First report of *Fusarium lacertarum* causing cladode rot in *Nopalea cochenillifera* in Brazil

Michele F. Santiago¹ · Alice M. G. Santos² · Cícero P. Inácio³ · Amaro C. Lira Neto⁴ · Tereza C. Assis⁴ · Rejane P. Neves⁴ · Vinson P. Doyle⁵ · Josiene S. Veloso¹ · Willie A. S. Vieira¹ · Marcos P. S. Câmara¹ · Delson Laranjeira¹

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In March 2015, a disease led to death several Cochineal opuntia (*Nopalea cochenillifera*) plants in Ibimirim, Pernambuco state (Brazil). Soft and greenish necrotic spots appeared on cladodes and at the plant base. Infected cladodes wilted and fell from the plant, leaving the internal woody tissues exposed. Fragments from symptomatic tissues were surface disinfected, plated on potato dextrose agar (PDA), and incubated at 25 ± 2 °C for seven days. Mycelium on PDA was white, and the bottom of the colony showed brown-orange pigmentation. Chlamydospores on clove leaf agar were solitary and terminal, macroconidia were falcate, $11.6\text{--}25.7 \times 1.8\text{--}2.3$ µm in size. Microconidia were not observed. These morphological characteristics tallied with those of *Fusarium lacertarum* (Leslie and Summerell 2006). The elongation factor-1α region was sequenced and compared with that of other *Fusarium* species

from Fusarium-ID database, and subsequently in a maximum likelihood phylogenetic analysis including previously published sequences (O'Donnell et al. 2009). Our isolate (URM7639, GenBank accession No. MG029527) was 99% similar in sequence to *Fusarium lacertarum*, a member of *F. incarnatum-equiseti* species. The isolate was also nested in a clade containing the ex-type of *F. lacertarum* with 87% support. Pathogenicity was evaluated by wounding cladodes at three locations and applying mycelial plugs to each wound. Cladodes inoculated with sterile PDA plugs represented the negative control. The same symptoms observed in the field were reproduced only in inoculated cladodes, from which the pathogen was reisolated. *F. lacertarum* was previously reported in Brazil causing damping-off in *Casuarina equisetifolia* (Poletto et al. 2015). To our knowledge, this is the first report of *F. lacertarum* causing rot disease in *N. cochenillifera* worldwide.

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✉ Delson Laranjeira
delson.laranjeira@ufrpe.br

- ¹ Departamento de Agronomia, Universidade Federal Rural de Pernambuco, Recife, Brazil
- ² Departamento de Agronomia, Universidade Estadual do Piauí, Piauí, Brazil
- ³ Departamento de Micologia, Universidade Federal de Pernambuco, Recife, Brazil
- ⁴ Instituto Agrônomo de Pernambuco, Recife, Brazil
- ⁵ Department of Plant Pathology and Crop Physiology, Louisiana State University AgCenter, Baton Rouge, Louisiana, USA

Compliance with ethical standards

Conflict of interest All the authors declare no competing financial interest.

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