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Disease Notes

First Report of Rust Caused by Puccinia psidii on Eucalyptus dunnii in Uruguay

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Eucalypt rust caused by Puccinia psidii Winter represents a major disease affecting eucalypt production in South America, and is threatening myrtaceous hosts worldwide. In Uruguay, it was first detected infecting Eucalyptus globulus in 2001 (4) and later on E. grandis, Myrrhinium atropurpureum, and Myrcianthes pungens, two myrtaceae hosts native to Uruguay (3). Over the summer 2013, bright orange-yellowish pustules were detected on stock plants of E. dunnii in a nursery located in western Uruguay, province of Paysandú. A severe and explosive epidemic was readily observed. Affected leaves were taken to the laboratory and examined under the microscope. Uredinia and urediniospores were similar with those described previously in Uruguay on other hosts (3,4). Uredioniospores were 18 to 25×15 to $21 \,\mu$ m, yellow, unicellular, spherical to elliptical, base truncate, finely and uniformly echinulate with spines up to 1 μ m long, with an evident bald patch without spines. To confirm identity of this fungus, genomic DNA was extracted from single-pustule urediniospores, and ITS region was amplified using primers PR1 and PR2 (1) with PCR conditions previously described (3). Forward and reverse sequences from three single pustules were obtained, assembled, and compared with those available in GenBank using BLAST searches. Obtained sequences showed to be identical to those analyzed by Pérez et al. (2011) collected from E. grandis and E. globulus, with no variation found in the analyzed region. A 100% identity was found with isolates UY1374 and UY1375 obtained from E. globulus, and with isolate UY1731 obtained from E. grandis (FJ710805, FJ710806, and FJ710807, respectively). Sequences were deposited in GenBank with accession numbers KM083129, KM083130, and KM083131. Even though this pathogen is known to occur in a wide variety of myrtaceous species, to our knowledge, this is the first natural infection record of P. psidii on E. dunnii in Uruguay and worldwide. This report confirms previous studies that indicated the susceptibility of E. dunnii when inoculated

under controlled conditions (2,5). E. dunnii is being widely planted in Uruguay, eastern Argentina, and southern Brazil, with increasing significance to the pulp industry. Although the consequences of this finding have yet to be realized, scouting plantations is essential to estimate the real impact of this pathogen on this tree species. Our study contributes to expand the host range known for this globally important pathogen.

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