



First report of *Ceratocystis fimbriata* causing fruit-rot of *Passiflora edulis* in Brazil

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Brazil is the world's largest producer of passion fruit, with a planted area of about 37,000 ha, and a total annual yield of approximately 500,000 tonnes. Ninety-seven percent of the production is represented mainly by yellow passion fruit (*Passiflora edulis* f. *flavicarpa*). In September 2011 passion fruit were found with rot symptoms in the region of Tanhaçu, BA/Brazil (Fig. 1). Isolations from naturally infected branches were made by the carrot disc method (Moller & DeVay, 1968). The discs of carrots were taped together and incubated in a moist chamber at 25 ± 2°C for one week. After sporulation of the fungus on the carrot tissue, the ascospore masses formed at the tip of the perithecia were transferred to malt extract agar medium (MEA). After 10 days, black, globose perithecia (237.30 x 233.70 µm) with long rostrum (423.30 µm) were observed. Ascospores were hat-shaped with dimensions of 3.98 x 5.26 µm. Asexual aleurioconidia were brown (12.43 x 9.50 µm) and two types of endoconidia were observed: cylindrical (17.80 x 3.93 µm) and doliform (7.95 x 6.89 µm), in chains. The morphological characteristics indicated that the fungal isolate was of the genus *Ceratocystis* (Fig. 2). The ITS sequence (GenBank Accession No. JX477136) of the nuclear rDNA was 99% identical to that of *C. fimbriata* strain Ayy316 (HQ529711) isolated from pomegranate in Sichuan Province, China (Xu *et al.*, 2011).

Two inoculation methods were evaluated. In the first method a 1 cm disc of fungal mycelium (from 10-day-old colonies on MEA) was placed on the

wounds of four injured passion fruits. (A disc of MEA was applied to an injured fruit as a control). For the second method a needle was used to injure the mesocarp of four fruits and a 25 µl drop of inoculum (10⁸ cylindrical endoconidia/ml) was applied to the wounds. (A drop of water was applied to a wounded fruit as a control.) The inoculated fruits were incubated in hermetically closed plastic boxes at 25°C and high humidity (>90%), and subjected to alternating light/dark photoperiods for six days. The symptoms of rot caused by *C. fimbriata* were observed about six days after inoculation with both methods. No infection was observed in the controls. The fungus was re-isolated from the infected fruit thereby confirming the pathogenicity (Fig. 3). This is the first report of *C. fimbriata* causing passion fruit rot in Brazil.

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References

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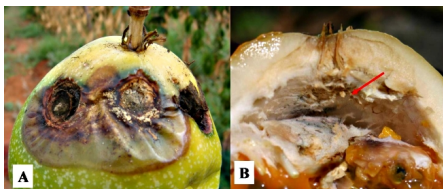


Figure 1

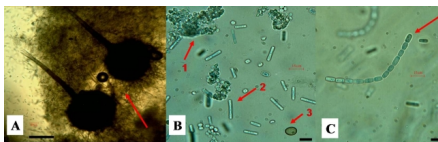


Figure 2

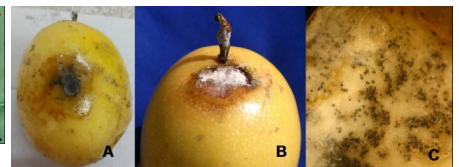


Figure 3

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