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# CHECKLIST OF FRESHWATER MITOSPORIC FUNGI OF INDIA

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**Abstract:** The present paper deals with distribution and substratum range of 362 species of freshwater Mitosporic fungi (346 Hyphomycetes and 16 Coelomycetes) reported so far from freshwater habitats of India. They were found as saprophytes on woody debris and leaf litter submerged in freshwater environment. Conidia of most of these fungi were encountered in foam samples. A checklist of freshwater Mitosporic fungi recorded from India is compiled on the basis of present studies in Maharashtra, Gujarat and Madhya Pradesh and published literature. Distribution of 362 species of freshwater Mitosporic fungi reported so far from various states of India is provided. The most frequently collected species of the genera are *Camylospora, Canalisporium, Flabellospora, Lemonniera, Tetracladium,* and *Tricladium.* The checklist includes detail of the location and substrata on which they encountered. This data will be useful in the compilation of freshwater fungal biodiversity of India.

**Keywords:** Freshwater; Mitosporic fungi; Submerged leaves; Foam samples

## INTRODUCTION

Freshwater fungi are defined as "fungi that for the whole or part of their life cycle rely on freshwater" (Thomos, 1996). Estimates for the number of fungi in the world range up to ca. 13.5 M species (Kirk *et al.,* 2008). So far only 1.7 million species of organisms are known to the Science as against the estimated species on our planet. It indicates the large number of organisms are yet unknown to the Science ((Hawksworth, 2001). Among the known 1.7 million species, 0.2 million (13 %) are reported from our country (Manoharachary *et al.,* 2005).

In India, though these fungi are being studied at a very few states (Assam, Tamil Nadu, Andhra Pradesh, Goa, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Gujarat), yet about 360 species have also been recorded (Natarajan and Udaiyan, 1978; Udaiyan and Hosogaudar, 1991; Udaiyan and Manian, 1991a, b; Tiwari, 1992; Sati and Tiwari, 1997; Sridhar *et al.,* 1992; Manoharachary, 1989; Bhat *et al.,* 2009; Sati and Joshi, 2011) including some new species (Sridhar and Kaveriappa, 1987; Rajashekhar *et al.,* 1991; Udaiyan, 1991; Sati and Tiwari, 1992, 1993, 2003; Sati *et al.,* 2009; Sridhar and Kaveriappa, 2002; Soosamma *et al.,* 2001; Nair and Bhat, 2001, 2002a, b).

We have been investigating diversity of freshwater higher fungi that decay leaves and wood submerged in the rivers, streams, and lakes in the central part of India. Previous work on these fungi from Madhya Pradesh ware made by Hasija and Shanware (1986), Agrawal *et al.,* (1989, 1991, 1992), Hasija and Singhal (1991) and Upadhyaya *et al.,* (2012).

Previous work on these fungi from Maharashtra were made by Patil and Rao (1972), Patil and Kapadnis (1979), Thakur (1977), Patil (1998a, b, 2000, 2003a, b, 2007), Talde (1981, 1983), Shinde and Pawar (2008, 2009), Borse and Patil (2006, 2007); Borse *et al.,* (2008, 2014); Patil (2009); Pawara *et al.,* (2009, 2011); Wagh *et al.,* (2009); Patil *et al.,* (2011, 2012a,b); Patil and Borse (2011, 2012); Jadhav *et al.,* (2011); Nemade *et al.,* (2009, 2010); Nemade and Patil (2010); Ghanwat and Reddy (2011); and Wagh and Borse (2014). Previous work on these fungi from Gujarat was made by Ahire *et al.,* (2009).

## MATERIALS AND METHODS

The samples of submerged woody debris, leaves and foam were collected from both the lentic and lotic habitats randomly during 2011-14 from different lentic and lotic habitats from Maharashtra, Gujarat and Madhya Pradesh. The following three methods were used for isolation of various fungal species.

***Wood analysis:*** The samples woody debris were placed in plastic bags and sealed well in order to avoid moisture loss. On returning to the laboratory, samples with debris and fouling organisms were washed thoroughly with running tap water. Surface fouling organisms were scrapped off, following rinsing in tap water. The fresh samples were examined using a stereomicroscope for fungal growth. After initial observations, samples were incubated in plastic boxes and kept moist by spraying with distilled water and periodically examined for presence of fungal growth.

***Leaf litter analysis:*** Submerge leaves of different kinds were collected randomly from sampling sites and brought to the laboratory in moist polythene bags. They were washed several times in tap water and

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finally in distilled water. They were cut into small bits and incubated separated in Petri dishes containing distill water at laboratory temperature (25-30°c). The water was replaced in Petri dishes once in two days to minimize the growth of bacteria and other organisms. The leaf bits were screened under an inverted microscope at 24 hours intervals for 60 days to detect the water borne fungi appearing on them.

***Foam analysis:*** In aquatic habitats, foam is formed by the movement of the water against natural barriers like stones, logs, twigs, especially in lotic habitats, constitutes a natural trap for the conidia of aquatic Hyphomycetes. Foam samples were collected at morning and evening time. Samples were placed in cleaned wide mouthed plastic bottles and kept for 24 hours to enable the foam to dissolve. It was prepared by adding FAA to yield 5% foam solution. Then samples were brought to laboratory and scanned under low or high power of a microscope using 15 x eyepiece for the presence of conidia of freshwater Mitosporic fungi. Permanent voucher slides of fungi were prepared according to the 'double cover glass method' described by Volkmann-Kohlmeyer and Kohlmeyer (1996). Reports of fungi studied were confirmed with the help of Bilgrami *et al.,* (1991), Sridhar *et al.,* (1992), Jamaluddin *et al.,* (2004) and relevant literature.

## RESULTS AND DISCUSSIONS

A list of 362 species of Freshwater Mitosporic fungi which have been identified to species level by various researchers of India is provided alphabetically in Table 1. They were found as saprophytes on submerged leaves (179 sp.), Conifer needles (26 sp.), Root endophytes (19 sp.), submerged woody debris (204 sp.), water samples (64 sp.), conidia in stem flow (44 sp.) and conidia in foam samples (142 sp.) Most records of these fungi were from states of Karnataka (191 sp.), Goa (102 sp.), Tamil Nadu (98 sp.), Maharashtra (98 sp.), Uttarakhand (75 sp.), Madhya Pradesh (58 sp), Andhra Pradesh (57 sp.) and Kerala (26 sp.) represent intensity of studies on these fungi. As aquatic habitats are increasingly altered and degraded, it is imperative that the freshwater fungal species of the remaining high quality aquatic habitats be characterized and isolated. Such baseline information is essential to understand the role of fungi in aquatic habitats and how fungi could be used in the remediation of damaged aquatic habitats. It is clear those additional collections from worldwide, especially in tropical areas and along altitudinal gradients, are needed to fully characterize the biodiversity, geographical distribution pattern, systematics and evolution of freshwater Mitosporic fungi. In summary, we hope that the information presented herein will prompt future studies to document Freshwater Mitosporic fungi of India.

**Table 1:** Freshwater Mitosporic Fungi of India

| S. No | Name of species | Substrates | Locations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hyphomycetes | F,L,CN,RE,SF,W,WD | AP | GJ | GO | KA | KE | MS | MP | TN | UK |
| 1 | *Acremoniella sarcinellae* Pat. & Har. | L,W | - | - | - | + | - | - | - | - | - |
| 2 | *Acrodontium griseum* (Fassat.) de Hoog | L | + | - | - | - | - | - | - | - | - |
| 3 | *Acrogenospora sphaerocephala* (Berk. & Broome) M.B. Ellis | W | - | - | - | + | - | - | - | + | - |
| 4 | *Acrophialophora fusispora* (Saksena) M.B. Ellis | L,W | - | - | - | + | - | - | - | - | - |
| 5 | *Actinosporella megalospora* (Ingold) Descals et al. | F | + | - | - | + | + | - | - | - | + |
| 6 | *Alatospora acuminata* Ingold | F,L,CN,W | + | + | - | + | + | + | + | - | + |
| 7 | *A. flagellata* (J. Gonczol) Marvanova | L | - | - | - | - | - | - | - | - | + |
| 8 | *A. pulchella* Marvanova | F,L,CN, RE,W | - | - | - | - | - | - | - | - | + |
| 9 | *Alternaria alternata* (Fr.) Keissl. | WD | - | - | - | - | - | - | - | + | - |
| 10 | *Alternaria chlamydosporum* Mouch. | L,WD | - | - | - | - | - | - | + | - | - |
| 11 | *Alternaria longissima* Deighton & MacGarvie | WD | - | - | - | - | - | - | - | + | - |
| 12 | *A. tenuissima* (Hunze ex Fr.) Wiltsh. | WD | - | - | - | - | - | - | + | + | - |
| 13 | *Anguillospora angulata* (R.H. Petersen) Wolfe | L | - | - | - | + | - | - | - | - | - |
| 14 | *A. crassa* Ingold | F,L,CN, RE,W,WD | + | + | - | + | + | + | + | - | + |
| 15 | *A. curvula* S.H. Iqbal | F | - | - | - | + | - | - | - | - | - |
| 16 | *A. fertiva* J. Webster & Descals | L,RE | - | - | - | - | - | - | - | - | + |
| 17 | *A. filiformis* Greath. | F,L,CN | - | - | - | + | - | - | - | - | + |
| 18 | *A. gigantea* Ranzoni | F | - | - | - | + | - | - | - | - | - |
| 19 | *A. longissima* (Sacc. & P. Syd.) Ingold | F,L,RE, WD | + | - | - | + | + | + | + | + | + |
| 20 | *A. pseudolongissima* Ranzoni | F | - | - | - | - | - | - | - | - | + |
| 21 | *Angulospora aquatica* Sv. Nilsson | F | - | - | - | + | - | - | - | - | - |
| 22 | *Arborispora dolichovirga* K. Ando | SF | - | - | - | + | - | - | - | - | - |
| 23 | *Arborispora paupera* Marvanova & Barlocher | SF | - | - | - | + | - | - | - | - | - |
| 24 | *Arborispora palma* K. Ando | L | - | - | - | + | - | - | - | - | - |
| 25 | *Arbusculina irregularis* (R.H. Petersen) Marvanova & Descals | F,L | + | - | - | + | - | - | - | - | - |
| 26 | *Arthrinium phaeospermum* (Corda) M.B. Ellis | WD | - | - | - | - | - | - | - | + | - |
| 27 | *Arthrobotrys arthrobotryoides* (Berl.) Lindau | WD | - | - | - | - | - | - | - | + | - |
| 28 | *Arthrobotrys conoides* Drechsler | L | + | - | - | - | - | - | - | - | - |
| 29 | *Articulospora inflata* Ingold | F,W | - | - | - | + | - | - | - | - | - |
| 30 | *Articulospora moniliformis* Ranzoni | F | - | - | - | + | - | - | - | - | - |

**Table 1. Continued**

(F-Foam, L- leaf, CN-Conifer Needles, RE-Root Endophytes, SF-Stem Flow, W-Water, WD-Wood; AP-Andhra Pradesh, GJ-Gujarat, GO-Goa, KA-Karnataka, KE-Kerala, MP-Madhya Pradesh, MS-Maharashtra, TN-Tamil Nadu, UK-Uttarakhand).

| S. No. | Name of species<br>Hyphomycetes | Substrates<br>F,L,CN, RE,SF, W, WD | Locations<br>AP | GJ | GO | KA | KE | MS | MP | TN | UK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | *Articulospora tetracladia* Ingold | F,L,W, WD | + | - | - | + | + | + | - | + | - |
| 32 | *Aspergillus flavipes* (Bainier & Sartory) Thom & Church | WD | - | - | - | - | - | - | - | + | - |
| 33 | *Aspergillus fumigatus* Fresen. | L,WD | - | - | - | + | - | - | - | + | - |
| 34 | *Aspergillus japonicus* Saito | WD | - | - | - | - | - | - | - | + | - |
| 35 | *Aspergillus niger* Tiegh. | L,WD | - | - | - | - | - | - | + | + | - |
| 36 | *A. sydowii* (Bainier & Sartory) Thom & Church | WD | - | - | - | - | - | - | - | + | - |
| 37 | *Aspergillus terreus* Thom | WD | - | - | - | - | - | - | - | + | - |
| 38 | *Aspergillus versicolor* Wehmer | WD | - | - | - | - | - | - | - | + | - |
| 39 | *Aspergillus wentii* Wehmer | WD | - | - | - | - | - | - | - | + | - |
| 40 | *Bactrodesmium indicum* Udaiyan | WD | - | - | - | - | - | + | - | + | - |
| 41 | *Bactrodesmium fusiforme* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 42 | *Bactrodesmiella masonii* (S. Hughes) M.B. Ellis | L,WD | - | - | - | + | - | - | - | - | - |
| 43 | *Barnettela jabalpurensis* G.P. Agarwal et al. | L | - | - | - | - | - | - | + | - | - |
| 44 | *Beltrania rhombica* Penz. | F,L,W | - | - | - | + | - | + | + | - | + |
| 45 | *Beltraniella odinae* Subram. | L,WD | - | - | - | + | - | - | - | - | - |
| 46 | *Beltraniopsis tanzaniensis* Pirozy. | L | - | - | - | - | - | + | - | - | - |
| 47 | *Blodgettia aquatica* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 48 | *Blodgettia indica* Subram. | F | - | - | - | + | - | - | - | + | - |
| 49 | *Brachiosphaera tropicalis* Nawawi | F,W | - | - | - | + | + | + | - | - | - |
| 50 | *Brachisporiella pulchra* (Subram.) S. Hughes | WD | - | - | - | + | - | - | - | - | - |
| 51 | *Brachyphoris oviparasitica* (G.R. Stirling & Mankau) J. Chen, L.L. Xu, B. Liu & X.Z. Liu | F,L | - | - | - | + | - | - | - | - | - |
| 52 | *Cacumisporium capitulatum* (Corda) S. Hughes | WD | - | - | - | + | - | - | - | - | - |
| 53 | *Cacumisporium sigmoideum* Mercado & R.F. Castaneda | WD | - | - | - | + | - | - | - | - | - |
| 54 | *Camposporidium cristatum* Nawawi & Kuthubu. | F | - | - | - | - | - | + | - | - | - |
| 55 | *Camposporium antennatum* Harkness | F,L | - | - | - | + | - | - | + | - | - |
| 56 | *C. pellucidum* (Grove) S. Hughes | F,L,W | + | - | - | + | - | + | - | - | + |
| 57 | *Campylospora chaetocladia* Ranzoni | F,CN,RE,W,WD | + | + | - | + | + | + | + | - | + |
| 58 | *Camylospora filicladia* Nawawi | F,L | - | - | - | + | + | + | - | + | - |
| 59 | *Campylospora parvula* Kazuha | F,RE,W | - | - | - | + | - | - | - | - | + |
| 60 | *Canalisporium caribense* (Hol.-Jech. & Mercado.) Nawawi & Kuthub. | WD | - | - | - | + | - | - | - | - | - |
| 61 | *Canalisporium exiguun* Goh & Hyde | WD | - | - | - | - | - | + | - | - | - |
| 62 | *Canalisporium pulchrum* (Hol.-Jech. & Mercado) Nawawi & Kuthub. | WD | - | - | - | - | - | + | - | - | - |
| 63 | *Cancellium applanatum* Tubaki | WD | + | - | - | - | - | - | - | - | - |
| 64 | *Cephaliophora tropica* Thaxter | WD | - | - | - | - | - | - | - | + | - |
| 65 | *Ceratosporella deviata* Subram. | L | - | - | - | - | - | - | + | - | - |
| 66 | *Chaetendophragmia africana* (Pirozynski) Sutton & Hodges | F,L | - | - | - | + | - | + | - | - | - |
| 67 | *Chalaropsis thielaviopsis* Peyronel | WD | - | - | - | + | - | - | - | - | - |
| 68 | *Chloridium reniforme* Matsushima | WD | - | - | - | + | - | - | - | - | - |
| 69 | *Geomyces pannorum* (Link) Singer & Carmichael | WD | - | - | - | - | - | - | - | + | - |
| 70 | *Cirrenalia indica* Vasant Rao & Reddy | L | + | - | - | + | - | - | - | - | - |
| 71 | *Cladosporium cladosporioides* (Fres.) de Vries | WD | - | - | - | - | - | - | - | + | - |
| 72 | *Cladosporium cucumerinium* Ellis & Arth. | L,WD | - | - | - | - | - | - | + | - | - |
| 73 | *Cladosporium oxysporum* Berk. & Curt. | WD | - | - | - | - | - | - | - | + | - |
| 74 | *Cladosporium sphaerospermum* Peuzig | WD | - | - | - | - | - | - | - | + | - |
| 75 | *Clavariana aquatica* Nawawi | F,L,WD | - | - | - | + | - | - | - | - | + |
| 76 | *Clavariopsis aquatica* De Wild. | F,L,CN, RE,W | + | - | - | + | + | + | + | - | + |
| 77 | *Clavariopsis azlanii* Nawawi | F,L,W | - | - | - | + | - | + | - | - | - |
| 78 | *Clavariopsis brachycladia* Tubaki | F,L | + | - | - | + | - | - | - | - | - |
| 79 | *Clavatospora bulbosa* (Anastas.) Nakagiri & Tubaki | F,L | + | - | - | + | - | - | - | - | - |
| 80 | *Clavatospora longibrachiata* (Ingold) Sv. Nils. ex Marvanova & Nils. | F | + | - | - | - | - | - | - | - | - |
| 81 | *Clavatospora stellata* (Ingold & Cox) Sv. Nilsson | F | - | - | - | + | - | - | - | - | - |
| 82 | *Clavatospora tentacula* (Umphlett) Sv. Nilsson | F,L,W | + | - | - | + | + | + | - | - | + |
| 83 | *Condylospora spumigena* Nawawi | F,L | - | - | - | + | + | + | - | + | - |
| 84 | *Culicidospora gravida* R.H. Petersen | W | + | - | - | - | - | - | - | - | - |
| 85 | *Curicispora ponapensis* Matsushima | SF | - | - | - | + | - | - | - | - | - |
| 86 | *Curvularia lunata* (Wakker) Boedijin | L,WD | - | - | - | - | - | - | + | + | - |
| 87 | *Curvularia pallescens* Boedijin | WD | - | - | - | - | - | - | - | + | - |
| 88 | *Curvularia senegalensis* (Speg.) Subram. | WD | - | - | - | - | - | - | - | + | - |
| 89 | *Curvularia tuberculata* Jain | L,WD | - | - | - | - | - | - | + | - | - |
| 90 | *Cylindrocarpon aqauticum* (Sv. Nilsson) Marvanova & Descals | F,RE | - | - | - | + | - | - | - | - | + |
| 91 | *Cylindrocarpon destructans* (Zins.) Scholten. | F | - | - | - | + | - | - | - | - | - |
| 92 | *Cylindrocladium tenue* (Bugn.) T. Watanabe | L,WD | - | - | - | + | - | - | - | - | - |
| 93 | *Dactylaria aquatica* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 94 | *Dactylella submersa* (Ingold) S. Nilsson | F,WD | - | - | - | + | - | - | + | - | - |
| 95 | *Dematophora necatrix* Hartig | L,WD | - | - | - | + | - | - | - | - | - |
| 96 | *Dendrosporium lobatum* Plakidas & Edgerton | F,L | - | - | - | + | - | - | + | - | - |
| 97 | *Dendrospora erecta* Ingold | F,L | - | - | - | + | - | - | - | - | - |
| 98 | *Dendrospora juncicola* Iqbql | L | - | - | - | + | - | - | - | - | - |
| 99 | *Dendrospora yessemreddea* Sreekala & Bhat | W | - | - | + | - | - | - | - | - | - |
| 100 | *Dendrosporomyces prolifer* Nawawi et al. | F,L | - | - | - | + | - | + | - | - | - |

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| S. No. | Name of species<br>Hyphomycetes | Substrates<br>F,L,CN, RE,SF,W,WD | Locations<br>AP | GJ | GO | KA | KE | MS | MP | TN | UK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | *Dicranidion gracilis* Matsushima | SF | - | - | - | + | - | - | - | - | - |
| 102 | *Dictyosporium cocophilum* Bat. | WD | - | - | - | - | - | + | - | - | - |
| 103 | *Dictyosporium digitatum* Chen et al. | WD | - | - | - | + | - | - | - | - | - |
| 104 | *Dictyosporium elegans* Corda | L,WD | - | - | - | - | - | + | + | - | - |
| 105 | *Dictyosporium gaunti* Bhat & Sutton | WD | - | - | - | - | - | + | - | - | - |
| 106 | *Dictyosporium heptasporum* (Garov) Damon | WD | - | - | - | + | - | + | - | - | - |
| 107 | *Dictyosporium tetraseriale* Goh et al. | WD | - | - | - | - | - | + | - | - | - |
| 108 | *Dimorphospora foliicola* Tubaki | L,CN,WD | - | - | - | - | - | - | + | - | + |
| 109 | *Diplocladiella appendiculata* Nawawi | F,L | - | - | - | - | - | - | - | - | + |
| 110 | *Diplocladiella longibrachiata* Nawawi & Kuthub. | F,L,W | - | - | - | - | - | + | - | - | + |
| 111 | *Diplocladiella scalaroides* Arnaud | F,L | + | - | - | + | - | + | - | - | - |
| 112 | *Diplocladiella tricladioides* Nawawi | F | - | - | - | - | - | - | - | - | - |
| 113 | *Diploospora indica* S.K. Nair & Bhat | F,L | - | - | + | - | - | - | - | - | - |
| 114 | *Doratomyces microsporus* (Sacc.) Morton & Smith | WD | - | - | - | + | - | - | - | - | - |
| 115 | *Drechslera australiensis* (Bugnicourt) Subram. & Jain ex M.B. Ellis | L,WD | - | - | - | - | - | - | + | + | - |
| 116 | *Drechslera halodes* (Drechsler) Subram. & B.L. Jain | WD | - | - | - | + | - | - | - | + | - |
| 117 | *Drechslera hawaiiensis* (Bugnicourt) Subram. & Jain | WD | - | - | - | - | - | - | - | + | - |
| 118 | *Drechslera miyakei* (Nisicado) Subram. & Jain | WD | - | - | - | - | - | - | - | + | - |
| 119 | *Drechslera spicifer* Nelson | L,WD | - | - | - | + | - | - | + | - | - |
| 120 | *Drechslerella bembicodes* (Drechsler) M. Scholler, Hagedorn & A. Rubner | WD | - | - | - | - | - | - | - | + | - |
| 121 | *Drepanospora pannosa* Berk. & Curtis | WD | - | - | - | + | - | - | - | - | - |
| 122 | *Dwayaangum cornuta* Descals | SF | - | - | - | + | - | - | - | - | - |
| 123 | *Dwayaangum dichomata* Nawawi | F,L,SF | - | - | - | + | - | + | - | - | + |
| 124 | *Endophragmia alternata* Tubaki & Saito | WD | - | - | - | + | - | - | - | - | - |
| 125 | *E. cesatii* (Mont.) M.B. Ellis | WD | - | - | - | + | - | - | - | - | - |
| 126 | *Endophragmia elliptica* (Berk. & Br.) M.B. Ellis | L,WD | - | - | - | + | - | - | - | - | - |
| 127 | *Endophragmia microaquatica* (Tubaki) Matsuahima | F,L | + | - | - | - | - | + | - | - | - |
| 128 | *Exserticlava triseptata* (Matsus.) Hughes | WD | - | - | - | + | - | - | - | - | - |
| 129 | *Flabelloladia tetracladia* (Nawawi) Nawawi | F,L,W | - | - | - | + | + | + | + | - | + |
| 130 | *Flabelloladia gigantea* Nawawi | L | - | - | - | - | - | - | - | - | + |
| 131 | *F. acuminata* Descals & Webster | F,L | - | - | - | - | - | + | - | - | + |
| 132 | *Flabellospora amphibian* (Price & Talbot) Descals | F | - | - | - | - | - | + | - | - | - |
| 133 | *F. crassa* Alasoad. | F,L,SF, WD | - | - | - | + | - | + | + | - | + |
| 134 | *F. multiradiata* Nawawi | F,L,SF,W | - | - | - | + | + | + | - | - | - |
| 135 | *F. verticillata* Alasoadura | F,L,CN,SF | + | - | - | + | + | + | - | + | + |
| 136 | *Flagellospora curvula* Ingold | F,L,SF,WD | - | - | - | + | + | - | + | - | - |
| 137 | *F. penicillioides* Ingold | F,L,CN, SF,W,WD | + | - | - | + | + | + | - | - | + |
| 138 | *F. prolifera* Petersen | F | - | - | - | - | - | - | + | - | - |
| 139 | *F. saccata* Marvanova & Barlocher | F | - | - | - | + | - | - | - | - | - |
| 140 | *Fusariella hughesii* Chabelska-Frydman | W | - | - | - | + | - | - | - | - | - |
| 141 | *Fusarium incarnatum* (Roberge) Sacc. | WD | - | - | - | - | - | - | - | + | - |
| 142 | *F. latertium* Nees ex Fr. | WD | - | - | - | - | - | - | - | + | - |
| 143 | *F. oxysporum* Schl. ex Fries | L,WD | - | - | - | - | - | - | + | - | + |
| 144 | *F. solani* (Mart.) Sacc. | WD | - | - | - | - | - | - | - | + | - |
| 145 | *Gangaliophragma subramanianii* Udaiyan | WD | - | - | - | - | - | - | - | - | + |
| 146 | *Geniculospora inflata* (Ingold) Nils. ex Marv. & Nilsson | F | + | - | - | - | - | - | - | - | - |
| 147 | *Geomyces pannorum* (Link) Sigler & Carmichael | WD | - | - | - | - | - | - | - | + | - |
| 148 | *Geotrichum candidum* Link ex Sacc. | L,WD | - | - | - | - | - | - | + | - | - |
| 149 | *Gliocladium penicilloides* Corda | WD | - | - | - | - | - | - | - | + | - |
| 150 | *Gonytrichum indica* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 151 | *Graphium penicillioides Corda* | WD | - | - | - | - | - | - | - | + | - |
| 152 | *Graphium putredinis (Corda) Hughes* | WD | - | - | - | - | - | - | - | + | - |
| 153 | *Gyoerffyella tricapillata (Ingold) Marvanova* | F | + | - | - | - | - | + | - | - | - |
| 154 | *Halenospora varium (Anastas.) E.B.G. Jones* | L,WD | - | - | - | + | - | - | - | - | - |
| 155 | *Helicodendron triglitziensis (Japp) Linder* | L | - | - | - | - | - | - | + | - | - |
| 156 | *Helicoma ambiens Morgan* | SF | - | - | - | + | - | - | - | - | - |
| 157 | *Helicoma conicodenatum Linder* | F,WD | - | - | - | - | - | - | + | - | - |
| 158 | *Helicoma polysporum Morgan* | L | - | - | - | - | - | + | - | - | - |
| 159 | *Helicomyces bellus Morgan* | L,WD | - | - | - | + | - | - | - | - | - |
| 160 | *H. colligatus R.T. Moore* | F,SF,WD | - | - | - | + | - | - | - | - | - |
| 161 | *H. hyderabadensis Rao & Deo Rao* | L | - | - | - | + | - | - | - | - | - |
| 162 | *H. roseus Link* | F,L,SF,WD | - | - | - | + | - | - | - | - | + |
| 163 | *H. scandens Morgan* | SF | - | - | - | + | - | - | - | - | - |
| 164 | *H. torquatus Lane & Shearer* | F | - | - | - | + | - | - | - | - | - |
| 165 | *Helicosporium griseum Berk. & Curtis* | F,L,WD, | - | - | - | - | - | + | + | - | + |
| 166 | *H. guianensis Linder* | F | - | - | - | + | - | - | - | - | - |
| 167 | *H. indicum Rao & Deo Rao* | L,WD | - | - | - | + | - | - | - | - | - |
| 168 | *H. panacheum Moore* | L,WD | - | - | - | + | - | - | - | - | + |
| 169 | *H. phragmitis Honnel* | F,L | - | - | - | - | - | + | - | - | - |
| 170 | *H. virescens (Pers.) Sivan.* | F,L | - | - | - | + | - | - | - | - | - |

**Table 1. Continued**

(F-Foam, L- leaf, CN-Conifer Needles, RE-Root Endophytes, SF-Stem Flow, W-Water, WD-Wood; AP-Andhra Pradesh, GJ-Gujarat, GO-Goa, KA-Karnataka, KE-Kerala, MP-Madhya Pradesh, MS-Maharashtra, TN-Tamil Nadu, UK-Uttarakhand).

| S.No. | Name of species Hyphomycetes | Substrates F,L,CN,RE,SF,W, WD, | Locations AP | GJ | GO | KA | KE | MS | MP | TN | UK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 171 | *Heliocephala proliferans* Vasant Rao, Reddy & de Hoog | L | + | - | - | - | - | - | - | - | - |
| 172 | *Heliscella stellata* (Ingold & Cox) Marvanova | F,L,W | - | - | - | + | - | - | - | - | + |
| 173 | *Heliscina campanulata* Marva. | F,L,CN | - | - | - | + | - | - | - | - | + |
| 174 | *Heliscus lugdunesis* Sacc. & Therry | F,L,CN,RE,W | + | - | - | - | - | - | - | - | + |
| 175 | *Heliscus submersus* Hudson | F | + | - | - | - | - | - | - | - | - |
| 176 | *Helminthosporium velutinum* Link | WD | - | - | - | + | - | - | - | - | - |
| 177 | *Henicospora coronata* Kirk & Sutton | F | + | - | - | - | - | - | - | - | - |
| 178 | *Humicola fuscoatra* Traaen. | L,WD | - | - | - | + | - | - | - | - | - |
| 179 | *Hydrometrospora symmetrica* Gonczol & Revay | F | - | - | - | + | - | - | - | - | - |
| 180 | *Ingoldiella hamata* Shaw | F,L,W | + | - | - | + | - | + | - | + | - |
| 181 | *Isthmotricladia britanica* Descals | L | - | - | - | - | - | - | + | - | - |
| 182 | *Isthmotricladia gombakiensis* Nawawi | F,L,W | + | - | - | + | - | + | - | - | - |
| 183 | *Isthmotricladia laeensis* Matsushima | F,L,SF,W | - | - | - | + | - | + | - | - | - |
| 184 | *Jaculispora submersa* Hudson & Ingold | F,L | + | - | - | + | - | - | - | - | + |
| 185 | *Koorchalomella oryzae* Chona, Munjal & Kapoor | L | - | - | - | - | - | + | - | - | - |
| 186 | *Kumbhamaya jalapriya* Sreekala & Bhat | RE | - | - | + | - | - | - | - | - | - |
| 187 | *Laridospora appendiculata* (Anastasiou) Nawawi | F,L,W | - | - | - | + | + | + | + | - | - |
| 188 | *Latericonis obscura* Vasant Rao et al. | WD | + | - | - | - | - | - | - | - | - |
| 189 | *Lateriramulosa quadriradiata* Miura & Okano | SF | - | - | - | + | - | - | - | - | - |
| 190 | *Lateriramulosa uni-inflata* Matsus. | F,L,SF,W | + | - | - | + | + | + | - | + | - |
| 191 | *Lemonniera alabamensis* R.C. Sinclair & Morgan-Jones | L | - | - | - | - | - | - | - | - | + |
| 192 | *Lemonniera aquatica* De Wild. | F,L,SF,W | + | - | - | + | - | + | + | - | + |
| 193 | *Lemonniera centrosphaera* Marva. | F,L | + | - | - | - | - | - | - | - | + |
| 194 | *Lemonniera cornuta* Ranzoni | L,CN,RE,SF,W | - | - | - | + | - | - | - | - | + |
| 195 | *Lemonniera pseudofloscula* Dyko | F,L,CN,RE,W | - | - | - | - | - | - | - | - | + |
| 196 | *Lemonniera terrestris* Tubaki | CN,RE,SF,W | - | - | - | + | - | - | - | - | + |
| 197 | *Leptodermella incarnata* (Bres.) Hohn. | L,WD | - | - | - | + | - | - | - | - | - |
| 198 | *Lunulospora curvula* Ingold | F,L,CN,RE,SF,W,WD | + | - | - | + | + | + | + | + | + |
| 199 | *Lunulospora cymbiformis* Miura | F,L,CN,W,WD | + | - | - | + | + | - | + | - | + |
| 200 | *Magdalaenaea monogramma* G. Arnaud | F,L | - | - | - | - | - | - | - | - | + |
| 201 | *Margaritispora aquatica* Ingold | W | + | - | - | - | - | - | - | - | - |
| 202 | *Melanocephala cupilifera* Hughes | WD | + | - | - | - | - | - | - | - | - |
| 203 | *Memnoniella echinata* (Riv.) Galloway | L,WD | + | - | - | - | - | - | - | - | - |
| 204 | *Monacrosporium eudermatum* (Drechs.) Subram. | L | + | - | - | - | - | - | - | - | - |
| 205 | *M. phymatophagun* (Drechs.) Subram. | L | - | - | - | + | - | - | - | - | - |
| 206 | *Monocillium indicum* S.B. Saksena | WD | - | - | - | - | - | - | - | + | - |
| 207 | *Monodictys levis* (Wiltshire) S. Hughes | WD | - | - | - | - | - | - | - | + | - |
| 208 | *Monodictys pelagica* (T.W. Johnson) E.B.G. Jones | WD | - | - | - | - | - | - | - | + | - |
| 209 | *Monodictys putridinis* (Wallr.) S. Hughes | WD | - | - | - | + | - | - | - | + | - |
| 210 | *Mycocentrospora acerina* (Hartig) Deighton | F,L,SF | - | - | - | + | - | - | - | - | - |
| 211 | *Mycoleptodiscus laterlis* Akorn & Sutton | F | - | - | - | + | - | - | - | - | - |
| 212 | *Naidella fluitans* Marvanova & Bandoni | L | - | - | - | - | - | - | - | - | + |
| 213 | *Nawawia filiformis* (Nawawi) Marvanova | F,W,WD | - | - | - | + | + | - | - | + | - |
| 214 | *Neta angliae* Hyde and Goh | WD | - | - | - | - | - | + | - | - | - |
| 215 | *Nigrospora panici* Zimm. | L,WD | - | - | - | + | - | - | - | - | - |
| 216 | *Nigrospora sphaerica* (Sacc.) Mason | WD | - | - | - | - | - | - | - | + | - |
| 217 | *Nodulisporium rubiginosum* Pers. ex Fr. | WD | - | - | - | - | - | - | - | + | - |
| 218 | *Obstipispora chewaclensis* Sinclair & E.B.G. Jones | F,L,W | - | - | - | + | - | - | - | - | - |
| 219 | *Paecilomyces inflatus* (Burnside) Carmichael | WD | - | - | - | - | - | - | - | + | - |
| 220 | *Paecilomyces varioti* Bainier | WD | - | - | - | - | - | - | + | + | - |
| 221 | *Penicillium adametzi Zaleski* | WD | - | - | - | - | - | - | - | + | - |
| 223 | *Penicillium minio-luteum Dierckx* | WD | - | - | - | - | - | - | - | + | - |
| 224 | *Penicillium nigricans Bain. ex Thom* | L,WD | - | - | - | - | - | - | + | - | - |
| 225 | *Penicillium rubrum Stoll* | WD | - | - | - | - | - | - | - | + | - |
| 226 | *Penicillium sclerotiorum van Beyma* | WD | - | - | - | - | - | - | - | + | - |
| 227 | *Penicillium stoloniferum Thom* | WD | - | - | - | - | - | - | - | + | - |
| 228 | *Periconia saraswatipurensis Bilgrami* | L,WD | - | - | - | + | - | - | - | - | - |
| 229 | *Phaeodactylella lignicola Udaiyan* | WD | - | - | - | - | - | - | - | + | - |
| 230 | *Phaeodactylium alpiniae (Sawada) M.B. Ellis* | L.WD | - | - | - | + | - | - | - | - | - |
| 231 | *Phaeoisaria clematidis (Fuckel) Hughes* | WD | - | - | - | + | - | - | - | + | - |
| 232 | *Phaeoisaria sparsa Sutton* | L,WD | - | - | - | + | - | + | - | - | - |
| 233 | *Phaeoisariopsis griseola (Sacc.) Ferraris* | L,WD | - | - | - | + | - | - | - | - | - |
| 234 | *Phalangispora constricta Nawawi & J. Webster* | F,L,SF,W | - | - | - | + | + | + | - | - | - |
| 235 | *Phalangispora nawawii Kuthub.* | F,L | - | - | - | + | - | - | - | - | + |
| 236 | *Phialogangaliospora lignicola Udaiyan & V.S. Hosag.* | WD | - | - | - | - | - | - | - | + | - |
| 237 | *Phialophora phaeophora W. Gams* | WD | - | - | - | - | - | - | - | + | - |
| 238 | *Phialophora richardsiae (Nannf.) Conant* | WD | - | - | - | - | - | - | - | + | - |
| 239 | *Phialoselanospora elegans Udaiyan* | WD | - | - | - | - | - | - | - | + | - |
| 240 | *Phialosporotislbe setosa Bhat & Kendrick* | L,W | - | - | - | + | - | - | - | - | - |
| 241 | *Pithomyces valparadisiacus (Speg.) P.M. Kirk* | WD | - | - | - | - | - | - | + | - | - |
| 242 | *Pleiochaeta setosa (Kirchn.) Hughes* | F | - | - | - | - | - | + | - | - | - |
| 243 | *Pleurophragmium sonam Sati & Tiwari* | L,W,WD | - | - | - | - | - | - | - | - | + |
| 244 | *Pleurothecium recurvatum (Morgan) Hohn.* | WD | - | - | - | + | - | - | - | - | - |
| 245 | *Polyschema congolensis Reisinger & Kiffer* | WD | - | - | - | - | - | - | - | + | - |

**Table 1. Continued**

(F-Foam, L- leaf, CN-Conifer Needles, RE-Root Endophytes, SF-Stem Flow, W-Water, WD-Wood; AP-Andhra Pradesh, GJ-Gujarat, GO-Goa, KA-Karnataka, KE-Kerala, MP-Madhya Pradesh, MS-Maharashtra, TN-Tamil Nadu, UK-Uttarakhand).

| S.No | Name of species | Substrates | Locations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hyphomycetes | F,L,CN,RE,SF,W, WD, | AP | GJ | GO | KA | KE | MS | MP | TN | UK |
| 246 | *Pyramidospora casuarinae S. Nilsson* | F,L | - | - | - | + | - | - | + | - | - |
| 247 | *Pyramidospora constricta Singh* | F,L,W | + | - | - | + | - | - | - | - | - |
| 248 | *Pyramidospora densa Alasoadura* | F | - | - | - | - | - | - | + | - | - |
| 249 | *Pyramidospora fluminea Miura & Kudo* | F,L | - | - | - | + | - | - | - | - | - |
| 250 | *Retiarius bovicornutus Olivier* | L,SF | - | - | - | + | - | - | - | - | - |
| 256 | *Scytalidium thermophilum* (Cooney & Emers.) Austwick | WD | - | - | - | - | - | - | - | + | - |
| 257 | *Septonema secedens* Corda | L,WD | - | - | - | + | - | - | - | - | - |
| 258 | *Setosynnema isthmosporum* Shaw & Sutton | F,L,CN,W | - | - | - | - | - | - | - | - | + |
| 259 | *Spadicoides cordanoides* Goh & Hyde | WD | - | - | - | + | - | - | - | - | - |
| 260 | *Spegazzinia inetrmedia* MB Ellis | WD | - | - | - | + | - | - | - | - | - |
| 261 | *Speiropsis hyalospora* Subram. & Lodha | F,L,W | - | - | - | + | + | - | - | - | - |
| 262 | *Speiropsis pedatospora* Tubaki | F,L,SF,W | + | - | - | + | - | + | - | - | - |
| 263 | *Speiropsis scopiformis* Kuthub. & Nawawi | F,L,W | - | - | - | - | - | - | - | - | + |
| 264 | *Sporidesmium anglicum* (Grove) M.B. Ellis | WD | - | - | - | + | - | - | - | - | - |
| 265 | *Sporidesmium pedunculatum* (Peck) M.B. Ellis | WD | - | - | - | + | - | - | - | - | - |
| 266 | *Sporidesmium rubi* M.B. Ellis | WD | - | - | - | + | - | - | - | - | - |
| 267 | *Sporophiala prolifica* P. R. Rao | WD | - | - | - | + | - | - | - | - | - |
| 268 | *Sporoschisma mirabile* Berk. & Br. | L,WD | - | - | - | + | - | - | - | - | - |
| 269 | *Sporoschisma saccadoi* E.W. Mason & S. Hughes | WD | - | - | - | + | - | - | - | - | - |
| 270 | *Sporoschisma uniseptatum* Bhat & W.B. Kendr. | WD | - | - | - | + | - | - | - | - | - |
| 271 | *Sporoschisma nigroseptatum* D. Rao & P. Rag. Rao | WD | - | - | - | + | - | - | - | - | - |
| 272 | *Sporoschismopsis australiensis* Goh & K.D. Hyde | WD | - | - | - | + | - | - | - | - | - |
| 273 | *Sporotrichum lignicola* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 274 | *Sporotrichum pruinosum* J.C. Gilman & E.V. Abbott | WD | - | - | - | - | - | - | - | + | - |
| 275 | *Stachybotrys ramosa* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 276 | *Stachylidium bicolor* Link | F,WD | - | - | - | - | - | + | - | - | - |
| 277 | *Stemphyliomma terricola* Manohar. & P. Rama Rao | WD | - | - | - | - | - | - | + | - | - |
| 278 | *Subulispora procurvata* Tubaki | F,L | - | - | - | + | - | - | - | - | - |
| 279 | *Synnematophora constricta* Sridhar & Kaveriappa | L,SF | - | - | - | + | - | - | - | - | - |
| 280 | *Tetracladium apiense* Sinclair & Eicker | F,L,W | - | - | - | - | - | - | - | - | + |
| 281 | *Tetrachaetum elegans* Ingold | F,L,CN,SF,W | + | - | - | - | - | + | - | - | + |
| 282 | *Tetracladium breve* Roldan | L | - | - | - | - | - | - | - | - | + |
| 283 | *Tetracladium fercutum* Descals | RE | - | - | - | - | - | - | - | - | + |
| 284 | *Tetracladium marchalianum* De Wildeman | F,L,CN,RE,W | + | - | - | + | - | + | + | - | + |
| 285 | *Tetracladium maxilliforme* (Rostrup) Ingold | L | - | - | - | - | - | - | - | - | + |
| 286 | *Tetracladium nainitalensis* Sati & Arya | RE | - | - | - | - | - | - | - | - | + |
| 287 | *Tetracladium setigerum* (Grove) Ingold | F,L,RE,W | + | - | - | + | - | + | - | - | + |
| 288 | *Tetraploa aristata* Berk. & Br. | F,L | + | - | - | + | - | + | + | + | - |
| 289 | *Thermomyces lanuginosus* Tsikl. | WD | - | - | - | - | - | - | - | + | - |
| 290 | *Thielaviopsis paradoxa* (Dade) C. Moreau | WD | - | - | - | + | - | - | - | - | - |
| 291 | *Titaea clarkeae* Ellis & Everh. | SF | - | - | - | + | - | - | - | - | - |
| 292 | *Titaea ornithomorphora* Trotter | F | - | - | | - | - | - | - | - | + |
| 293 | *Titaeella conophila* Arnaud ex Ando & Tubaki | SF | - | - | - | + | - | - | - | - | - |
| 294 | *Torula caligans* (Batista & Upadhyay) M.B. Ellis | WD | - | - | - | - | - | - | - | + | - |
| 295 | *Torula herbarum* (Pers.) Link ex Fries | L,WD | - | - | - | - | - | - | + | + | - |
| 296 | *Tricellula aquatica* Webster | F | + | - | - | - | - | - | - | - | - |
| 297 | *Trichocladium angelicum* Roldon & Honruba | L,WD | - | - | - | - | - | + | - | - | - |
| 298 | *Trichocladium englanese* Hyde & Goh | WD | - | - | - | - | - | + | - | - | - |
| 299 | *Trichocladium heptasporum* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 300 | *Trichocladium opacum* (Corda) S. Hughes | WD | - | - | - | + | - | - | - | - | - |
| 301 | *Trichoderma deliquescens* (Sopp) Jaklitsch | WD | - | - | - | + | - | - | - | + | - |
| 302 | *Trichoderma koningii* Oudem | WD | - | - | - | - | - | - | - | + | - |
| 303 | *Trichoderma piluliferum* J. Webster & Rifal | WD | - | - | - | - | - | - | - | + | - |
| 304 | *Trichoderma pseudokoningi* Rifal | WD | - | - | - | - | - | - | - | + | - |
| 305 | *Trichoderma virens* (J.H. Mill. Et al.) Arx | WD | - | - | - | - | - | - | - | + | - |
| 306 | *Trichoderma viride* Pers. ex Fr. | L,WD | - | - | - | - | - | - | + | + | - |
| 307 | *Tricladiomyses malaysianum* (Nawawi) Nawawi | L,SF | - | - | - | + | - | - | - | - | - |
| 308 | *Tricladiopsis flagelliformis* Descals | F,L | - | - | - | - | - | - | - | - | + |
| 309 | *Tricladiospora brunnea* (Nawawi) Nawawi & Kuthub. | F,L | - | - | - | + | - | - | - | - | - |
| 310 | *Tricladium aciculam* Nawawi | F,L | - | - | - | - | - | - | - | - | + |
| 311 | *Tricladium angulatum* Ingold | F,L,W | - | - | - | + | - | + | - | - | + |
| 312 | *Tricladium annomalus* Ingold | F | - | - | - | - | - | - | - | - | + |
| 313 | *Tricladium chaetocladium* Ingold | CN,W | - | - | - | - | - | - | - | - | + |
| 314 | *Tricladium indicum* Sati & Tiwari | F,CN | - | - | - | - | - | - | - | - | + |
| 315 | *Tricladium fuscum* Nawawi | W | - | - | - | + | - | - | - | - | - |
| 316 | *Tricladium splendens* Ingold | F,L,CN,SF,W | + | - | - | + | - | + | + | - | + |
| 317 | *Tricladium terrestre* Park | CN | - | - | - | - | - | - | - | - | + |
| 318 | *Trinacrium incurvum* Matsush. | F,L | - | - | - | - | - | - | - | - | + |
| 319 | *Trinacrium indica* Soosam. et al. | L | - | - | - | + | - | - | - | - | - |
| 320 | *Trinacrium robustum* Tzean & Chen | L,SF | - | - | - | + | - | - | - | - | - |

**Table 1. Continued**

(F-Foam, L- leaf, CN-Conifer Needles, RE-Root Endophytes, SF-Stem Flow, W-Water, WD-Wood; AP-Andhra Pradesh, GJ-Gujarat, GO-Goa, KA-Karnataka, KE-Kerala, MP-Madhya Pradesh, MS-Maharashtra, TN-Tamil Nadu, UK-Uttarakhand).

| S.No. | Name of species | Substrates | Locations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hyphomycetes | F,L,CN,RE,SF,W, WD | AP | GJ | GO | KA | KE | MS | MP | TN | UK |
| 321 | *Trinacrium subtile* Riess | L,SF | - | - | - | + | - | - | - | - | - |
| 322 | *Tripospermum camelopardus* Ingold, Dann & McDougall | F | - | - | - | + | - | - | - | + | - |
| 323 | *Tripospermum inflacatum* Ando & Tubaki | L | - | - | - | + | - | - | - | - | - |
| 324 | *Tripospermum myrti* (Linder) Hughes | F,L,SF,W | - | - | - | + | + | - | - | + | + |
| 325 | *Tripospermum prolongatum* Sinclair & Morgan-Jones | SF | - | - | - | + | - | - | - | - | - |
| 326 | *Triscelophorus konajensis* Sridhar & Kaveriappa | F,L,SF,W,WD | - | - | - | + | - | + | - | - | + |
| 327 | *Triscelophorus monosporus* Ingold | F,L,CN,SF,W,WD | + | - | - | + | + | + | + | + | + |
| 328 | *Trisulcosporium acerium* H.J. Hudson & B. Sutton | SF,W | + | - | - | + | - | - | - | - | - |
| 329 | *Tumularia aquatica* (Ingold) Descals & Marvanova | F,W | + | - | - | + | - | - | + | - | - |
| 330 | *Tumularia tuberculata* (Gonczol) Descals & Marvan. | SF | - | - | - | + | - | - | - | - | - |
| 331 | *Vanrija aquatica* (Jones & Slooff) Moore | SF | - | - | - | + | - | - | - | - | - |
| 332 | *Varicosporium elodeae* W. Kegel | F,L,SF,W | + | - | - | + | - | - | - | - | - |
| 333 | *Varicosporium helicosporium* Nawawi | F,L | - | - | - | - | - | - | + | - | - |
| 334 | *Varicosporium scoparium* Roldon & Honrubia | F | - | - | - | - | - | + | - | - | - |
| 335 | *Varrucispora proteacearum* Shaw & Alcorn | L,WD | - | - | - | + | - | - | - | - | - |
| 336 | *Vermispora cauveriana* Rajashekhar et al. | F,L | - | - | - | + | - | - | - | - | - |
| 337 | *Veronaea caricis* M.B. Ellis | WD | - | - | - | + | - | - | - | - | - |
| 338 | *Veronaea botryose* Cif. & Montenart. | WD | - | - | - | - | - | - | - | + | - |
| 339 | *Wiesneriomyces laurinus* (Tassi) P. M. Kirk | F,L,W,WD | + | + | - | + | - | + | + | - | - |
| 340 | *Xylomyces elegans* Goh et al. | WD | - | - | - | - | - | + | - | - | - |
| 341 | *Xylomyces pucillus* Goh et al. | WD | - | - | | - | - | + | - | - | - |
| 342 | *Ypsilina graminea* (Ingold et al.) Descals et al. | L,SF | - | - | - | + | - | - | - | - | - |
| 343 | *Zalerion thermophilii* Udaiyan | WD | - | - | - | - | - | - | - | + | - |
| 344 | *Alveophoma cabelleroi* Bausa Alclade | L,WD | - | - | - | + | - | - | - | - | - |
| 345 | *Ascochyta vulgaris* Kab. & Bub. | WD | - | - | - | - | - | - | - | + | - |
| 346 | *Chaetospermum carneum* Tassi | F,L,WD | + | - | - | - | - | + | + | - | - |
| 347 | *Chaetospermum chaetosporum* (Pat.) Smith & Ramsb. | F,L,WD | - | - | - | + | - | + | - | - | - |
| 348 | *Chaetospermum indicum* Talde | L | - | - | - | - | - | + | - | - | - |
| 349 | *Coeloanguillospora appalanchiensis* Dyko & Sutton | WD | - | - | - | - | - | - | - | + | - |
| 350 | *Coniothyrium obiones* Japp | L,WD | - | - | - | + | - | - | - | - | - |
| 351 | *Lasiodiplodia theobromae* (Pat.) Griff. & Maubl. | WD | - | - | - | - | - | - | - | + | - |
| 352 | *Leptodermella incarnata* (Bres.) Hohn. | L,WD | - | - | - | + | - | - | - | - | - |
| 353 | *Perizomella inquinans* H. Syd. | L,WD | - | - | - | + | - | - | - | - | - |
| 354 | *Pestalotia submersus* Sati & Tiwari | L,CN,RE,W | - | - | - | - | - | - | - | - | + |
| 355 | *Pestalotiopsis aquatica* (Ellis & Everh.) Steyaert | WD | - | - | - | + | - | - | - | - | - |
| 356 | *Phoma capitulam* Pawar et al. | L | - | - | - | + | - | - | - | - | - |
| 357 | *Phoma glomerata* (Corda) Wr. & Hochapfel | WD | - | - | - | - | - | - | - | + | - |
| 358 | *Pseudorobillarda phragmitis* (Cunnell) M. Morelet | F | - | - | - | + | - | - | - | - | - |
| 359 | *Robillarda sessilis* (Sacc.) Sacc. | F | + | - | - | - | - | - | - | - | - |
| 360 | *Septoria bombusae* Brunaud | L,WD | - | - | - | + | - | - | - | - | - |
| 361 | *Stagonospora vitensis* Unam | L,WD | - | - | - | + | - | - | - | - | - |
| 362 | *Subplenodomus apiicola* (Kleb.) Gruyter at al. | WD | - | - | - | + | - | - | - | - | - |

**(F-Foam, L- leaf, CN-Conifer Needles, RE-Root Endophytes, SF-Stem Flow, W-Water, WD-Wood; AP-Andhra Pradesh, GJ-Gujarat, GO-Goa, KA-Karnataka, KE-Kerala, MP-Madhya Pradesh, MS-Maharashtra, TN-Tamil Nadu, UK-Uttarakhand).**

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