Stem collar rot of passion fruit caused by *Fusarium solani* in Zhanjiang, China

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In May 2019, collar rot was observed on *Passiflora edulis* (purple passion fruit) with a 43.6% incidence (600 plants in the field) in Zhanjiang (21.17°N, 110.18°E), China. The first aboveground symptom was leaf wilt, followed by necrotic girdling of the plant collar, and, lastly, death. Five diseased samples were cut into 1–2 mm pieces, surface-disinfested with 2% sodium hypochlorite (NaOCl), and incubated on potato dextrose agar at 28 °C for 3 days. The colonies were white. Microconidia were hyaline, ovoid, 9.8 to 13.7 µm × 2.2 to 6.7 µm (n = 40). Macroconidia were falciform, 3- to 4-septate, 36.4 to 47.8 µm × 4.5 to 6.7 µm (n = 40). Chlamydospores were spherical in chains. The morphological characteristics of the isolates were consistent with the description of *Fusarium solani* (Summerell et al. 2003). A representative isolate (PaR-1) was selected for further characterization. The internal transcribed spacer (ITS), translation elongation factor (*EF1-α*), and *β-tubulin* genes were amplified and sequenced with the primer pairs ITS1/ITS4, EF-1α-F/EF-1α-R, and Beta-F/Beta-R (O'Donnell 2000), respectively. The ITS (MN646253), *EF1-α* (MN692915), and *β-tubulin* (MN692927) sequences are 100% identical to *F. solani*. Phylogenetic analyses of the *EF1* sequences clustered PaR-1 with *F. solani*. Therefore, PaR-1 was determined as *F. solani*. Pathogenicity test was performed by inoculating the base with mycelial plugs of PaR-1 or agar plugs (as control) (five plants for each, one plug per plant, *P. edulis*, one-month-old). The experiment was conducted three times. The plants were grown in pots in a greenhouse at 28 °C. The symptoms in the field were exhibited by the inoculated plants after only 7 days, and the strains that were identified as members of *F. solani* were re-

isolated from the inoculated base. *F. solani* has been reported to cause collar rot on *P. edulis* in Uganda (Emechibe and Mukiibi 1976) and Fujian, China (Li et al. 1993). To our knowledge, this is the first report of *F. solani*-induced collar rot on *P. edulis* in Zhanjiang, China.

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Declarations

Conflict of interest Authors Yuhan Zhou, Yuelian Liu, Jianrong Tang, and Xuhua Xu all declare that they have no conflict of interest.

Research involving humans and animals This article does not contain any studies with human participants or animals performed by any of the authors.

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