

# FIRST REPORT OF CANKER CAUSED BY *NECTRIA PSEUDOTRICHIA* IN EUROPEAN PEAR IN BRAZIL

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## INTRODUÇÃO

During autumn 2020, cankers were observed on branches of 12-year-old plants of *Pyrus communis* 'Rocha', European pear, in São Joaquim, Santa Catarina, Brazil; necrotic lesions, such as scars, depressed, brown, darkened internal tissue vessels, synnemata (compact conidiophores that fuse together) on the surface of some of the lesions, leading the branch to death (Figure 1).

## MATERIAL E MÉTODOS

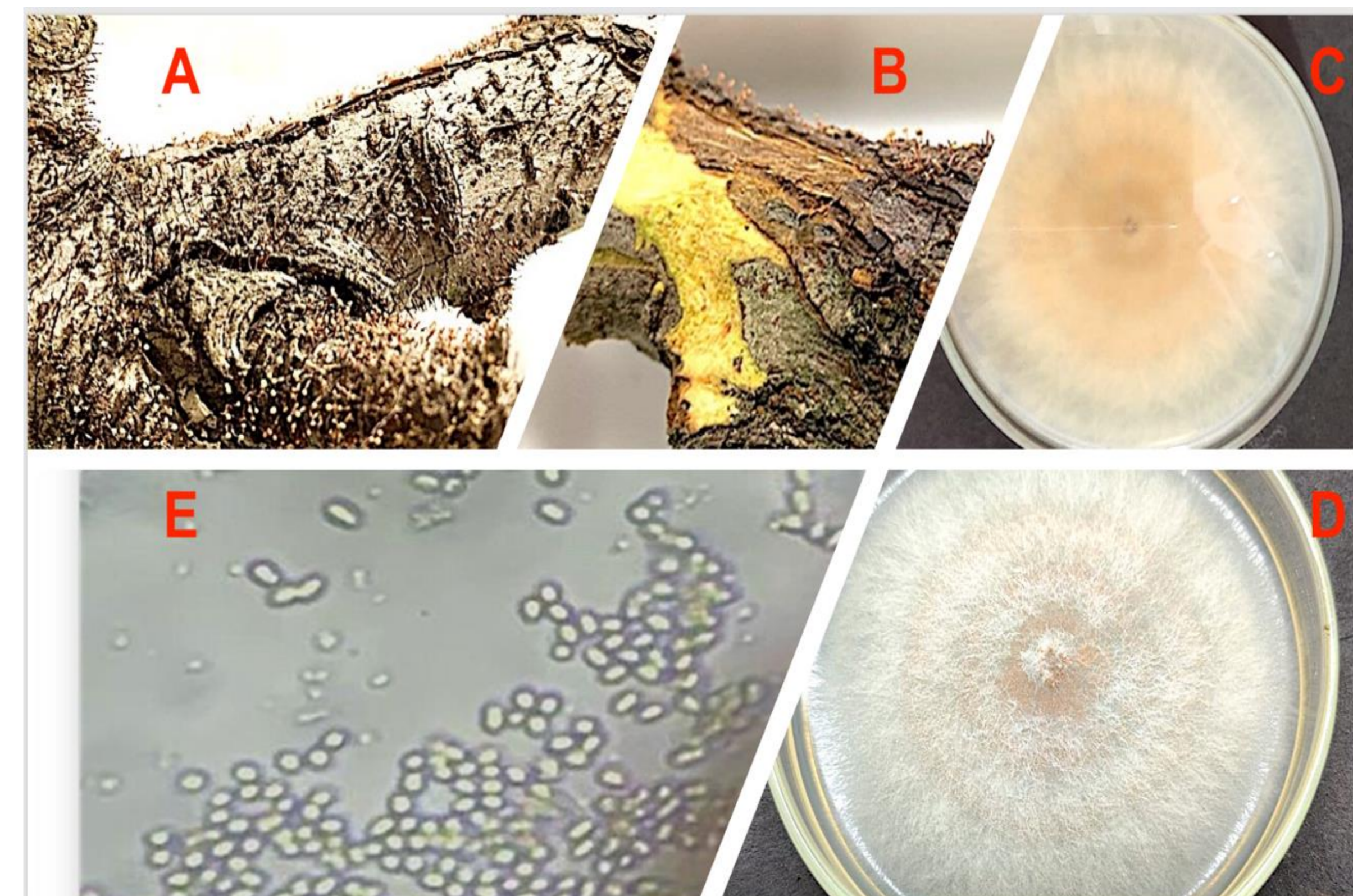
Samples of the Rocha pear cankers surface sprayed (75% (v/v) alcohol), incubated on (PDA + tetracycline 12.5 µg.ml<sup>-1</sup> at 24°C under 12/12 hours light. Three isolates were obtained from single cells (PRO-RSJ 1, 2, and 3). Pathogenicity was done transferring discs (5mm in diameter) to detached twigs of pear cv. Rocha and apple cv. Gala. Controls received PDA plugs. The inoculated areas were covered with sterilized and moistened and maintained in trays at 24°C, and light, for 14 days. The mycelium of one isolate was harvested from the PDA plates and ground into a powder using a microtube and pestle chilled with liquid nitrogen. DNA was extracted with the Wizard Genomic DNA Purification kit (Promega, Madison, USA) and the molecular identity of the isolate was determined by PCR amplification of the Internal Transcribed Spacer (ITS), elongation factor 1-α (EF1-α) and RNA polymerase second largest subunit (RPB2) regions were amplified by PCR with ITS1 and ITS4 (White et al., 1990), EF1-728F and EF1-986-R (Carbone & Kohn, 1999) and 5F2-RPB2 and 7cR-RPB2 (O'Donnell et al., 2007) primers, respectively. DNA sequences generated along with those downloaded from GenBank were assembled and aligned using the software MEGA version 11.0.

## RESULTADOS E DISCUSSÃO

Morphological structures and cultural characteristics of the isolates (Figure 1) showed to be identical to those described for *Nectria pseudotrachia* in the literature (Geng et al., 2022). No sexual structure was found. Lesions were developed on both pear and apple twigs. Synnemata were observed on the surface of the inoculated branches after 40 days (Figure 2). Representative isolate was preserved at the Santa Verônica Giuliani Culture Collection, Porto Alegre, RS, Brazil, encoded as SVG00121-F. Although it has already been reported in Japanese pear (*P. pyrifolia* (Burm.) Nakai) in Brazil (Becker, 2003), to our knowledge, this is the first report of this fungus associated with canker in European pear (*P. communis* L.) in Brazil.

## CONCLUSÕES

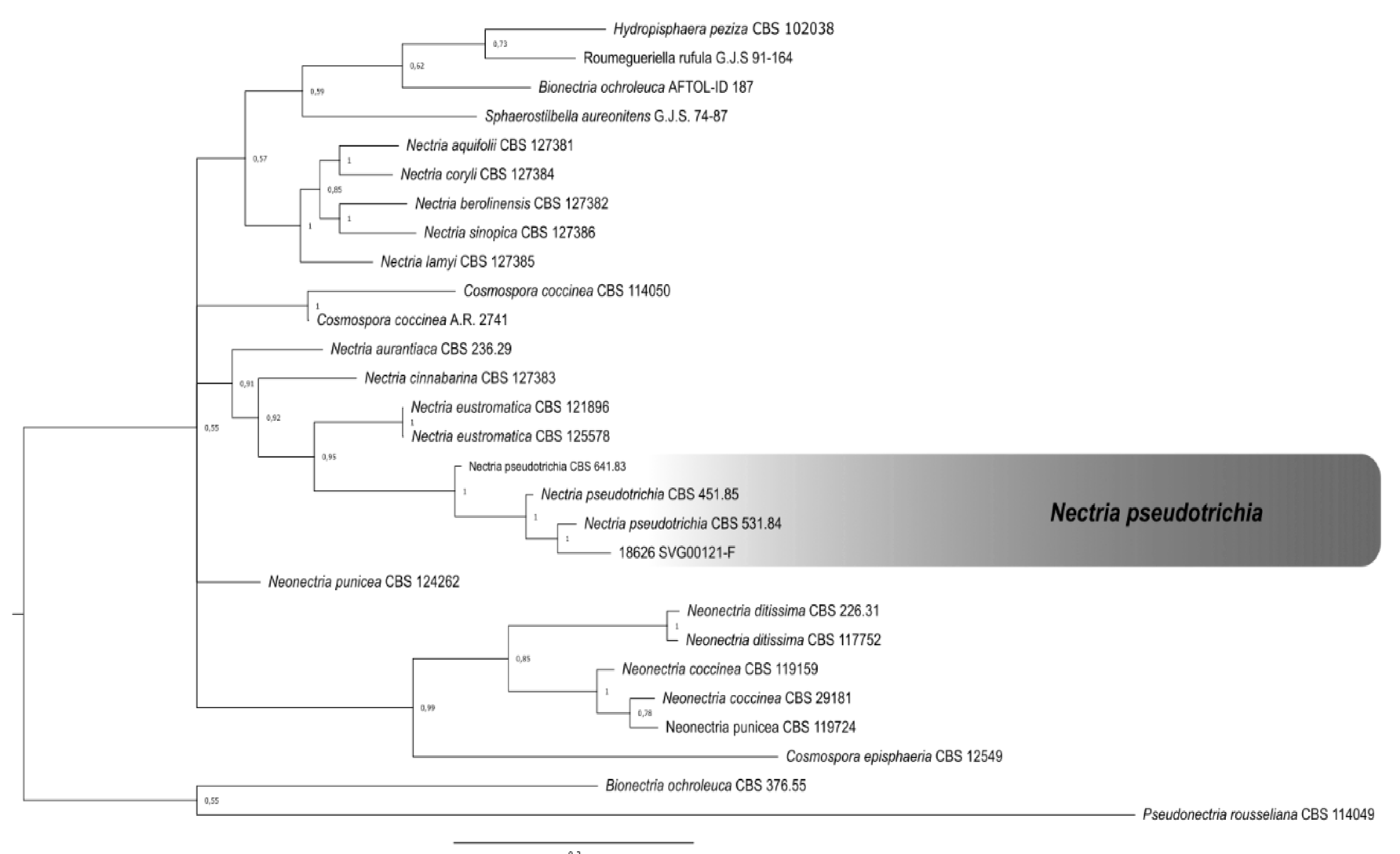
*Nectria pseudotrachia* causes stem cankers in European pear cv. Rocha in Southern Brazil.



**Figure 1.** Canker symptoms and structures of *Nectria pseudotrachia* in European pear. (A, B) Trunk canker covered with synnemata, (C, D) Reverse and upper sides of colonies on PDA, respectively, and (E) conidia.



**Figure 2.** Structures of *Nectria pseudotrachia* in inoculated pear stem.



**Figure 3.** Summary statistics and species discrimination of the Internal Transcribed Spacer (ITS), elongation factor 1-α (EF1-α) and RNA polymerase second largest subunit (RPB2) regions of isolate 18626 (SVG00121-F, PRO-RSJ), along with those downloaded from the nucleotide database - GenBank, assembled and aligned using the software MEGA version 11.0, inferred by Bayesian method, the highest match indicated at the nodes (100%) corresponded to sequences of *Nectria pseudotrachia*, strain CBS 531.84. The scale bar represents the number of expected changes per site.

## AGRADECIMENTOS

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