*; [2] *Department of Botany and Plant Pathology, Purdue University, 915 W. State Street, West Lafayette, IN 47907, USA*

*E-mail: msari@ula.ve

Received: *04 Oct 2016.* ***Published:*** *20 Oct 2016.* ***Keywords:*** *rose apple*

Puccinia psidii has a wide host range, being reported from more than 38 genera and 165 species, spanning 11 tribes, in the Myrtaceae (Roux *et al*., 2015). The pathogen was first described by Winter in 1884 on *Psidium guajava* (guava) in Brazil. In 1912, it was observed on *Eucalyptus citriodora* but was not formally described from this host until 1944 (Coutinho *et al*., 1998). *Puccinia psidii* is native to South and Central America but is now known from many other locations, including Africa, Asia, Australia, North America (including Hawaii, Puerto Rico) and the Caribbean (Cuba, Jamaica, Trinidad) (Roux *et al*., 2015).

In Venezuela, rust infection was found in ornamental plantings of *Syzygium jambos* (rose apple) around the city of Merida (altitude 1300-1700 m) and on route to the Culata Paramo mountain range (up to an altitude of approximately 2700 m). The infection on immature leaves and shoots resulted in shoot death and the damage was more severe in the rainy season (Fig. 1). The initial symptoms appeared as small purple flecks and leaf spots on young leaves and brown spots on older leaves, often with a faint chlorotic halo (Fig. 2). In case of severe infections, spots enlarged and coalesced, often causing distortion or crinkling of leaves (Fig. 3). These later developed the characteristic bright yellow pustules, mostly on the lower leaf surface (Fig. 4A). Infection also occured on young twigs (Fig. 4B). Echinulate urediniospores (Figs. 5A, 5B) were unicellular, pyriform to spherical or oval, 16 to 23 x 17 to 22 µm, with a truncate base (Fig. 5C). The symptoms observed and morphology of the fungus was consistent with *P. psidii*. To confirm the identification, the 28S sequence was amplified from two of the isolates using the protocols described in Aime (2006) and compared via a BLAST search to the GenBank database where they shared 100% sequence identity with all 12 sequences of *P. psidii* currently available in the database. Voucher specimens were deposited in the Arthur Fungarium, Purdue University (PUR N15011–N15015) and sequence data in GenBank (GenBank Accession Nos. KX869864–KX869865).

Puccinia psidii has been reported previously in Venezuela on *Eucalyptus* spp., *Myrcia caracasana* and *Psidiopsis moritzianum* (Chardon & Toro, 1934; Grgurinovic *et al*., 2006). The fungus has been observed on *Syzygium jambos* in Australia, Brazil, China, Colombia, Costa Rica, Panama, Uruguay and the USA (Farr & Rossman, 2016). To date, no *P. psidii* infections have been observed on *Eucalyptus* species in the Cordillera Los Andes mountains or in the eucalypt plantations in the West Centre and Eastern Venezuela. To our knowledge, this is the first report of *P. psidii* on *Syzygium jambos* in Venezuela.

References

Aime MC, 2006. Toward resolving family-level relationships in rust fungi (Uredinales). *Mycoscience* **47**,112-122. http://dx.doi.org/10.1007/s10267-006-0281-0

Chardon CE, Toro RA, 1934. Mycological explorations of Venezuela. *Monograph Universidad de Puerto Rico* **Serie B.2**, 1-351.

Coutinho TA, Wingfield MJ, Alfenas AC, Crous PW, 1998. Eucalyptus rust: A disease with the potential for serious international implications. *Plant Disease* **82**, 819–825. http://dx.doi.org/10.1094/PDIS.1998.82.7.819

Farr DF, Rossman AY, 2016. Fungal Databases, Systematic Mycology and Microbiology Laboratory, ARS, USDA. http://nt.ars-grin.gov/fungaldatabases/ (Accessed 3 October 2016)

Grgurinovic CA, Walsh D, Macbeth F, 2006. Eucalyptus rust caused by *Puccinia psidii* and the threat it poses to Australia. *EPPO Bulletin* **36**, 486-489. http://dx.doi.org/10.1111/j.1365-2338.2006.01048.x

Roux J, Germishuizen I, Nadel R, Lee DJ, Wingfield MJ, Pegg GS, 2015. Risk assessment for *Puccinia psidii* becoming established in South Africa. *Plant Pathology* **64**, 1326–1335. http://dx.doi.org/10.1111/ppa.12380

Figure 1

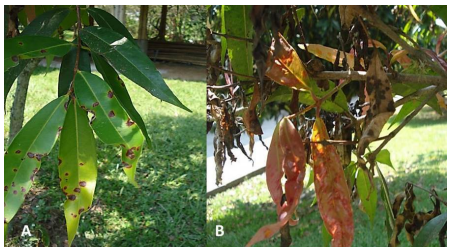

Figure 2

Figure 3

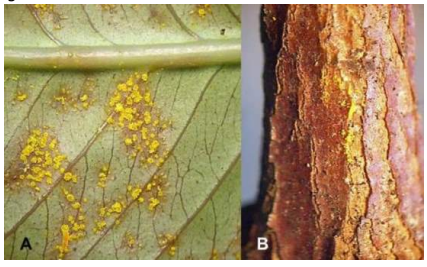

Figure 4

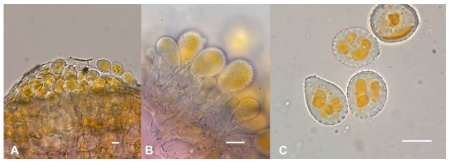

Figure 5

To cite this report: Mohali SR, Aime MC, 2016. First report of *Puccinia psidii* (myrtle rust) on *Syzygium jambos* in Venezuela. *New Disease Reports* **34**, 18. http://dx.doi.org/10.5197/j.2044-0588.2016.034.018

This report was published on-line at www.ndrs.org.uk where high quality versions of the figures can be found.