



First report of *Aspergillus* sp. causing postharvest fruit rot in cambuci (*Campomanesia phaea*) in Brazil

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Cambuci (*Campomanesia phaea*), family Myrtaceae, is one of the most important endemic fruits of the Atlantic forest. In Brazil, the fruit is processed and consumed as jam, juice and ice cream. In October 2015, unusual fruit rot symptoms were observed five-ten days after harvest on cambuci kept at room temperature in packing houses in Salesópolis and Piracicaba, São Paulo State. Disease symptoms were soft lesions on the fruit surface with abundant dark grey mycelium and sporulation, and losses of up to 70% were observed. The pathogen was isolated on potato dextrose agar by sampling spores from the lesions. A representative monosporic isolate, CAMIUSP was identified on the basis of morphological and molecular (rDNA-ITS) features. This isolate was stored in the mycological collection of the Laboratory of Epidemiology, University of São Paulo. When the isolate was incubated in the dark at 25°C for seven days, the colonies initially developed white mycelium without zonation and later were covered with a dense layer of dark brown or black radiate conidial heads (Fig. 1). Vesicles were subglobose to globose and measured 43.8 to 55.1 µm (n = 50). Conidia produced *in vitro* were brown to black, subglobose to globose and measured in diameter (4.7-) 5.6 (-6.4) µm (n = 50). All morphological features were similar to those of *Aspergillus* section *Nigri* (Varga *et al.*, 2011). To identify the species, DNA was extracted using a Promega Wizard genomic DNA purification kit (Madison, USA). Primer pairs ITS1 and ITS4 (White *et al.*, 1990) were used to amplify the ITS1-5.8S-ITS2 region. The resulting sequence of 523 bp (GenBank Accession No. KU751784) was compared to other sequences and was most similar to *A. aculeatus* (KP965728, 93%), *A. japonicus* (KP193133, 93%) and *A. niger* (KT726919, 92%).

To test pathogenicity, ten cambuci fruits were disinfected with 0.5% sodium hypochlorite solution for one minute, wounded (3 mm deep) with a

sterile histological needle and wound-inoculated with a 50 µl conidial suspension (10⁶ conidia/ml). Ten control fruits were inoculated with sterile water. Fruits were maintained in a moisture chamber for 24 hours and kept at 25°C on the laboratory bench for one week. Two days after inoculation, all *Aspergillus*-inoculated fruits showed soft lesions that increased quickly in diameter, with abundant dark grey mycelium (Fig. 2). *Aspergillus* sp. was re-isolated from the lesions fulfilling Koch's postulates. Molecular and morphological characterisation and pathogenicity tests were repeated twice.

The genus *Aspergillus* is known to cause postharvest diseases in fruit and seeds and to produce mycotoxins in different crops (Palencia *et al.*, 2010). To our knowledge, this is the first report of *Aspergillus* sp. associated with postharvest fruit rot in cambuci and further studies will be necessary to fully resolve the taxonomy.

References

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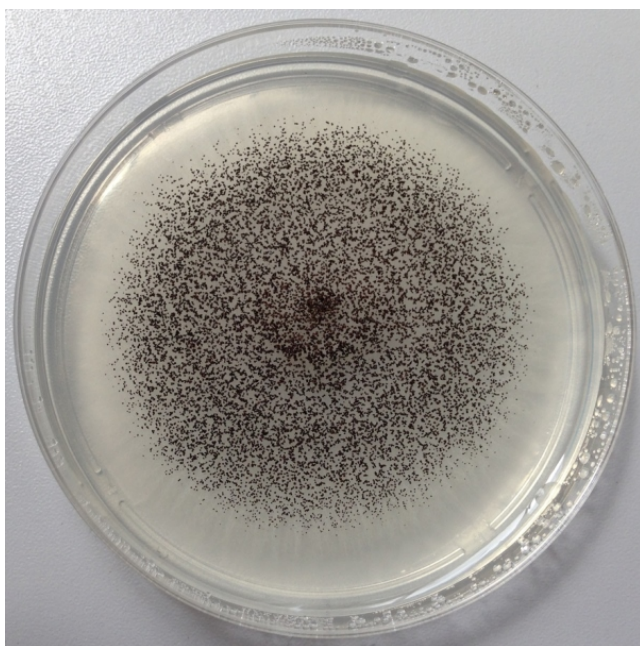


Figure 1



Figure 2

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