



Checklist of ascomycetes recorded on eucalypts in Brazil (1976–2022)

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Abstract

The fungi associated with eucalypts (*Eucalyptus* and *Corymbia* species) have been widely studied. Starting in the 70's, many ascomycetes were described mainly in the State of São Paulo, Brazil. As planted forests spread throughout the country, an increasing number of new fungal species were detected resulting in the checklist here shown. Ascomycete species on eucalypts were listed and distributed in class, order, and family with indications of host species, substrate, locality, and geographical distribution among Brazilian states. This checklist includes 236 ascomycetes, belonging to 32 orders, and 61 families associated with 30 species, 5 interspecific hybrids of *Eucalyptus* and 4 species of *Corymbia*. Species were distributed among four classes, 32 orders, and 62 families, most of them in Dothideomycetes (28 species in Mycosphaerellales), Sordariomycetes (55 species in Hypocreales, 22 in Diaporthales, 19 in Xylariales), and Eurotiomycetes (10 species in Eurotiales). Most species were found in the states of São Paulo and Minas Gerais, with a total of 101 and 28 species, respectively.

Keywords – Ascomycota – *Corymbia* – *Eucalyptus* – leaf litter – mycodiversity – Neotropica

Introduction

Eucalypt is a group of plant species belonging to the family Myrtaceae (Rejmánek & Richardson 2011), embodying three phylogenetically close genera, viz. *Eucalyptus* L'Her. with more than 700 species, *Corymbia* K.D. Hill over 100 species, and *Angophora* Cav. around 12 species (Nicolle 2018, Thornhill et al. 2019). Historically, eucalypt was introduced as a forest crop by Edmundo Navarro de Andrade in 1914 in Brazil and was initially used in the production of railroad sleepers and charcoal for steam engines belonging to the São Paulo Railway Company (Wilcken et al. 2008).

Nowadays, eucalypts are used for reforestation in a wide range of climatic conditions and countries due to fast growth, wood quality and easy acclimatization (Sankaran & Hussain 2019). Eucalypt, represented by *Eucalyptus* and *Corymbia* species, is grown globally. The largest eucalypt plantations are found in Brazil covering almost 7 million hectares, mostly in the South-eastern region of the country, involving a work force of 3.7 million people in plantations, and facilitates wood product manufacturing, cellulose/paper mills, and paper products, accounting for 1.2 % of the Brazilian GDP (gross domestic product) (IBÁ 2020).

The eucalypt-associated microfungal community has diversified with the expansion of the plantations. There are saprotrophic-epiphytes, endophytic and pathogenic species (Crous et al. 2019a), reaching 10,000 records in association with 300 species of eucalypts worldwide (Sankaran & Hussain 2019).

The taxonomic studies on eucalypts-associated micro-fungi in Brazil started in 1975, involving samples from different regions of the country, resulting in 20 new species and six new genera described (Sutton 1975, Sutton & Hodges 1975a, b), and other taxonomic novelties were published later (Crous et al. 1994, Alfenas et al. 2015, Lacerda et al. 2018, Crous et al. 2019b).

The first worldwide checklist of fungi on *Eucalyptus* compiled 172 species, including saprobic and pathogenic species, with 36 species introduced from Brazil (Crous et al. 1989). A major contribution by Sankaran & Hussain (2019) registered a global list of 10,000 fungal records on *Eucalyptus*, revealing 2,360 species from 84 countries, including mycorrhizal, saprotrophic, or pathogenic fungi with 116 ascomycetes species recorded from Brazil.

Therefore, our aim is to list the occurrence and distribution of ascomycetes associated with *Eucalyptus* and *Corymbia* species in Brazil, also revealing their geographical distribution in the country.

Material & Methods

The data herein shown includes our publications, new records, and results from a review of the available literature and online databases (Mendes et al. 1998, 2019, Sankaran & Hussain 2019, Farr & Rossman 2022). Our new records, shown in Table 1, are all hyphomycetes isolated in pure cultures and preserved in our fungal collection at the Laboratory of Mycology of the State University of Feira de Santana. Their identification was based on the literature available, and on our long experience in dealing with hyphomycetes (Lacerda et al. 2018, 2019). The identification started with observations under a stereomicroscope, followed by the preparation of semi-permanent slides to be studied in a light microscope. A manual frequently used to begin the identifications was *The Genera of Hyphomycetes* by Seifert et al. (2011). Once identified the genus, we moved to species identification consulting the specific literature indicated in the list of species of the genus shown in Index Fungorum (Available at: <https://www.indexfungorum.org>). All identifications were based on morphological analyses. The literature was analyzed and documented with the occurrence, host species, symptoms, and locality, when the data was available. The graphics (Figs 1, 2, 3) were produced using Microsoft Office Excel 2019. The geographical distribution map was produced using Datum/Sirgas 2000 geographic coordinates, and territorial meshes provided by the Brazilian Institute of Geography and Statistics (IBGE). The checklist was organized following the current classification of the Ascomycota by Mycobank (Available at: <https://www.mycobank.org>. Accessed on May 2, 2022).

Results

Eucalypts represent the most important forest crop in Brazil and are susceptible to infection mostly by ascomycetes; the checklist summarizing their incidence throughout the country is herein shown. The checklist includes around 236 ascomycetes in classes Dothideomycetes, Eurotiomycetes, Leotiomycetes and Sordariomycetes, distributed across 32 orders and 61 families, and associated with 30 species and five interspecific hybrids of *Eucalyptus* and four species of *Corymbia*. The unidentified *Eucalyptus* species were associated with 116 fungal species. *Eucalyptus microcorys* and *E. grandis* hosted the most fungal species reported, with 46 and 56 species, respectively (Fig. 1).

Most ascomycetes found on eucalypt in Brazil were allocated in the orders Hypocreales with 55 species, Mycosphaerellales 28, Diaporthales 22, Xylariales 19, and Eurotiales with 10 (Fig. 2). However, 30 species were not assigned to any order, remaining *incertae sedis*.

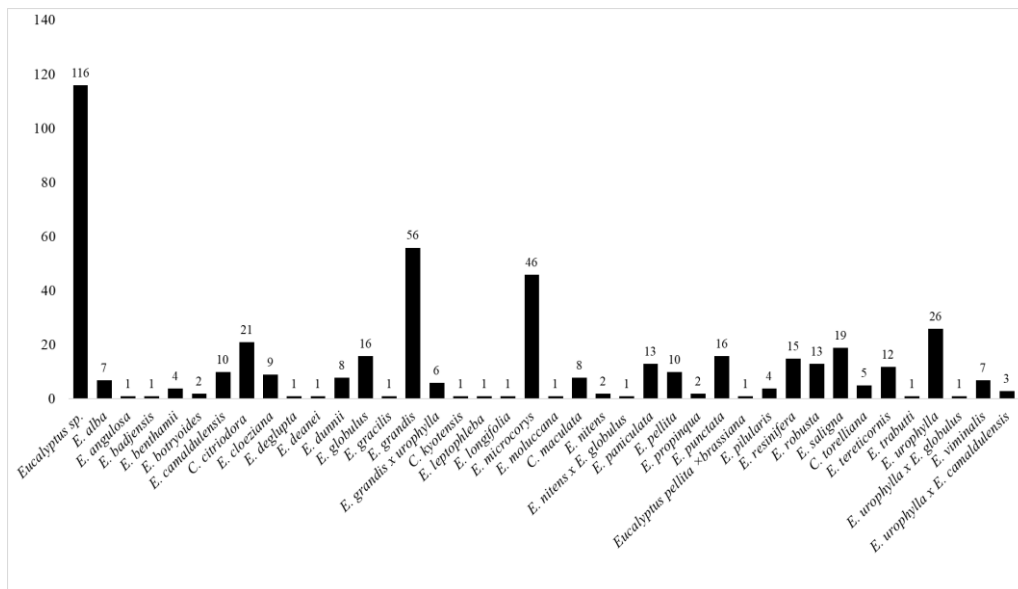


Fig. 1 – Number of ascomycetes associated with *Corymbia* and *Eucalyptus* species and interspecific hybrids in Brazil.

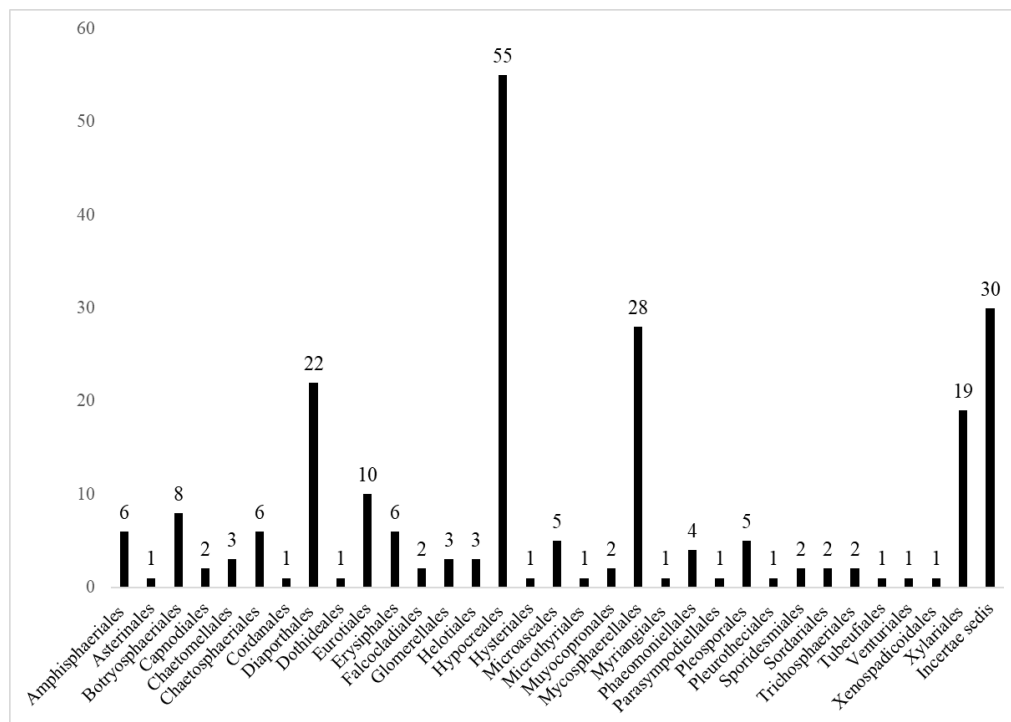


Fig. 2 – Number of ascomycete species per order, including *insertae sedis*, associated with *Corymbia*, *Eucalyptus* and interspecific hybrids in Brazil.

The family Nectriaceae with 49 taxa recorded had the highest number, followed by Teratosphaeriaceae (15), Mycosphaerellaceae (13) and Aspergillaceae (10) (Fig. 3).

The distribution of the ascomycetes by state (Fig. 4) showed significant number of species recorded in the States of São Paulo (SP) with 101, Minas Gerais (MG) 28, Pará (PA) 19, Espírito Santo (ES) 15, Maranhão (MA) and Paraná (PR) with 10 species.

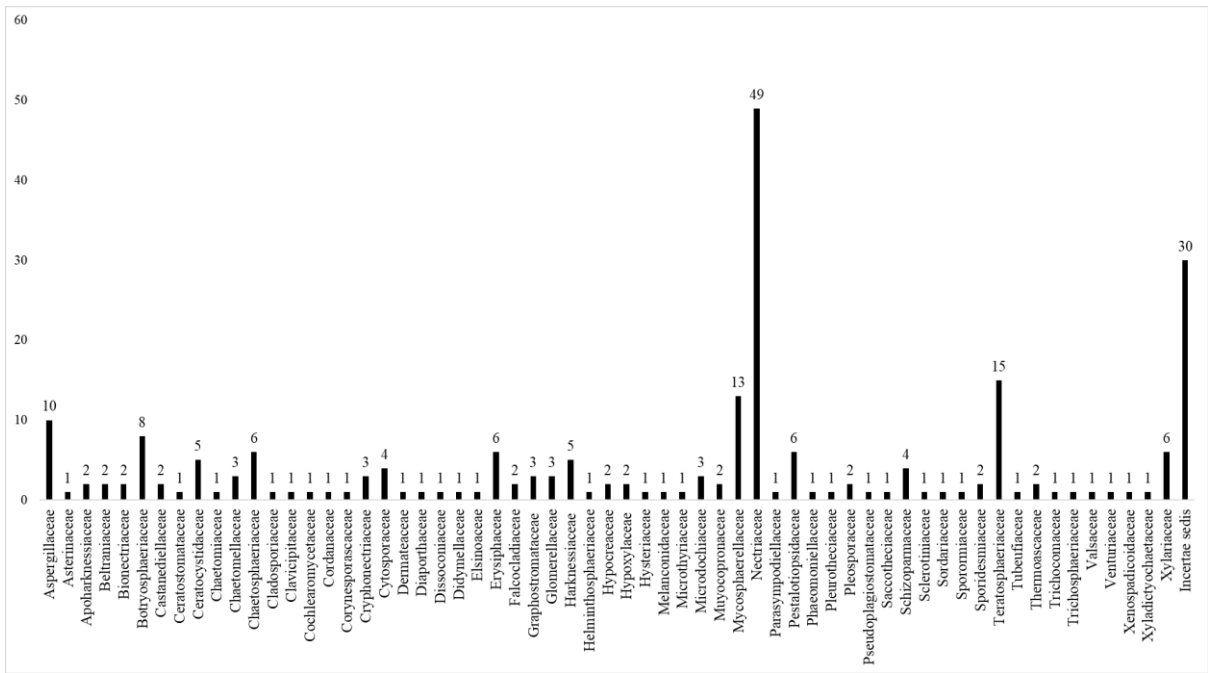


Fig. 3– Number of ascomycete species per fungal family, including *insertae sedis*, associated with *Corymbia*, *Eucalyptus* and interspecific hybrids in Brazil.

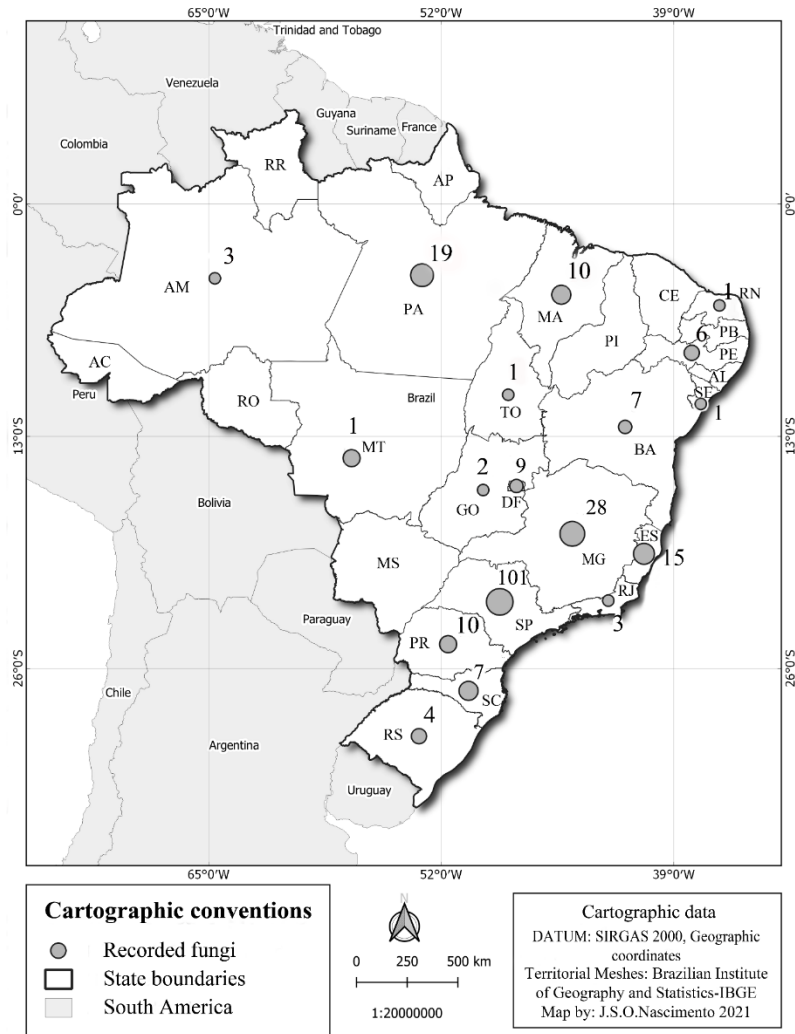


Fig. 4 – Number of ascomycetes recorded on *Corymbia*, *Eucalyptus* and interspecific hybrids per

Brazilian State (North to South: AM- Amazon, MT- Mato Grosso, PA- Pará, MA- Maranhão, RN- Rio Grande do Norte, PE- Pernambuco, SE- Sergipe, TO- Tocantins, BA- Bahia, DF- Distrito Federal, GO- Goiás, MG- Minas Gerais, ES- Espírito Santo, RJ- Rio de Janeiro, SP- São Paulo, PR- Paraná, SC- Santa Catarina, RS- Rio Grande do Sul).

Table 1 – Checklist with classification based on MycoBank.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
CLASS				
DOTHIDEOMYCETES				
Asterinales				
Asterinaceae				
<i>Thyrinula eucalyptina</i>	<i>Eucalyptus</i> sp.	On leaves	MG, SE	Mendes et al. (2019)
Botryosphaeriales				
Botryosphaeriaceae				
<i>Lasiodiplodia theobromae</i> (Pat.) Griffon & Maubl.	<i>C. citriodora</i> , <i>C. maculata</i> , <i>E. pellita</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp.	On dead twigs/stem canker, leaf spots	SP, MA, MG	Silveira et al. (1996), Mendes et al. (1998, 2019), Mesquita et al. (2006)
<i>L. iranensis</i> Abdollahz., Zare & A.J.L. Phillips	<i>Eucalyptus</i> sp.	Ns	NS	Dissanayake et al. (2016)
<i>Botryosphaeria dothidea</i> (Moug.) Ces. & De Not.	<i>Eucalyptus</i> sp.	Causing canker	NS	Mendes et al. (2019)
<i>Neofusicoccum parvum</i> (Pennycook & Samuels) Crous, Slippers & A.J.L. Phillips	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
<i>N. ribis</i> (Slippers, Crous & M.J. Wingf.) Crous, Slippers & A.J.L. Phillips	<i>Eucalyptus</i> sp.	Stem, rot and canker	Ns	Mendes et al. (1998, 2019)
<i>Phyllosticta capitalensis</i> Henn.	<i>E. microcorys</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp.	On leaves	SP	Lacerda et al. (2018, 2019), Wikee et al. (2013a, 2013b)
<i>P. eucalyptorum</i> Crous, M.J. Wingf., F.A. Ferreira & Alfenas	<i>E. grandis</i>	On seedlings	ES	Crous et al. (1993)
<i>P. eucalypti</i> Ellis & Everh.	<i>E. grandis</i>	Ns	NS	Mendes et al. (2019)
Capnodiales				
Cladosporiaceae				
<i>Cladosporium cladosporioides</i> (Fresen.) G.A. de Vries	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Dissoconiaceae				
<i>Uwebraunia dekkeri</i> (de Hoog & Hijwegen) Crous	<i>E. globulus</i>	On leaves	PR	Teodoro et al. (2012)
Dothideales				
Sacchettoeciaceae				
<i>Pseudosydowia eucalypti</i> (Verwoerd & du Plessis) Thambug. & K.D. Hyde	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
Hysteriales				
Hysteriaceae				
<i>Hysterocharina paulistae</i> H. Zogg	<i>Eucalyptus</i> sp.	Ns	NS	Doilom et al. (2018)
Muyocopronales				
Muyocopronaceae				
<i>Mycoleptodiscus brasiliensis</i> B. Sutton & Hodges	<i>Eucalyptus</i> sp.	On dead leaves	MA	Sutton & Hodges (1976c)
<i>Muyocopron sahnii</i> Hern.-Restr. & Crous	<i>C. citriodora</i> , <i>Eucalyptus</i> sp.	On dead leaves	SP, PA, RJ	Sutton & Hodges (1976c)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
Mycosphaerellales				
Mycosphaerellaceae				
<i>Coremiopassalora leptophlebae</i> (Crous, Alfenas, R.F. Alfenas & O.L. Pereira) U. Braun, C. Nakash., Videira & Crous	<i>E. leptophleba</i>	On leaves	NS	Quaedvlieg et al. (2014) Videira et al. (2017)
<i>C. eucalypti</i> (Crous & Alfenas) U. Braun, C. Nakash., Videira & Crous	<i>E. saligna</i>	On leaves	NS	Crous et al. (2013), Quaedvlieg et al. (2014), Videira et al. (2017), Mendes et al. (2019)
<i>Dothistroma septosporum</i> (Dorogin) M. Morelet	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>Pallidocercospora heimii</i> (Crous) Crous	<i>Eucalyptus</i> sp.	On leaves	NS	Crous et al. (2006), Quaedvlieg et al. (2014)
<i>Pantospora guazumae</i> Cif.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
<i>Passalora loranthicola</i> (Petr.) U. Braun	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>Phaeophleospora scytalidii</i> (Crous & M.J. Wingf.) Quaedvl. & Crous	<i>E. globulus</i>	On leaves	NS	Crous et al. (2006), Teodoro et al. (2012), Quaedvlieg et al. (2014)
<i>P. stramenti</i> (Crous & Alfenas) Quaedvl. & Crous	<i>Eucalyptus</i> sp.	On leaves	NS	Crous et al. (2006)
<i>Pseudozasmidium parkii</i> (Crous & Alfenas) Videira & Crous	<i>E. grandis</i> , <i>E. dunnii</i> , <i>E. saligna</i> , <i>E. globulus</i> , <i>Eucalyptus</i> sp.	On leaves	BA	Crous et al. (1993), Hunter et al. (2006), Hunter et al. (2004), Mendes et al. (2019)
<i>Pseudocercospora eucalyptorum</i> Crous, M.J. Wingf., Marasas & B. Sutton	<i>E. globulus</i>	On leaves	NS	Mendes et al. (2019)
<i>P. paraguayensis</i> (Tak. Kobay.) Crous	<i>E. nitens</i> , <i>E. globulus</i>	On leaves	NS	Crous et al. (1998), Crous et al. (2013), Quaedvlieg et al. (2014)
<i>P. norchiensis</i> Crous	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
<i>Zasmidium eucalypticola</i> U. Braun, C. Nakash., Videira & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Videira et al. (2017)
Teratosphaeriaceae				
<i>Neotrimmatostroma excentricum</i> (B. Sutton & Ganap.) Quaedvl. & Crous	<i>C. maculata</i> , <i>C. citriodora</i>	On leaves	MG	Mendes et al. (1998, 2019)
<i>Pseudoteratosphaeria flexuosa</i> (Crous & M.J. Wingf.) Quaedvl. & Crous	<i>E. globulus</i> , <i>E. microcorys</i>	On leaves	PR, SP	Teodoro et al. (2012), Lacerda et al. (2019)
<i>P. ohnowa</i> (Crous & M.J. Wingf.) Quaedvl. & Crous	<i>E. globulus</i> , <i>E. microcorys</i>	On leaves	PR, SP	Teodoro et al. (2012), Lacerda et al. (2018, 2019)
<i>P. stramenticola</i> (Crous & Alfenas) Quaedvl. & Crous	<i>Eucalyptus</i> sp.	On leaves	NS	Crous et al. (2006)
<i>P. secundaria</i> (Crous & Alfenas) Quaedvl. & Crous	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	On leaves	NS	Quaedvlieg et al. (2014)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>P. perpendicularis</i> (Crous & M.J. Wingf.) Quaedvl. & Crous	<i>E. globulus</i>	On leaves	PR	Teodoro et al. (2012)
<i>Readeriella eucalypti</i> (Gonz. Frag.) Crous	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
<i>R. mirabilis</i> Syd. & P. Syd.	<i>Eucalyptus</i> sp.	On leaves	NS	Sutton (1980)
<i>Suberoteratosphaeria suberosa</i> (Crous, F.A. Ferreira, Alfenas & M.J. Wingf.) Quaedvl. & Crous	<i>Eucalyptus</i> sp., <i>E. moluccana</i> , <i>E. dunnii</i> , <i>E. grandis</i>	On leaves	NS	Mendes et al. (1998, 2019), Quaedvlieg et al. (2014)
<i>Teratosphaeria eucalypti</i> (Cooke & Masee) Crous	<i>E. globulus</i> , <i>Eucalyptus</i> sp.	On leaves	MG	Chupp (1953), Lanier (1986), Mendes et al. (1998, 2019)
<i>T. nubilosa</i> (Cooke) Hansf.	<i>E. globulus</i>	On leaves	PR, RS	Teodoro et al. (2012)
<i>T. molleriana</i> (Thüm.) Crous & U. Braun	<i>E. globulus</i>	On leaves	NS	Mendes et al. (2019)
<i>T. epicoccoides</i> (Cooke & Masee) Rossman & W.C. Allen	<i>E. camaldulensis</i> , <i>C. citriodora</i> , <i>Eucalyptus</i> sp., <i>E. grandis</i> , <i>Eucalyptus</i> sp., <i>E. tereticornis</i> , <i>E. urophylla</i>	On leaves	MG	Mendes et al. (1998, 2019), Mafia & Alfenas (2003), Crous et al. (2006), Mendes et al. (2019)
<i>T. pseudoecalypti</i> Andjic & T.I. Burgess	<i>E. globulus</i> , <i>E. urophylla</i> x <i>E. globulus</i> , <i>E. nitens</i> x <i>E. globulus</i>	On leaves	RS	Cândido et al. (2014)
<i>Teratosphaericola pseudoafricana</i> (Crous & T.A. Cout.) Quaedvl. & Crous	<i>E. globulus</i>	On leaves	PR	Teodoro et al. (2012)
Microthyriales				
Microthyriaceae				
<i>Xenogliocladiopsis cytellocarpae</i> L. Lombard & Crous	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
Myriangiales				
Elsinoaceae				
<i>Elsinoe eucalypti</i> Hansf.	<i>Eucalyptus</i> sp.	On leaves	NS	Lanier (1986), Mendes et al. (1988, 2019)
Pleosporales				
Corynesporascaceae				
<i>Corynespora cassiicola</i> (Berk. & M.A. Curtis) C.T. Wei	<i>E. benthamii</i> , <i>E. dunnii</i> , <i>Eucalyptus</i> sp.	Ns	NS	Reis et al. (2014)
Didymellaceae				
<i>Epicoccum nigrum</i> Link	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
Pleosporaceae				
<i>Alternaria alternata</i> (Fr.) Keissl.	<i>E. grandis</i> , <i>E. microcorys</i>	On leaves	DF, SP	Mendes et al. (1998, 2019), Lacerda et al. (2019)
<i>A. tenuissima</i> (Kunze) Wiltshire	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	On leaves	MG	Ferreira (1991), Mendes et al. (1998, 2019)
Sporormiaceae				
<i>Sporormiella minimoides</i> S.I. Ahmed & Cain	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
Tubeufiales				
Tubeufiaceae				
<i>Helicosporium vegetum</i> Nees	<i>E. punctata</i>	On dead leaves	SP	This paper
Venturiales				
Venturiaceae				
<i>Piggotia substellata</i> Cooke	<i>E. paniculata</i>	Ns	NS	Crous et al. (2019a)
CLASS				
EUROTIOMYCETES				
Chaetomellales				
Chaetomellaceae				
<i>Chaetomella circinosea</i> Stolk	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	On dead leaves	SP, PE	Sutton (1980)
<i>Pilidium acerinum</i> (Alb. & Schwein.) Kunze	<i>E. saligna</i>	On leaves	SC	Sutton (1980)
<i>P. lythri</i> (Desm.) Rossman	<i>E. grandis</i> , <i>E. globulus</i>	On leaves	NS	Mendes et al. (1998, 2019)
Eurotiales				
Aspergillaceae				
<i>Aspergillus fumigatus</i> Fresen.	<i>Eucalyptus</i> sp.	On stems	NS	Auer (2007)
<i>A. niger</i> Tiegh.	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
<i>Penicillium citreonigrum</i> Dierckx	<i>Eucalyptus</i> sp.	On dead leaves	SP	Wellbaum et al. (1999)
<i>P. citrinum</i> Thom	<i>E. microcorys</i> , <i>Eucalyptus</i> sp.	On leaves	SP	Wellbaum et al. (1999), Lacerda et al. (2019)
<i>P. corylophilum</i> Dierckx	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
<i>P. implicatum</i> Biourge	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
<i>P. herquei</i> Bainier & Sartory	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>P. restrictum</i> J.C. Gilman & E.V. Abbott	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
<i>P. rubens</i> Biourge	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>P. thomii</i> K.W. Zaleski	<i>C. citriodora</i> , <i>E. grandis</i>	On leaves	DF	Mendes et al. (1998, 2019)
Phaeomoniellales				
Phaeomoniellaceae				
<i>Neophaeomoniella eucalypti</i> Roon.-Lath. & Crous	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
Trichocomaceae				
<i>Talaromyces bacillisporus</i> (Swift) C.R. Benj.	<i>E. saligna</i> , <i>Eucalyptus</i> sp.	On stems	NS	Guilmo et al. (1998), Auer (2007)
Thermoascaceae				
<i>Thermoascus aurantiacus</i> Miehe	<i>E. saligna</i> , <i>Eucalyptus</i> sp.	On stems	NS	Guilmo et al. (1998), Auer (2007)
<i>T. thermophilus</i> (Sopp) Arx	<i>E. saligna</i> , <i>Eucalyptus</i> sp.	On stems	NS	Guilmo et al. (1998), Auer (2007)
CLASS LEOTIOMYCETES				
Erysiphales				
Erysiphaceae				
<i>Golovinomyces cichoracearum</i> (DC.) V.P. Heluta	<i>Eucalyptus</i> sp.	On leaves	DF	Mendes et al. (1998, 2019)
<i>G. orontii</i> (Castagne) V.P. Heluta	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>Oidium eucalypti</i> Rostr.	<i>C. citriodora</i> , <i>E. alba</i> , <i>E. badjensis</i> , <i>E. benthamii</i> , <i>E. camaldulensis</i> , <i>E. cloeziana</i> , <i>E. deanei</i> , <i>E. dunnii</i> , <i>E. grandis</i> , <i>E. microcorys</i> , <i>E. nitens</i> , <i>E. paniculata</i> , <i>E. pellita</i> , <i>E. pilularis</i> , <i>E. resinifera</i> , <i>E. robusta</i> , <i>E. saligna</i> , <i>E. tereticornis</i> , <i>E. urophylla</i> , <i>E. viminalis</i> , <i>E. urophylla</i> x <i>E.</i> <i>camaldulensis</i>	On leaves	PR, MG	Mendes et al. (1998, 2019), Auer & Santos (2009), Silva et al. (2013)
<i>Podosphaera aphanis</i> (Wallr.) U. Braun & S. Takam.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (1998, 2019)
<i>P. pannosa</i> (Wallr.) de Bary	<i>C. citriodora</i> , <i>E. benthamii</i> , <i>E. dunnii</i> , <i>E. grandis</i> x <i>urophylla</i> <i>E. pellita</i> , <i>E. saligna</i> , <i>E.</i> <i>urophylla</i> <i>Eucalyptus</i> sp.	On leaves and seedlings	MG, DF	Silva et al. (2001, 2003), Fonseca et al. (2017), Blum et al. (1991)
<i>P. macularis</i> (Wallr.) U. Braun & S. Takam.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
Helotiales				
Cochlearomycetaceae				
<i>Satchmopsis brasiliensis</i> B. Sutton & Hodges	<i>E. camaldulensis</i> , <i>E.</i> <i>paniculata</i> , <i>E. grandis</i> , <i>E. microcorys</i> , <i>E. punctata</i> , <i>E. resinifera</i> , <i>E. urophylla</i> , <i>Eucalyptus</i> sp.	On leaves and dead fruits	ES, MG, PA, SP	Sutton & Hodges (1975c), Lacerda et al. (2018, 2019),
Dermateaceae				
<i>Marssonina californica</i> (Ellis & Everh.) Magnus	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Sclerotiniaceae				
<i>Botrytis cinerea</i> Pers.	<i>C. citriodora</i> , <i>E. alba</i> , <i>E. botryoides</i> , <i>E. dunnii</i> , <i>E. benthamii</i> , <i>E. viminalis</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp.	Seedling blight, stem lesions	SC, NS	Maschio et al. (1996), Ferreira & Souza (1999), Stowasser & Ferreira (1997), Mafia et al. (2006), Mendes et al. (2019)
CLASS				
SORDARIOMYCETES				
Amphisphaeriales				
Pestalotiopsidaceae				
<i>Neopestalotiopsis australis</i> Maharachch., K.D. Hyde & Crous	<i>Eucalyptus</i> sp.	Ns	SP	Santos et al. (2020)
<i>N. eucalypticola</i> Maharachch., K.D. Hyde & Crous	<i>Eucalyptus</i> sp.	Ns	SP	Santos et al. (2020)
<i>N. protearum</i> (Crous & L. Swart) Maharachch., K.D. Hyde & Crous	<i>Eucalyptus</i> sp.	Ns	SP	Santos et al. (2020)
<i>N. rosae</i> Maharachch., K.D. Hyde & Crous	<i>Eucalyptus</i> sp.	Ns	SP	Santos et al. (2020)
<i>Pestalotiopsis microspora</i> (Speg.) Bat. & Peres	<i>Eucalyptus</i> sp.	On leaves	SP	Mendes et al. (1998, 2019)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>Pestalotia clavata</i> Cooke & Ellis	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
Chaetosphaeriales				
Chaetosphaeriaceae				
<i>Dictyochaetopsis maharashtrensis</i> (Piroz. & S.D. Patil) Aramb. & Cabello	<i>C. torelliana</i> , <i>Eucalyptus</i> sp.	On dead leaves	PA, MG	Sutton & Hodges (1975a)
<i>Dictyochaeta eucalypti</i> (B. Sutton & Hodges) Whitton, McKenzie & K.D. Hyde	<i>C. citriodora</i> , <i>E. saligna</i> , <i>E. paniculata</i> , <i>E. microcorys</i> , <i>E. punctata</i> , <i>E. resinifera</i>	On dead leaves	SP, ES, MG	Sutton & Hodges (1975a)
<i>D. simplex</i> (S. Hughes & W.B. Kendr.) Hol.-Jech.	<i>Eucalyptus</i> sp.	On dead leaves	SP	Sutton & Hodges (1975a)
<i>Stilbochaeta septata</i> (B. Sutton & C.S. Hodges) Réblová & Hern.-Restr.	<i>Eucalyptus</i> sp.	On dead leaves	ES, SP, PA	Sutton & Hodges (1975a)
<i>Gonytrichum macrocladum</i> (Sacc.) Hughes	<i>E. urophylla</i>	On dead leaves	SP	This paper
<i>Menisporopsis theobromae</i> S. Hughes	<i>E. punctata</i> , <i>E. resinifera</i>	On dead leaves	SP	This paper
Cordanales				
Cordanaceae				
<i>Cordana terrestris</i> (Timonin) Hern.-Restr., Gené & Guarro	<i>E. paniculata</i> , <i>E. resinifera</i>	On dead leaves	SP	This paper
Diaporthales				
Apharknessiaceae				
<i>Apharknessia insueta</i> (B. Sutton) Crous & S.J. Lee	<i>E. robusta</i> , <i>E. grandis</i> , <i>E. camaldulensis</i> , <i>E. microcorys</i> , <i>Eucalyptus</i> sp., <i>E. pellita</i>	On dead and living leaves	PE, MA, SP	Sutton (1980), Lacerda et al. (2018)
<i>A. eucayptorum</i> Crous & M.J. Wingfield	<i>E. dunnii</i>	On leaves	SC	Garrett et al. (2018)
Cytosporaceae				
<i>Cytospora austromontana</i> G.C. Adams & M.J. Wingf.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
<i>C. ceratosperma</i> (Tode) G.C. Adams & Rossman	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	Stem canker	SP	Auer & Krugner (1994), Mendes et al. (1998)
<i>C. eucalypticola</i> Van der Westh.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018, 2019)
<i>C. variostromatica</i> G.C. Adams & M.J. Wingf.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Cryphonectriaceae				
<i>Chrysosporthe cubensis</i> (Bruner) Gryzenh. & M.J. Wingf.	<i>C. citriodora</i> , <i>C. maculata</i> , <i>E. grandis</i> , <i>E. deglupta</i> , <i>E. grandis</i> , <i>E. saligna</i> , <i>E. torelliana</i> , <i>E. alba</i> , <i>E. angulosa</i> , <i>E. botryoides</i> , <i>E. longifolia</i> , <i>E. microcorys</i> , <i>E. camaldulensis</i> , <i>E. cloeziana</i> , <i>E. pellita</i> , <i>E. pilularis</i> , <i>E. propinqua</i> , <i>E. robusta</i> , <i>E. tereticornis</i> , <i>E. urophylla</i> , <i>E. trabutii</i> , <i>Eucalyptus</i> sp.	On leaves, canker on branches, and basal canker	SP, PA, SC, MG, ES	Ferrari et al. (1984), Lanier (1986), Auer & Krugner (1994), Dianese et al. (1986), Mendes et al. (1998, 2019), Seixas et al. (2004), Gryzenhout et al. (2009)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>hrysoporthe doradensis</i> Gryzenh. & M.J. Wingf.	<i>Eucalyptus</i> sp.	Ns	NS	
<i>Microthia havanensis</i> (Bruner) Gryzenhout & M.J. Wingf.	<i>C. citriodora</i> , <i>E. saligna</i> , <i>E. grandis</i>	Stem gummosis	NS	Mendes et al. (1998, 2019)
Diaporthaceae				
<i>Diaporthe phaseolorum</i> (Cooke & Ellis) Sacc.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Harknessiaceae				
<i>Harknessia eucalypti</i> Cooke	<i>E. alba</i>	Ns	PA	Mendes et al. (1998, 2019)
<i>H. fumaginea</i> Sutton & Alcorn	<i>E. grandis</i> , <i>E. saligna</i> , <i>Eucalyptus</i> sp.	On dead leaves	PA	Sutton (1980)
<i>H. globosa</i> Sutton	<i>E. globulus</i> , <i>E. robusta</i>	On dead leaves	RN	Sutton (1980)
<i>H. hawaiiensis</i> Stev. & Young	<i>E. robusta</i> , <i>E. grandis</i> , <i>E. paniculata</i> , <i>E. tereticornis</i> , <i>Eucalyptus</i> sp.	On dead leaves	SP, ES	Sutton (1980), Crous et al. (1989)
<i>H. pseudohawaiiensis</i> Crous & Carnegie	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
Melanconidaceae				
<i>Melogramma gyrosum</i> (Schwein.) Tul. & C. Tul.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (1998, 2019)
Pseudoplagiostomataceae				
<i>Pseudoplagiostoma eucalypti</i> Cheew., M.J. Wingf. & Crous	<i>E. microcorys</i> , <i>E. grandis</i> , <i>E. saligna</i>	On leaves/leaf spots	SP	Lacerda et al. (2018, 2019), Ferreira et al. (1998)
Schizoparmaceae				
<i>Coniella castaneicola</i> (Ellis & Everh.) B. Sutton	<i>Eucalyptus</i> sp.	On leaves	NS	Sutton (1980), Mendes et al. (1998, 2019)
<i>C. diplodiella</i> (Speg.) Petr. & Syd.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>C. eucalyptorum</i> (Crous & M.J. Wingf.) L.V. Alvarez & Crous	<i>E. robusta</i> , <i>E. urophylla</i> , <i>E. grandis</i> x <i>urophylla</i> (<i>E. urograndis</i>)	On leaves	SC	Auer & Santos (2009)
<i>C. fragariae</i> (Oudem.) B. Sutton	<i>C. citriodora</i> , <i>C. maculata</i> , <i>E. camaldulensis</i> , <i>E. cloeziana</i> , <i>E. pellita</i> , <i>E. urophylla</i> , <i>E. grandis</i>	On leaves	BA, SP, RJ	Mendes et al. (1998, 2019)
Valsaceae				
<i>Amphilogia gyrosa</i> (Berk. & Broome) Gryzenh., H.F. Glen & M.J. Wingf.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
Falcocladiales				
Falcocladiaceae				
<i>Falcocladium multivesiculatum</i> S.F. Silveira, Alfenas, Crous & M.J. Wingf.	<i>E. grandis</i>	On dead leaves	ES	Crous et al. (1994)
<i>F. sphaeropedunculatum</i> Crous & Alfenas	<i>E. pellita</i> x <i>brassiana</i>	On leaves	AM, PA	Crous et al. (1997)
Glomerellales				
Glomerellaceae				
<i>Colletotrichum eucalypti</i> Bitanc.	<i>Eucalyptus</i> sp.	On leaves	NS	Mendes et al. (1998, 2019)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>C. gloeosporioides</i> (Penz.) Penz. & Sacc.	<i>C. maculata</i> , <i>E. grandis</i> , <i>E. grandis</i> , <i>E. pellita</i> , <i>E. urophylla</i> , <i>Eucalyptus</i> sp.	On seedlings, dead leaves	MG, SP, BA, PA	Dianese et al. (1985), Wellbaum et al. (1999), Mendes et al. (1998, 2019)
<i>C. theobromicola</i>	<i>Eucalyptus grandis</i> x <i>urophylla</i>	Ns	NS	Crous et al. (2019a)
Hypocreales				
Bionectriaceae				
<i>Acremonium polychromum</i> (J.F.H. Beyma) W. Gams	<i>C. citriodora</i> , <i>E. grandis</i>	On leaves	DF	Mendes et al. (1998, 2019)
<i>Clonostachys rosea</i> (Link) Schroers, Samuels, Seifert & W. Gams	<i>E. grandis</i>	On seedlings	NS	Stowasser & Ferreira (1997)
Ceratostomataceae				
<i>Arxiomyces vitis</i> (Fuckel) P.F. Cannon & D. Hawksw.	<i>E. grandis</i>	Spots on stems	MG	Ferreira et al. (2004), Mendes et al. (2019)
Clavicipitaceae				
<i>Belaina asclepiadis</i> (Bat. & Peres) Nag Raj & W.B. Kendr.	<i>C. citriodora</i> , <i>Eucalyptus</i> sp.	On leaves	MA	Sutton (1980)
Hypocreaceae				
<i>Trichoderma hamatum</i> (Bonord.) Bainier	<i>Eucalyptus</i> sp.	On submerged leaves	MG, SP	Wellbaum et al. (1999)
<i>T. viride</i> Pers.	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
Nectriaceae				
<i>Calonectria amazonica</i> L. Lombard & Crous	<i>E. tereticornis</i>	Ns	NS	Lombard et al. (2016)
<i>C. amazoniensis</i> L. Lombard & Crous	<i>E. tereticornis</i>	Ns	NS	Lombard et al. (2016)
<i>C. brasiliensis</i> (Bat. & Cif.) L. Lombard, M.J. Wingf. & Crous	<i>C. citriodora</i> , <i>E. alba</i> , <i>E. grandis</i> , <i>E. maculata</i> , <i>E. saligna</i> , <i>Eucalyptus</i> sp.	Ns	NS	Crous et al. (1991), Lombard et al. (2010), Alfenas et al. (2015), Mendes et al. (2019)
<i>C. colombiensis</i> Crous	<i>E. grandis</i>	Ns	NS	Lombard et al. (2015)
<i>C. candelabrum</i> (Viégas) Rossman, L. Lombard & Crous	<i>E. grandis</i> x <i>E. urophylla</i> , <i>E. benthamii</i> , <i>Eucalyptus</i> sp.	On leaves/leaf spots and seedling damping off	AM, SC	Ferreira et al. (2006a), Alfenas et al. (2015), Schultz et al. (2015), Lombard et al. (2016), Mendes et al. (2019)
<i>C. cylindrospora</i> (Ellis & Everhart) Rossman, L. Lombard & Crous	<i>E. acmenioides</i> , <i>E. alba</i> , <i>E.</i> <i>citriodora</i> , <i>E. cloeziana</i> , <i>E.</i> <i>dunnii</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp., <i>E.</i> <i>microcorys</i> , <i>E. paniculata</i> , <i>E. saligna</i> , <i>E. tereticornis</i> , <i>E. torelliana</i> , <i>E. urophylla</i>	Leaf blight, stem lesions, root rot, leaf spot	NS	Mendes et al. (2019)
<i>C. eucalypticola</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On leaves	BA, MG	Alfenas et al. (2015)
<i>C. glaebicola</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On leaves	TO	Alfenas et al. (2015)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>C. gracilis</i> Crous, M.J. Wingf. & Alfenas	<i>Eucalyptus</i> sp.	On leaves	NS	Brown & Ferreira (2000), Mendes et al. (2019)
<i>C. ilicicola</i> Boedijn & Reitsma	<i>E. cloeziana</i> , <i>E. saligna</i> , <i>E. globulus</i> , <i>E. urophylla</i> , <i>Eucalyptus</i> sp. <i>E. grandis</i>	On leaves	ES	Mendes et al. (1998, 2019)
<i>C. indusiata</i> (Seaver) Crous	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. insularis</i> C.L. Schoch & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. kyotensis</i> Terash.	<i>C. kyotensis</i> , <i>E. alba</i>	Ns	ES	Mendes et al. (2019)
<i>C. lageniformis</i> L. Lombard & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Lombard et al. (2017)
<i>C. lauri</i> Lechat & Crous	<i>E. cloeziana</i> , <i>E. globulus</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp., <i>E. urophylla</i>	Ns	NS	Crous et al. (1989), Mendes et al. (1998)
<i>C. leguminum</i> (Rehm) Crous	<i>E. robusta</i> , <i>Eucalyptus</i> sp.	Ns	AM, BA, ES, MG, PA	Mendes et al. (2019)
<i>C. maranhensis</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On leaves	MA	Alfenas et al. (2015)
<i>C. matogrossensis</i> R.A. Fernandes, Alfenas & R.F. Alfenas	<i>E. urophylla</i>	On leaves	MT	Crous et al. (2019a)
<i>C. metrosideri</i> R.F. Alfenas, O.L. Pereira, Crous & A.C. Alfenas	<i>E. benthamii</i>	Ns	NS	Soares et al. (2019)
<i>C. ovata</i> D. Victor & Crous	<i>Eucalyptus</i> sp., <i>E. tereticornis</i> , <i>E. urophylla</i>	Ns	NS	Crous et al. (2002), Alfenas et al. (2015), Crous et al. (2019b), Mendes et al. (2019)
<i>C. pauciramosa</i> C.L. Schoch & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. propagincola</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On seedlings	PA	Alfenas et al. (2015)
<i>C. pseudocerciana</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On seedlings	PA	Alfenas et al. (2015)
<i>C. pseudohodgesii</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On seedlings	MG	Alfenas et al. (2015)
<i>C. pseudometrosideri</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On leaves	MA	Alfenas et al. (2015)
<i>C. pteridis</i> Crous, M.J. Wingf. & Alfenas	<i>E. cloeziana</i> , <i>E. grandis</i> , <i>Eucalyptus</i> sp.	On leaves	SP, BA, PA	Mendes et al. (1998, 2019), Alfenas et al. (2015)
<i>C. pyrochroa</i> (Desm.) Sacc.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. putriramosa</i> L. Lombard & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Lombard et al. (2016)
<i>C. robigophila</i> R.F. Alfenas, L. Lombard & Crous	<i>Eucalyptus</i> sp.	On leaves	MA	Alfenas et al. (2015)
<i>C. reteaudii</i> (Bugnic.) C. Booth	<i>E. robusta</i> , <i>Eucalyptus</i> sp.	Ns	NS	Crous et al. (1989), Mendes et al. (1998)
<i>C. spathulata</i> El-Gholl, Kimbr., E.L. Barnard, Alfieri & Schoult.	<i>E. viminalis</i> , <i>E. cloeziana</i> , <i>E. grandis</i>	On leaves	NS	Mendes et al. (1998, 2019), Alfenas et al. (2015)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>C. spathiphylli</i> El-Gholl, J.Y. Uchida, Alfenas, T.S. Schub., Alfieri & A.R. Chase	<i>Eucalyptus</i> sp.	On leaves	NS	Mendes et al. (2019)
<i>C. variabilis</i> Crous, J.D. Janse, D. Victor, G.F. Marais & Alfenas	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>Chaetopsina fulva</i> Rambelli	<i>E. punctata</i>	On dead leaves	SP	This paper
<i>C. splendida</i> Sutton & Hodges	<i>Eucalyptus</i> sp.	On dead leaves	SP	Kirk & Sutton (1985)
<i>Cylindrocladium clavatum</i> Hodges & L.C. May	<i>C. citriodora</i> , <i>C. maculata</i> , <i>C. torelliana</i> , <i>E. camaldulensis</i> , <i>E. cloeziana</i> , <i>E. grandis</i> , <i>E. pellita</i> , <i>E. pilularis</i> , <i>E. punctata</i> , <i>E. resinifera</i> , <i>E. robusta</i> , <i>E. tereticornis</i> , <i>E. urophylla</i> , <i>E. deglupta</i> , <i>Eucalyptus</i> sp.	Seedling damping-off	GO, PA, DF	Ferreira (1991), Blum et al. (1992), Mendes et al. (1998, 2019)
<i>C. penicilloides</i> (Tubaki) Tubaki	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. cylindrospora</i> (Ellis & Everhart) Rossman, L. Lombard & Crous	<i>C. citriodora</i> , <i>C. maculata</i> , <i>C. torelliana</i> , <i>E. camaldulensis</i> , <i>E. cloeziana</i> , <i>E. grandis</i> , <i>E. pellita</i> , <i>E. pilularis</i> , <i>E. punctata</i> , <i>E. resinifera</i> , <i>E. robusta</i> , <i>E. tereticornis</i> , <i>E. urophylla</i> , <i>E. deglupta</i> , <i>E. acmenioides</i> , <i>E. alba</i> , <i>E. dunnii</i> , <i>E. microcorys</i> , <i>E. paniculata</i> , <i>Eucalyptus</i> sp.	On leaves/necrosis and seedling damping-off	DF, GO, PA, SP, MG	Blum & Dianese (1993), Ferreira (1991), Blum et al. (1992), Mendes et al. (1998, 2019)
<i>C. ovatum</i> El-Gholl, Alfenas, Crous & T.S. Schub.	<i>C. torelliana</i> , <i>E. urophylla</i> , <i>E. pellita</i> , <i>E. grandis</i> , <i>E. saligna</i> , <i>Eucalyptus</i> sp.	On leaves	PA	Blum et al. (1992), Victor et al. (1997), Mendes et al. (1998, 2019)
<i>Cylindrocladiella camelliae</i> (Venkataram. & C.S.V. Ram) Boesew.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>C. infestans</i> Boesew.	<i>Eucalyptus</i> sp.	On leaves	NS	Crous & Wingfield (1993), Victor et al. (1998)
<i>C. lageniformis</i> Crous, M.J. Wingf. & Alfenas	<i>Eucalyptus</i> sp.	On leaves	ES	Crous & Wingfield (1993), Victor et al. (1998)
<i>C. peruviana</i> (Bat., J.L. Bezerra & M.P. Herrera) Boesew.	<i>Eucalyptus</i> sp.	On leaves	NS	Victor et al. (1998), Mendes et al. (1998, 2019)
<i>C. pseudohawaiiensis</i> L. Lombard & Crous	<i>Eucalyptus</i> sp.	Ns	NS	Lombard et al. (2017)
<i>Fusarium oxysporum</i> Schltld.	<i>E. grandis</i> , <i>E. viminalis</i>	On seedlings	PR	Auer & Santos (2009)
<i>F. lateritium</i> Nees : Fr.	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>Gliocephalotrichum bacillisporum</i> Decock & Huret	<i>E. microcorys</i> , <i>E. punctata</i>	On dead and living leaves	SP	Lacerda et al. (2018, 2019)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>Neocosmospora vasinfecta</i> E.F. Sm.	<i>E. grandis</i>	Ns	DF	Mendes et al. (1998, 2019)
<i>Nectricladiella infestans</i> Crous & C.L. Schoch	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
Microascales				
Ceratocystidaceae				
<i>Ceratocystis cacaofunesta</i> Engelbr. & T.C. Harr.	<i>E. grandis</i> x <i>E. urophylla</i>	On xylem vessels	SP	Firmino et al. (2015)
<i>Ceratocystis eucalypticola</i> M. van Wyk & M.J. Wingf.	<i>Eucalyptus</i> sp.	Ns	NS	Lee et al. (2016)
<i>C. fimbriata</i> Ellis & Halst.	<i>E. camaldulensis</i> , <i>E. dunnii</i> , <i>E. grandis</i> , <i>E. pellita</i> , <i>E. saligna</i> , <i>E. tereticornis</i> , <i>E. urophylla</i> , <i>E. grandis</i> x <i>E. urophylla</i> , <i>E. urophylla</i> x <i>E. camaldulensis</i> , <i>Eucalyptus</i> sp.	Wilt on seedlings and canker on stems	BA, MG	Ferreira et al. (2006b), Tumura et al. (2012), Mafia et al. (2011), Ferreira et al. (2012), Mendes et al. (2019)
<i>Sporendocladia bactrospora</i> (W.B. Kendr.) M.J. Wingf.	<i>E. urophylla</i>	On dead leaves	SP	This paper
<i>Thielaviopsis paradoxa</i> (De Seynes) Höhn.	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (1998, 2019)
Parasymptodiellales				
Parasymptodiellaceae				
<i>Parasymptodiella laxa</i> (Subram. & Vittal) Ponnappa	<i>E. resinifera</i>	On dead leaves	SP	This paper
Pleurotheciales				
Pleurotheciaceae				
<i>Phaeoisaria infrafertilis</i> B. Sutton & Hodges	<i>Eucalyptus</i> sp.	On dead leaves	MG	Sutton & Hodges (1976b)
Sordariales				
Chaetomiaceae				
<i>Thermothelomyces thermophilus</i> (Apinis) Y. Marín, Stchigel, Guarro & Cano	<i>Eucalyptus</i> sp.	On stems	NS	Auer (2007)
Sordariaceae				
<i>Neurospora discreta</i> D.D. Perkins & N.B. Raju	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Sporidesmiales				
Sporidesmiaceae				
<i>Sporidesmiella cuneiformis</i> (B. Sutton) P.M. Kirk	<i>E. tereticornis</i>	Ns	NS	Mendes et al. (2019)
<i>Sporidesmium adscendens</i> Berk.	<i>E. resinifera</i>	On dead bark	SP	This paper
Trichosphaeriales				
Helminthosphaeriaceae				
<i>Endophragmiella pulchra</i> (B. Sutton & Hodges) P.M. Kirk	<i>C. citriodora</i>	On dead leaves	PE	Sutton & Hodges (1978)
Trichosphaeriaceae				
<i>Nigrospora oryzae</i> (Berk. & Broome) Petch	<i>E. microcorys</i> , <i>Eucalyptus</i> sp.	On submerged and living leaves	SP	Wellbaum et al. (1999), Lacerda et al. (2018, 2019)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
Xenospadicoidales				
Xenospadicoidaceae				
<i>Spadicoides curvularioides</i> B. Sutton & Hodges	<i>E. grandis</i>	On dead leaves	PR	Sutton & Hodges (1978)
Xylariales				
Beltraniaceae				
<i>Beltrania rhombica</i> Penz.	<i>E. resinifera</i> , <i>E. grandis</i> <i>Eucalyptus</i> sp.	On submerged and dead leaves	SP	Wellbaum et al. (1999), This paper
<i>Hemibeltrania saikawae</i> R.F. Castañeda, W.B. Kendr. & Guarro	<i>E. paniculata</i>	On dead leaves	SP	This paper
Castanediellaceae				
<i>Castanediella eucalypti</i> Crous, Hern. -Restr. & M.J. Wingf.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2019)
<i>C. eucalypticola</i> Crous & M.J. Wingf.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
Graphostromataceae				
<i>Biscogniauxia capnodes</i> (Berk.) Y.M. Ju & J.D. Rogers	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>B. mediterranea</i> (De Not.) Kuntze	<i>Eucalyptus</i> sp.	Ns	NS	Mendes et al. (2019)
<i>B. nummularia</i> (Bull.) Kuntze	<i>Eucalyptus</i> sp.	On stems	MG	Mafia et al. (2003)
Hypoxylaceae				
<i>Annulohypoxylon moriforme</i> (Henn.) Y.M. Ju, J.D. Rogers & H.M. Hsieh	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
<i>A. stygium</i> (Lév.) Y.M. Ju, J.D. Rogers & H.M. Hsieh	<i>Eucalyptus</i> sp.	On stems	MG	Mafia et al. (2003)
Microdochiaceae				
<i>Microdochium cylindricum</i> B. Sutton & Hodges	<i>Eucalyptus</i> sp.	On dead leaves	MG, ES, SP	Sutton & Hodges (1976b)
<i>M. falcatum</i> B. Sutton & Hodges	<i>E. tereticornis</i>	On dead leaves	PA	Sutton & Hodges (1976b)
<i>M. griseum</i> B. Sutton, Piroz. & Deighton	<i>Eucalyptus</i> sp.	On dead leaves	SP, RJ	Sutton & Hodges (1976b)
Xyladictyochaetaceae				
<i>Xyladictyochaeta lusitanica</i> Hern.-Restr., R.F. Castañeda & Gené	<i>E. microcorys</i>	On dead leaves	SP	Lacerda et al. (2019)
Xylariaceae				
<i>Nemania abortiva</i> J.D. Rogers, Y.M. Ju & Hemmes	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
<i>N. diffusa</i> (Sowerby) Gray	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018), (2019)
<i>Virgaria nigra</i> (Link) Nees	<i>E. urophylla</i>	On dead bark	SP	This paper
<i>Xylaria apiculata</i> Cooke	<i>E. microcorys</i> , <i>Eucalyptus</i> sp.	On leaves	SP	Mendes et al. (1998, 2019), Lacerda et al. (2018)
<i>X. globosa</i> (Pers.) Mont.	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)
<i>Xylosphaera berteroi</i> (Mont.) Dennis	<i>E. microcorys</i>	On leaves	SP	Lacerda et al. (2018)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
Incertae sedis				
<i>Cacumisporium pleuroconidiophorum</i> (Davydkina & Melnik) R.F. Castañeda, Heredia & Iturr.	<i>E. urophylla</i>	On dead leaves	SP	This paper
<i>Chalara laevis</i> (B. Sutton & Hodges) P.M. Kirk	<i>Eucalyptus</i> sp.	On dead leaves	SP	Sutton & Hodges (1976a)
<i>Cryptophiale kakombensis</i> Pirozynski	<i>E. urophylla</i> , <i>E. paniculata</i> , <i>E. resinifera</i> , <i>E. grandis</i>	On dead leaves	SP	This paper
<i>C. manifesta</i> B. Sutton & Hodges	<i>E. urophylla</i> , <i>E. grandis</i>	On dead leaves	ES	Sutton & Hodges (1976a)
<i>C. udagawae</i> Pirozynski & Ichinoe	<i>E. urophylla</i> , <i>E. paniculata</i> , <i>E. resinifera</i> , <i>E. grandis</i>	On dead leaves	SP	This paper
<i>Cercosperma arnaudii</i> B. Sutton & Hodges	<i>Eucalyptus</i> sp.	On dead leaves	PA, MA	Sutton (1983)
<i>Inesiosporium muiense</i> (B. Sutton & Hodges) R.F. Castañeda & W. Gams	<i>E. grandis</i>	On dead bark	SP	This paper
<i>Kionochaeta ramifera</i> (Matsush.) P.M. Kirk & B. Sutton	<i>E. grandis</i> , <i>E. punctata</i>	On dead leaves	MG, SP	Sutton & Hodges (1976a), Kirk & Sutton (1985), This paper
<i>K. spissa</i> P.M Kirk & B. Sutton	<i>E. urophylla</i> , <i>E. microcorys</i> , <i>E. punctata</i> , <i>E. resinifera</i> , <i>E. grandis</i>	On dead leaves	SP	This paper
<i>Gampsonema exile</i> (Tassi) Nag Raj	<i>E. grandis</i> , <i>E. paniculata</i> , <i>E. robusta</i> , <i>E. saligna</i>	On dead leaves	NS	Sutton (1980)
<i>Gyothyrix circinata</i> (Berk. & M.A. Curtis) S. Hughes	<i>E. punctata</i>	On dead bark	SP	This paper
<i>G. podosperma</i> (Corda) Rabenh.	<i>E. resinifera</i>	On dead leaves	SP	This paper
<i>Monodictys castaneae</i> (Wallr.) S. Hughes	<i>Eucalyptus</i> sp.	On submerged leaves	SP	Wellbaum et al. (1999)
<i>Mycotribulus mirabilis</i> Nag Raj & W.B. Kendr.	<i>E. grandis</i> , <i>Eucalyptus</i> sp.	On dead leaves	PE	Sutton (1980), Mendes et al. (2019)
<i>Neoeriomycopsis aristata</i> (B. Sutton & Hodges) Crous & M.J. Wingf.	<i>Eucalyptus</i> sp.	On dead leaves	MA	Sutton & Hodges (1978), Crous et al. (2015)
<i>Neothyriopsis sphaerospora</i> (Marasas) Crous	<i>E. camaldulensis</i> , <i>E. grandis</i> x <i>E. urophylla</i> , <i>Eucalyptus</i> sp.	On leaves	DF	Câmara & Dianese (1994), Mendes et al. (2019)
<i>Paliphora intermedia</i> Alcorn	<i>E. grandis</i>	On dead leaves, bark	SP	This paper
<i>Pappimyces hastatus</i> B. Sutton & Hodges	<i>E. paniculata</i>	On dead leaves	MG	Sutton & Hodges (1975b)
<i>Polyscytalum truncatum</i> B. Sutton & Hodges	<i>C. citriodora</i> , <i>E. paniculata</i> , <i>E. saligna</i> , <i>E. grandis</i> , <i>E. robusta</i> , <i>E. urophylla</i> , <i>E. viminalis</i> , <i>E. punctata</i>	On dead leaves	SP, ES, MG, RS, PR	Sutton & Hodges (1977)
<i>Pseudotracylla dentata</i> B. Sutton & Hodges	<i>C. citriodora</i>	On dead leaves	PE	Sutton & Hodges (1976c)

Table 1 – Continued.

Taxa	Host	Substrate	Brazilian States as in Fig. 4	References
<i>Rhexoampullifera subglobosa</i> R.F. Castañeda, Gené & Guarro	<i>E. grandis</i>	On dead bark	SP	This paper
<i>Sarcopodium tjibodense</i> (Penz. & Sacc.) Forin & Vizzini	<i>E. grandis</i>	On dead barks of <i>E. grandis</i>	MG	Sutton (1981), Mendes et al. (2019)
<i>Speiropsis scopiformis</i> Kuthub. & Nawawi	<i>E. microcorys</i> , <i>E. punctata</i>	On dead leaves	SP	This paper
<i>Selenosporella acicularis</i> B. Sutton & Hodges	<i>C. citriodora</i>	On dead leaves	PE	Sutton & Hodges (1977)
<i>Subulispora longistrostrata</i> Nawaki & Kuthub.	<i>E. urophylla</i> , <i>E. resinifera</i>	On dead leaves	SP	This paper
<i>Umbellidion radulans</i> B. Sutton & Hodges	<i>E. grandis</i> , <i>E. paniculata</i> , <i>E. microcorys</i> , <i>E. punctata</i> , <i>E. resinifera</i> , <i>E. urophylla</i>	On dead leaves	MG, ES, PA, SP	Sutton & Hodges (1975b)
<i>Zanclospora austroamericana</i> B. Sutton & Hodges	<i>E. propinqua</i>	On dead bark	SP	Sutton & Hodges (1975a)
<i>Z. novae-zelandiae</i> S. Hughes & W.B. Kendr.	<i>E. punctata</i>	On dead bark	SP	This paper
<i>Zopheromyces fasciatus</i> B. Sutton & Hodges	<i>E. robusta</i> , <i>E. saligna</i>	On dead leaves	SC, RS	Sutton & Hodges (1977)

*ns: not specified

Conclusion

In this checklist, 236 eucalypt-associated species were listed from Brazil. *Eucalyptus grandis* and *E. microcorys* are the host plants with the most associated ascomycetes. The largest number of species belonged to Nectriaceae, followed by those in Teratosphaeriaceae, Mycosphaerellaceae and Aspergillaceae.

The states of São Paulo and Minas Gerais in the Southwest region are the locations where most fungi occurred, coinciding with areas where most eucalypt plantations are located, and the presence of mycologists and plant pathologists is more prevalent. Most fungi recorded are leaf pathogens causing leaf spots or leaf and seedling blight, some occur on bark causing canker, and several were detected on dead leaves and bark. Submerged leaves also host several fungal species, as seen in Table 1.

Finally, it must be noted that most fungi herein listed are plant pathogenic, causing large economic losses still to be precisely estimated.

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