Current Research in Environmental & Applied Mycology 5 (4): 285–306 (2015) ISSN 2229-2225

www.creamjournal.org **Article** CREAM

Online Edition

Doi 10.5943/cream/5/4/1

A preliminary checklist of fungi of Gujarat State, India

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Rajput KS, Koyani RD, Patel HP, Vasava AM, Patel RS, Patel AD, Singh AP 2015 – Preliminary checklist of fungi of Gujarat State, India. Current Research in Environmental & Applied Mycology 5(4), 285–306, Doi 10.5943/cream/5/4/1

Abstract

The state of Gujarat is well known for its contrasting ecoregions such as moist deciduous forests and deserts. This paper deals with the documentation of fungi of Gujarat state. Field studies are carried out since 2007 in different parts of Gujarat to study the wood rot fungi that destroy wood logs in different forests. During these studies we noticed a great lacuna in documented record of fungi occurring in Gujarat. Here we provide, for the first time, a literature-based preliminary checklist of the fungi occurring in the state that is supplemented with our original field work and observations. It includes 334 species of 158 genera belonging to 78 families, which are further categorized into: Ascomycota (59 genera), Basidiomycota (85 genera), Chytridiomycota (2 genera), Oomycota (3 genera), "Zygomycota" (4 genera) and Myxomycota (5 genera). Our extensive field work from January 2014 to January 2015 resulted in the collection of 98 fungal species out of which 22 species are new record for Gujarat.

Key words – Biodiversity – mycobiota – species list – taxonomy

Introduction

Fungi are one of the important groups of saprophytes that play a fundamental role in the forest ecosystem by recycling carbon stored in the form of complex organic matter (Fazio et al. 2010, Sanghvi et al. 2013, Koyani & Rajput 2014). They are also important biotechnological tools used in the production of various enzymes and secondary metabolites. They are utilised for biological control of various pests, in paper and pulp industry as well as in the process of bioremediation of xenobiotic compounds (Salvachúa et al. 2011, Koyani et al. 2013, 2014, Lee et al. 2015). Considering the economic aspects and the significant role, which fungi are going to play in near future, several countries are working hard for documentation of fungal biodiversity and are screening them for various products for the economic growth of the country (Mueller et al. 2004). Several monographs, reports, field manuals and pictorial handbooks are available for their identification. On the contrary, no such information is available on the fungal diversity of Gujarat state of India. A few sporadic reports on the occurrence of new species or fungal pathogens of agricultural crops were published by earlier workers (GEC 1996, Singh & Beena 2003, Arya et al. 2008, Saxena & Ratnthora 2009, Gajjar et al. 2011,

Submitted 30 June 2015, Accepted 19 September 2015, Published online 12 October 2015
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Kumar et al. 2011, Bhavsar et al. 2012, Nagadesi & Arya 2012, 2013, Nawal et al. 2012, Thaker & Maharsh 2012, Assudani et al. 2013, Dhingani et al. 2013, Katara et al. 2013, Khan et al. 2013, Khokhar et al. 2013, Korat et al. 2013, Nasit et al. 2013, Panchal et al. 2013, Shah et al. 2013,Yadav et al. 2013). However, no special efforts were made to document the fungal diversity of the state. Moreover, a perusal of literature indicates that most of these studies are carried out in the recent years. Among the earlier work, Gujarat Ecological Commission (GEC) has the significant contribution on this aspect and documented a list of 164 fungal species occurring in Gujarat state.

Gujarat is bounded by the Arabian Sea at the southwest and geographically located between 20° 6' N t° 24° 42' N and 68° 10'E to 74° 28' E. The total geographical area of the state comprises of land mass of 1,96,204 km^2 (75,755 sq miles) from which a little or less than 20 lakh hector of land is under forest cover which is unevenly distributed but the major concentration is found on the eastern hilly Saurashtra region. The temperature of the state ranges from 1° C to 46° C. The high variation in geophysical and climatic conditions resulted in the formation of different forest types. The rainfall received in the state varies from region to region and the northern part of the state is a desert.

Gujarat is endowed with a great diversity of natural ecosystems ranging from moist deciduous forests to pure desert conditions (Tadvi 2013). According to Champion & Seth (1968), out of the 16 different forest types seen in India, four are found in Gujarat: 1) tropical moist deciduous forest; 2) tropical dry deciduous forest; 3) northern tropical thorn forest; 4) littoral and swamp forest. Tropical moist deciduous forests occur at the southern part of the state where the most common species found is *Tectona grandis* (teak), which need the moderate rainfall. *Terminalia tomestosa* and *Anogeissus latifolia* are common associates of teak in tropical moist deciduous forests. Tropical dry deciduous forests are found in central and Saurashtra region of the state. These forests show mixed growth of trees where *Tectona grandis*, *Boswellia serrata*, *Anogeissus latifolia*, *Wrightia tinctoria*, *Euphorbia nerrifolia* and *Diospyros malanoxylon* are very common. The area is also known for Savanna type of grass lands. Northern tropical thorn forests occur commonly in Kutch, Junagadh, Rajkot and Bhavnagar Districts and are characterized by the growth of *Acacia arabica*, *Acacia nilotica*, *A. senegal*, *A. catechu*, *Acacia leucophloea*, *Capparis aphylla* and *Zizyphus mauratiana*. Some parts of Kutch, Jamnagar and Junagadh Districts have littoral swamp forests where mangroves are found. The main species found in these forests are *Avicennia marina*, *Rhizophora mucronata* and *Ceriops tagal.*

In spite of this geographic, climatic and vegetational diversity, information on the fungal diversity of the state is scanty and no comprehensive list is available for the Gujarat state. Our study is focused on exploration and documentation of fungal diversity of the state. It provides a preliminary checklist for the first time that lists 334 species based on available literature supplemented with our own data.

Materials & Methods

Material Collection

Fruiting bodies, infected plant parts, degrading litter or decaying wood samples were collected from 31 out of the 33 districts of the Gujarat state. Collected samples were packed in sterile poly ethylene bags for further study and cultivation. Collection sites included undisturbed forests, secondary forests, crop fields, bush fallows and farmers' trails. The morphological characteristic of macro-fungi and their fruiting bodies were recorded and photographed in their natural habitat with digital camera. For microscopic fungi, samples were collected and inoculated on PDA or MEA media, pure cultures were established by serial transfer. Their mycelial and spore characteristics were studied by staining with 1% aqueous solution of Congo red and mounted in 3% aqueous KOH. Photomicrographs were obtained with a Leica trinocular research microscope attached with a Leica DFC295 digital camera.

Isolation, purification and identification

For the isolation of plant pathogenic and wood rot fungi, infected samples were excised with a surgical blade or chisel and hammer and immediately packed in sterile poly ethylene bags and brought to the laboratory. After suitable trimming, they were surface sterilized by 0.1% $HgCl_2$ for 40-45 seconds, washed thoroughly with distilled water followed by 70 % ethanol for a few seconds.

Fig. 1A–D – Fungal fruiting bodies. A: *Agaricus silvaticus*, B: *Agaricus silvaticus*, C: *Coprinellus plicatilis*, D: *Podoscypha petalodes*. Figure 1A-D: Scale bar = 10 mm

Thereafter, these samples were inoculated on Potato Dextrose Agar (PDA) and Malt Extract Agar (MEA) media and incubated at 27 ^{o}C. Pure cultures were established by serial transfer and stored at 4 ^{o}C in a refrigerator.

Morphology-based taxonomic identification was carried out by using standard references. After morpho-taxonomic identification, wherever doubt existed, such cultures or fruiting bodies (in case of macro-fungus) were identified by molecular methods.

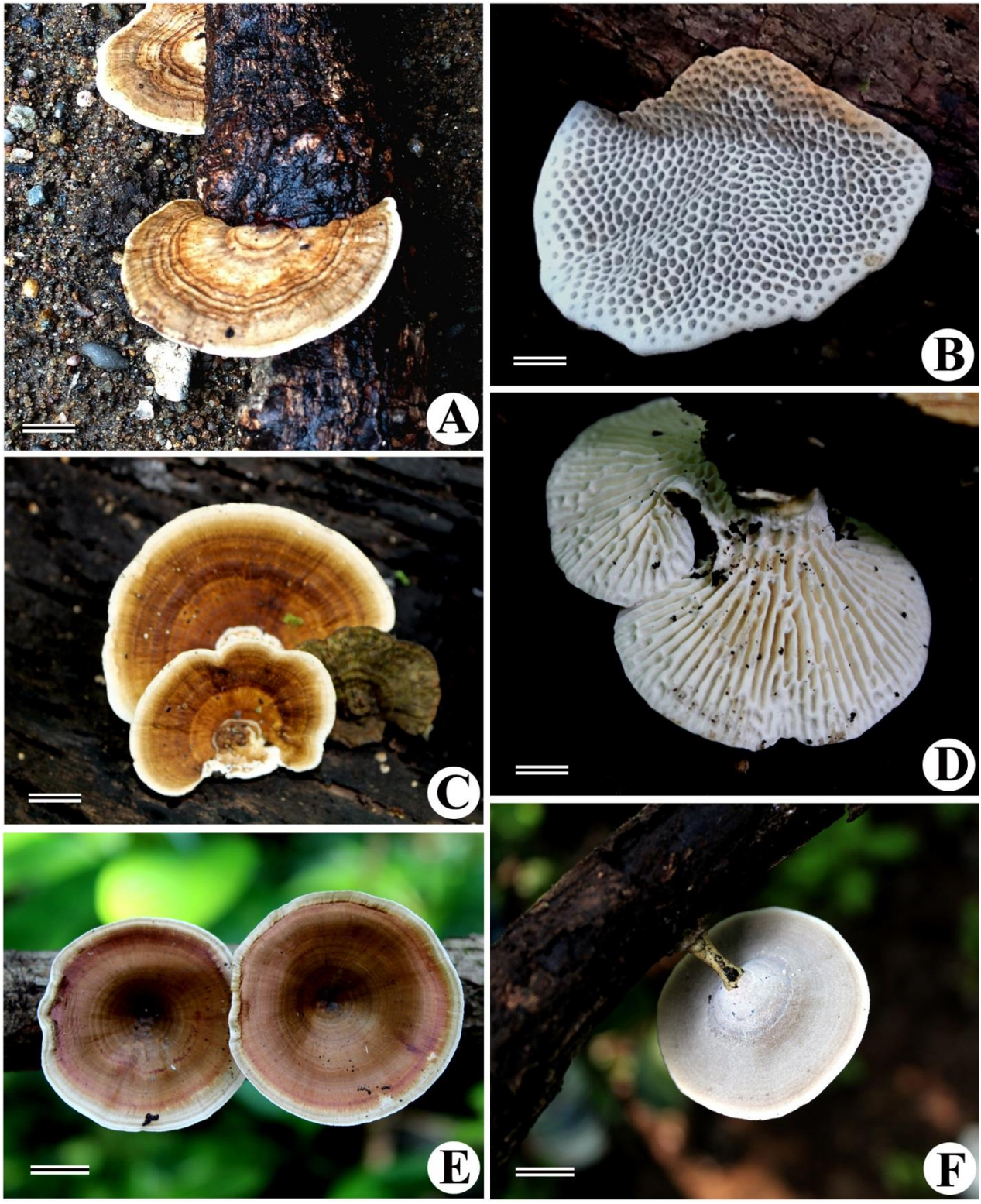

Fig. 2A–F – Fungal fruiting bodies. A: *Hexagonia nitida* (upper view), B: *Hexagonia nitida* (lower part), C: *Lenzites betulina* (upper view), D: *L. betulina* (lower view), E: *Microporus vernicipes* (upper view), F: *M. vernicipes* (lower view). Figure 2A, B, E, F: Scale bar = 10 mm, C, D: Scale bar = 5 mm.

Molecular identification

For molecular identification, genomic DNA was extracted using fresh mycelia or fruiting bodies of fungi. Extraction was carried out using a Plant/Fungi DNA isolation kit (Sigma Cat# E5038) and manually employing the procedure described by Plaza et al. (2014). PCR was carried out using 1x final

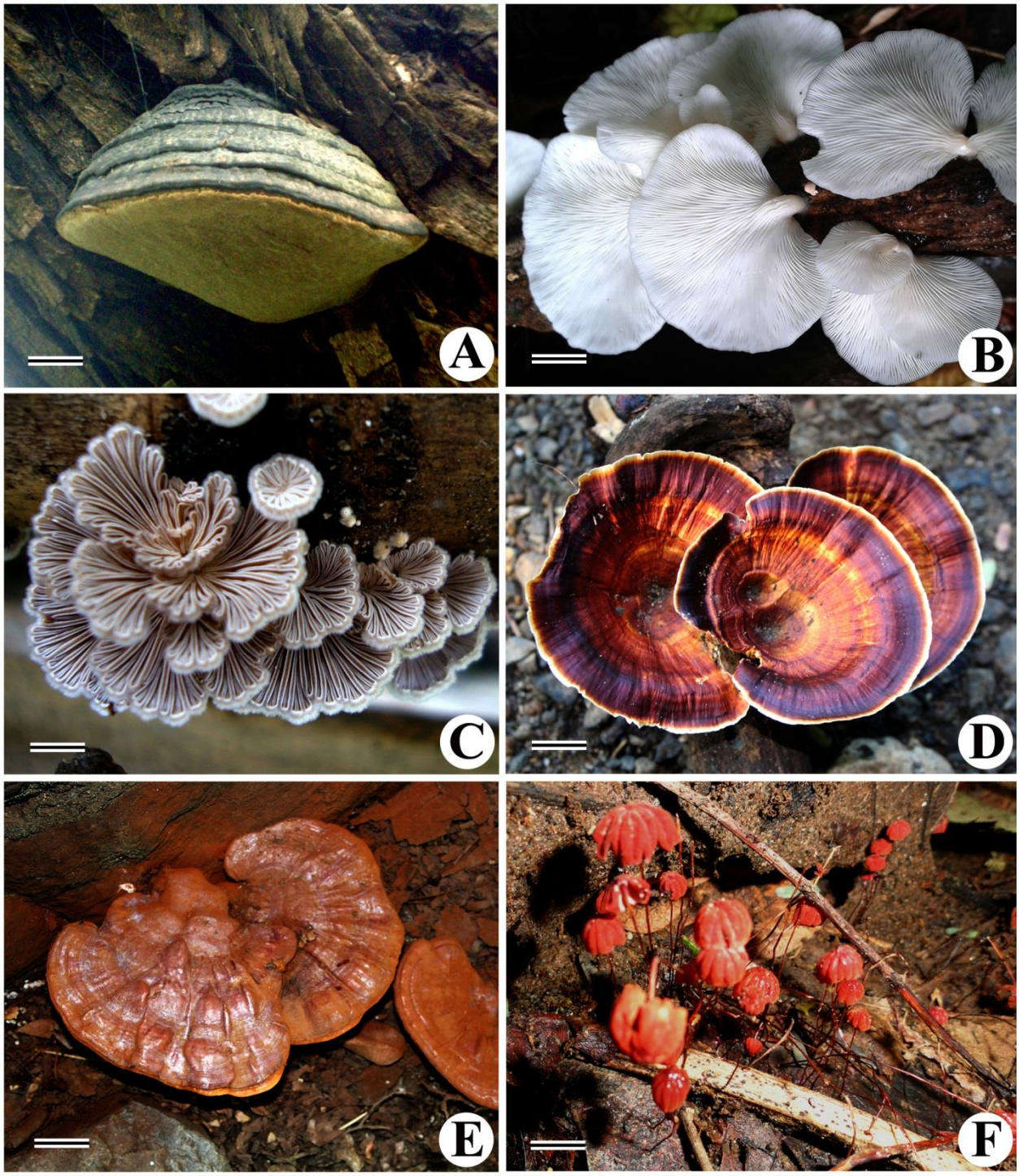

Fig. 3A–F – Fungal fruiting bodies. A: *Phellinus igniarius*, B: *Pleurotus pulmonarius*, C: *Schizophyllum commune*, D*: Microporus xanthopus*, E: *Ganoderma applanatum*, F: *Marasmius haematocephalus.* Figure 3A: Scale bar = 20 mm, B: Scale bar = 8 mm, C, D, F: Scale bar = 10 mm, E: Scale bar = 15 mm.

concentration of Ready Mix™ Taq PCR Reaction Mix (Sigma) and, template DNA (50 ng/µl). Amplification of the DNA was performed by using a Veriti® thermal cycler (Applied Biosystems, Foster City, CA, USA). The ITS region was amplified using the primers ITS 1 and ITS 4 as described by White et al. (1990). The amplified products were purified using Purelink^{TM} Quick PCR Purification kit (Cat# K310001). Purified PCR products were sent for sequencing to Eurrofins Genomics India Pvt. Ltd., Bangalore.

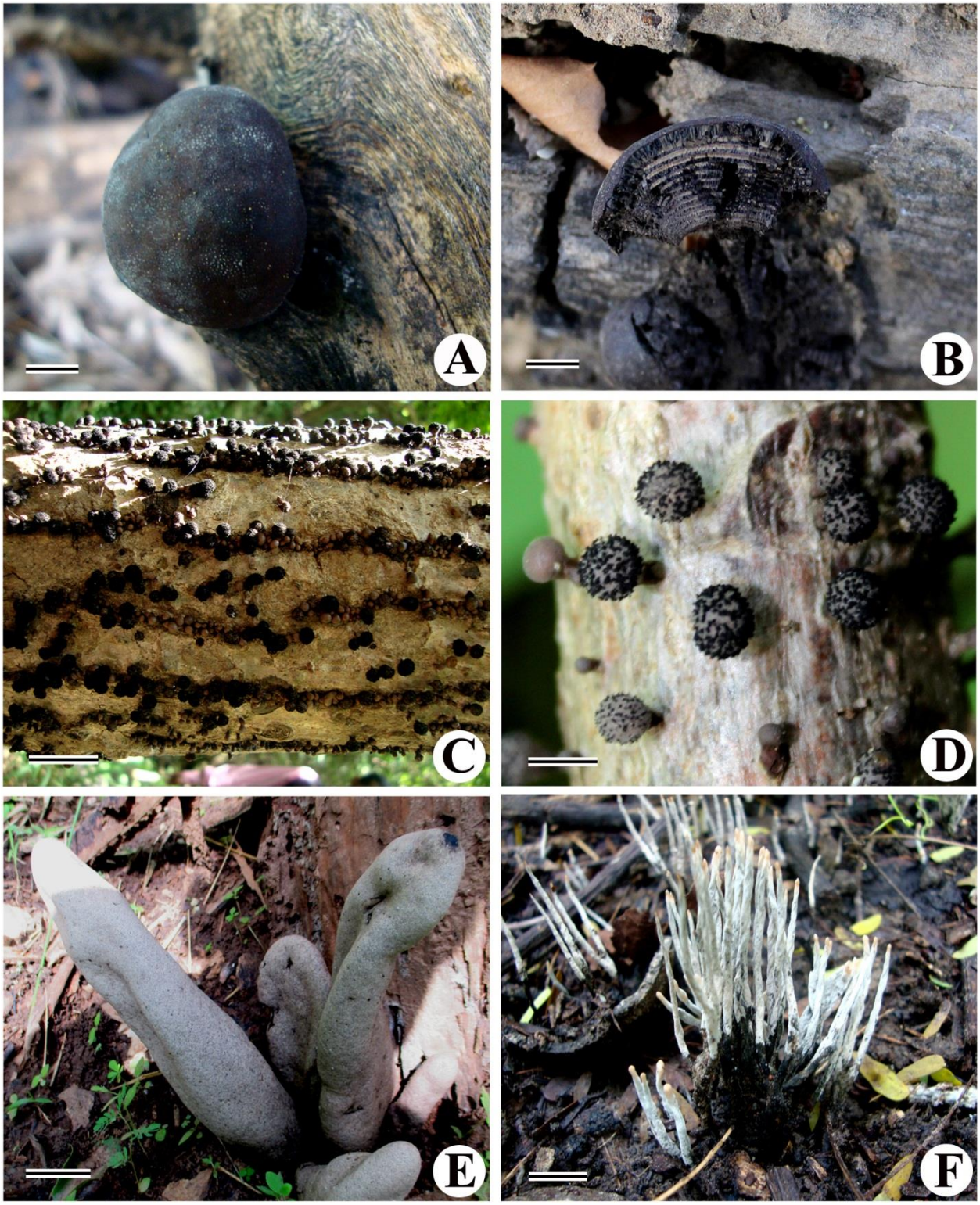

Fig. 4A–**F** – Fungal fruiting bodies. A: *Daldinia concentrica*, B: *Daldinia concentrica* (Section), C: *Hypoxylon fragiforme*, D: Enlarged view of *Hypoxylon fragiforme*, E: *Xylaria regalis*, F: *Xylaria hypoxylon*. Figure 4A, B, E, F: Scale bar = 5 mm, C, D: Scale bar = 12 mm

The generated sequences were used for BLAST search in the GenBank database (www.ncbi.nlm.nih.gov) for identification of the fungal species. Identification was done by 99% base-pair match of the sequence obtained to the closest available reference sequences. After molecular identification, characteristics of the identified fungal species were compared with the literature to further confirm the identity of our isolate.

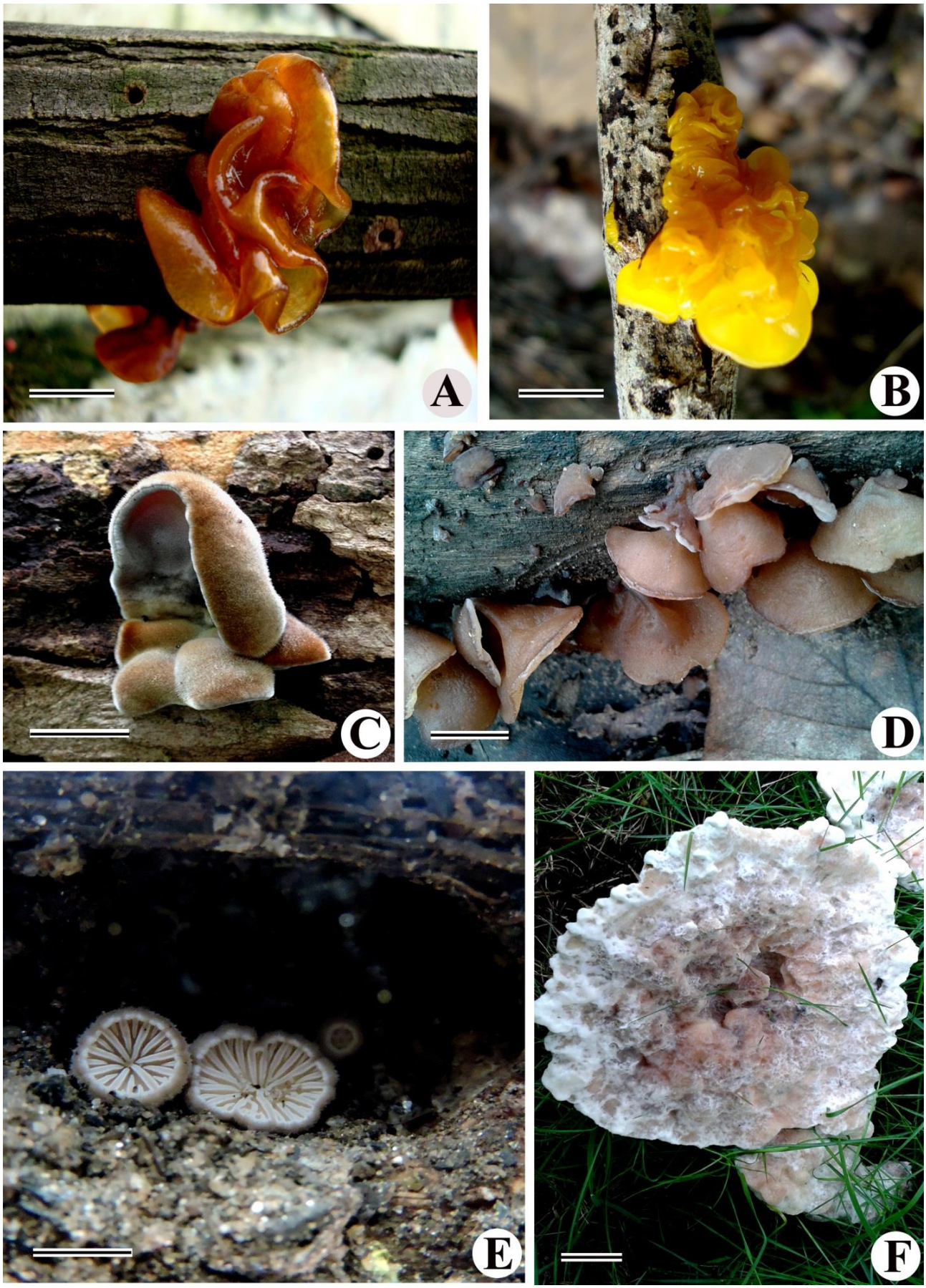

Fig. 5A–F – Fungal fruiting bodies. A: *Tremella foliacea*, B: *T. mesenterica*, C: *Auricularia polytricha*, D: *A. auricula-judae*, E: *Crepidotus fimbriatus*, F: *Amylosporus campbellii.* Figure 5A, B: Scale bar = 15 mm, C, D: Scale bar = 10 mm, E: Scale bar = 5 mm, F: Scale bar = 20 mm.

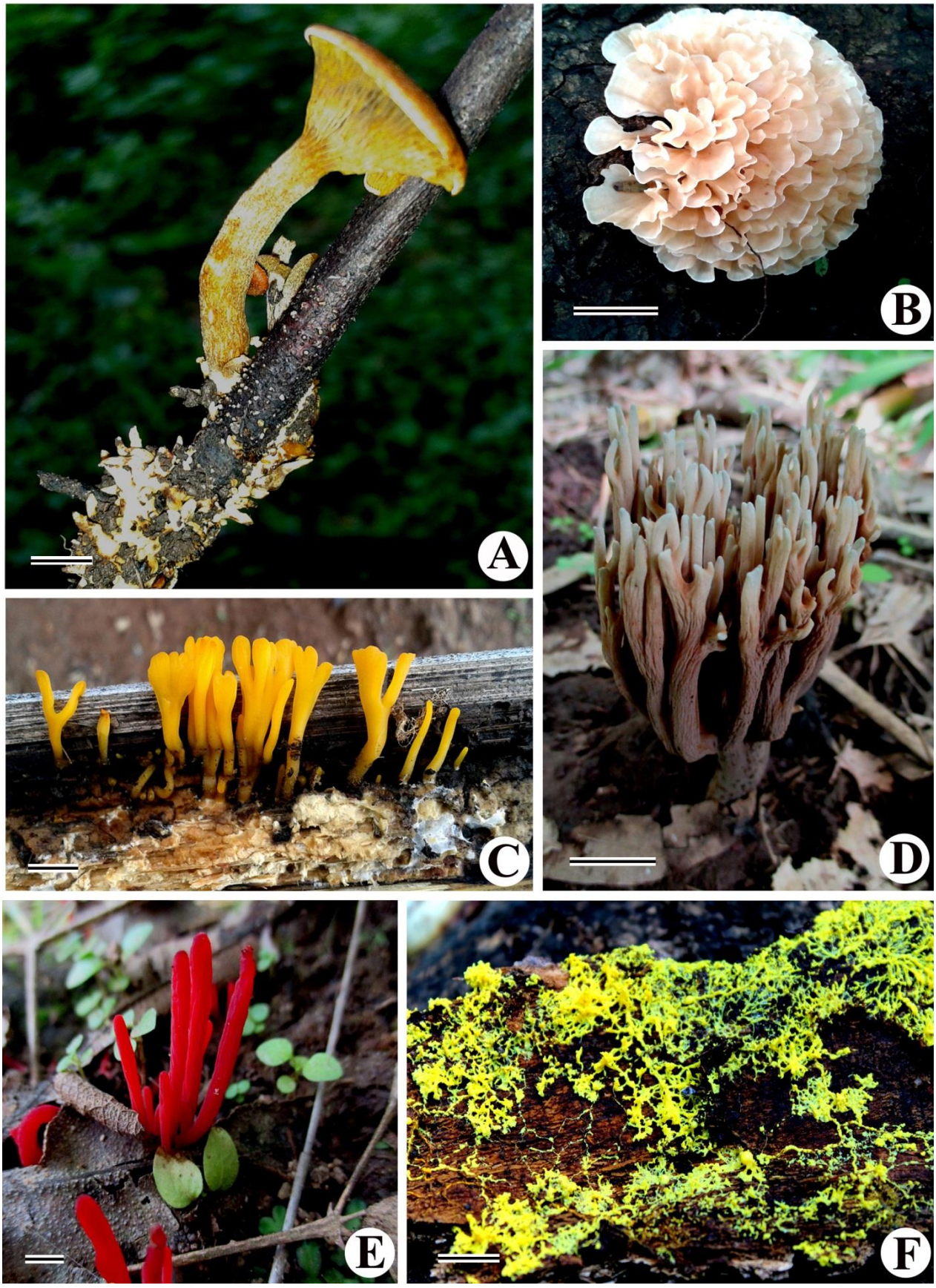

Fig. 6A–**F** – Fungal fruiting bodies. A: *Gerronema subclavatum*, B: *Sparassis crispa*, C: *Dacryopinax spathularia*, D: *Ramaria Formosa*, E: *Clavaria rosea*, F: *Physarum polycephalum*. Figure 6A, E, F: Scale bar = 10 mm, B, D: Scale bar = 20 mm, C: Scale bar = 15 mm.

Table 1 List of fungal species reported from different parts of Gujarat. Species names in bold indicate those collected in the present study while those with asterisk indicate new reports for the state. *Abbreviations*: GSBTM = Gujarat State Biotechnology Mission, GEC = Gujarat Ecological Commission.

Order	Family	Name of the species	Distribution	References
KINGDOM: PROTOZOA				
PHYLUM: MYXOMYCOTA				
Physarales	Didymiaceae			Ranade et al. 2009
		Lepidoderma effusum Rokade & Nanir	Dang, Junagadh	
		Diderma cingulatum Nann.-Bremek	Dang, Junagadh	Ranade et al. 2009
	Physaraceae	*Physarum polycephalum* Schwein **	Waghai, Baroda	
Liceales	Liceaceae			
		Licea elloriana Nanir & Rokade	Dang, Ratanmahal	Ranade et al. 2009
Stemonitales	Stemonitidaceae			
		Stemonitis fusca Roth **	Junagadh, Dang	
KINGDOM: STRAMINIPILA				
PHYLUM: OOMYCOTA				
Peronosporales	Albuginaceae			
		Albugo bliti (Biv.) Kuntz	Dang, Junagadh	GEC 1996
		Albugo candida (Pers.) Roussel	Dang, Ratanmahal	GEC 1996
		Albugo evolvuli (Damle) Safeeulla & Thirum.	Dang, Pavagadh	GEC 1996
		Albugo platensis (Speg.) Swingle	Dang	GEC 1996
		Albugo portulacae (DC.) Kuntze	Dang, Jassore	GEC 1996
	Peronosporaceae	*Sclerophthora macrospora* (Sacc.) Thirum.	Dang	GEC 1996
		Sclerospora graminicola (Sacc.) J. Schröt.	Dang	GEC 1996
KINGDOM : EUMYCOTA				
PHYLUM : ASCOMYCOTA				
Botryosphaeriales	Botryosphaeriaceae	*Botryosphaeria dothidea* (Moug.) Ces. & De Not.	Jessore, Dang	GSBTM 2013
		Lasiodiplodia crassispora T.I. Burgess & Barber	Junagadh, Thol Junagadh	GSBTM 2013
		Lasiodiplodia theobromae (Pat.) Griffon & Maubl.	Thol, Jessore, Junagadh Gandhinagar,	GSBTM-2013
		Macrophomina phaseolina (Tassi) Goid.	Rajkot, Navsari	Thaker et al. 2012; Dhibgani et al. 2013
Capnodiales	Asterinaceae	*Asterina delicatula* Syd., P. Syd. & Bal	Dang	GEC 1996
		Asterina lawsoniae Henn. & E. Nyman	Dang	GEC 1996
		Asterina spissa Syd. & P. Syd.	Dang	GEC 1996
	Capnodiaceae	*Capnodium annonae* Pat.	Dang	GEC 1996
	Davidiellaceae	*Cladosporium allicinum* (Fr.) Bensch, U. Braun & Crous	Anand	Khan et al. 2013

Order	Family	Name of the species	Distribution	References
		Cladosporium cladosporioides (Fresen.) G.A. de Vries	Kutch	GSBTM-2013
		Cladosporium herbarum (Pers.) Link	Panchmahal, Ratanmahal, Dang	Nagadesi & Arya, 2012
		Cladosporium sp.	Jessore, Polo forest	GSBTM 2013
		Cladosporium ziziphi P. Karst. & Roum.	Dang	GEC 1996
	Mycosphaerellaceae	*Cercospora arachidicola* Hori	Dang, Ratanmahal	GEC 1996
		Cercospora achyranthina Thirum. & Chupp	Dang	GEC 1996
		Passalora calotropidis (Ellis & Everh.) U. Braun	Dang	GEC 1996
		Pseudocercospora cannabina (Wakef.) Deighton	Dang, Panchmahal	GEC 1996
		Cercospora celosiae Syd.	Dang, Ratanmahal	GEC 1996
		Cercospora cocculi Syd.	Dang	GEC 1996
		Passalora concors (Casp.) U. Braun & Crous	Dang	GEC 1996
		Mycosphaerella berkeleyi W.A. Jenkins	Dang	GEC 1996
		Pseudocercospora subsessilis (Syd. & P. Syd.) Deighton	Dang	GEC 1996
		Prathigada terminaliae (Syd.) B. Sutton	Dang, Junagadh, Panchmahal	GEC 1996
		Cercospora tridacis-procumbentis Thirum. & Govindu	Dang	GEC 1996
		Pseudocercospora ziziphi (Petch) Crous & U. Braun	Dang	GEC 1996
		Cercosporella tinosporae (Lacy & Thirum.) Deighton	Dang, Ratanamahal	GEC 1996
		Septoria acanthospermi Sukapure & Thirum.	Dang	GEC 1996
		Septoria blainvilleae Sukapure & Thirum.	Dang	GEC 1996
		Septoria lactucae Pass.	Dang	GEC 1996
Diaporthales	Diaporthaceae	*Phomopsis phoenicicola* Traverso & Spessa	Ahmedabad	Gajjar et al. 2011
		Phomopsis sp.	Anand	Yadav et al. 2013
Meliolales	Meliolaceae	*Amazonia butleri* (Syd. & P. Syd.) F. Stevens	Dang	GEC 1996
		Meliola palmicola G. Winter	Dang	GEC 1996
		Meliola sp.	Dang	GEC 1996
		Meliola tamarindi Syd. & P. Syd.	Dang	GEC 1996
Microthyriales	Microthyriaceae	*Parmathyrites* sp.	Kutch	Saxena & Ranhotra 2009
Pleosporales	Pleosporaceae	*Alternaria alternata* (Fr.) Keissl.	Panchmahal, Dang	Nagadesi & Arya, 2012
		Alternaria burnsii Uppal, Patel & Kamat	Dang, Junagadh	GEC 1996
		Alternaria sp.	Anand, Kutch, Polo forest	Shah et al. 2013; Yadav et al. 2013; GSBTM 2013
		Alternaria tenuissima (Kunze) Wiltshire	Jessore, Polo forest, Patan	GSBTM 2013
		Curvularia ravenelii (M.A. Curtis ex Berk.) Manamgoda, L. Cai & K.D. Hyde	Dang	GEC 1996

Order	Family	Name of the species	Distribution	References
		Cochliobolus nodulosus Luttr.	Dang	GEC 1996
		Curvularia hawaiiensis (Bugnic. ex M.B. Ellis) Manamgoda, L. Cai & K.D. Hyde	Patan, Banaskantha	GSBTM-2013
		Curvularia intermedia	Rajkot	Thaker et al. 2012
		Curvularia lunata (Wakker) Boedijn	Panchmahal, Dang, Ratanmahal,Jessore	Nagadesi & Arya, 2012, GSBTM 2013
		Curvularia sp.	Jamnagar, Anand, Surat	Katara et al. 2013; Shah et al. 2013; Khokhar et al. 2013
		Helminthosporium sp.	Dang	GEC 1996
		Paraphoma radicina (McAlpine)	Saputara	GSBTM-2013
		Phoma multirostrata (P.N. Mathur, S.K. Menon & Thirum.) Dorenb. & Boerema	Panchmahal, Ratanmahal	Nagadesi & Arya, 2012
	Venturiaceae	*Fusicladium pongamiae*	Dang	GEC 1996
Eurotiales	Trichocomaceae	*Aspergillus awamori* Nakaz.	Panchmahal	Nagadesi and Arya, 2012.
		Aspergillus caespitosus Raper & Thom	Gandhinagar	GSBTM 2013
		Aspergillus flavus Link	Jamnagar, Surendranagar, Surat, Panchmahal, Polo forest, Jessore, Balaram, Gandhinagar	Katara et al. 2013; Assudani et al. 2013; Nasit et al. 2013; Panchal et al. 2013; Khokhar et al. 2013; Nagadesi & Arya, 2012
		Aspergillus fruticulosus Raper & Fennell	Jessore, Polo forest	GSBTM 2013
		Aspergillus fumigatus Fresen.	Jamnagar, Ahmedabad, Kutch, Panchmahal, Gandhinagar,	Katara et al. 2013; Panchal et al. 2013; Nagadesi & Arya, 2012; GSBTM-2013
		Aspergillus japonicas Saito	Gandhinagar, Balaram	GSBTM 2013
		Aspergillus lentulus Balajee & K.A. Marr	Jessore, Patan	GSBTM 2013
		Aspergillus melleus Yukawa	Jessore	GSBTM 2013
		Aspergillus multicolor Sappa	Junagadh	GSBTM 2013
		Aspergillus nomius Kurtzman, B.W. Horn & Hesselt	Godhra	GSBTM 2013
		Aspergillus brasiliensis Varga, Frisvad & Samson	Jamnagar, Surendranagar, Panchmahal, Godhra, Gandhinagar, Junagadh, Anand	Katara et al. 2013; Assudani et al. 2013; Thaker et al. 2012; Panchal et al. 2013; Nagadesi & Arya, 2012, Khan et al. 2013
		Aspergillus flavus Link	Saputara, Kutch, Polo forest, Gandhinagar	GSBTM 2013
		Aspergillus puniceus Kwon-Chung & Fennell**	Polo forest	Present study
		Aspergillus sp.	Kutch, Anand, Panchmahal, Jessore	Kumar et al. 2011; Shah et al. 2013; Yadav et al. 2013; Nagadesi & Arya, 2012; GSBTM 2013
		Aspergillus terreus Thom	Anand, Kutch, Waghai, Godhra, Polo forest	Khan et al. 2013; GSBTM 2013

Order	Family	Name of the species	Distribution	References
		Aspergillus tubingensis Mosseray	Gandhinagar	GSBTM 2013
		Aspergillus versicolor (Vuill.) Tirab.	Anand, Kutch, Gandhinagar, Patan, Jessore, Junagadh	Khan et al. 2013; GSBTM 2013
		Aspergillus quadricinctus J.L. Yuill	Gandhinagar	GSBTM 2013
		Emericella desertorum Samson & Mouch.	Jessore	GSBTM 2013
		Emericella nidulans (Eidam) Vuill.	Gandhinagar	GSBTM 2013
		Emericella qinqixianii Y. Horie, Abliz & R.Y. Li	Jessore	GSBTM 2013
		Penicillium citrinum Thom	Jessore, Pavagadh	GSBTM 2013
		Talaromyces funiculosus (Thom) Samson, N. Yilmaz, Frisvad & Seifert	Anand	Yadav et al. 2013
		Penicillium simplicissimum (Oudem.) Thom	Anand, Kutch	Khan et al. 2013,GSBTM 2013
		Penicillium oxalicum Currie & Thom	Junagadh, Rajkot, Jessore	GSBTM 2013
		Penicillium sp.	Anand, Jessore	Shah et al. 2013; GSBTM 2013
		Talaromyces purpureogenus Samson, Yilmaz, Houbraken, Spierenburg, Seifert, Peterson, Varga & Frisvad	Jessore	GSBTM 2013
		Aspergillus amstelodami Thom & Church	Kutch	GSBTM 2013
		Hamigera fusca S.W. Peterson, Jurjevic, Bills, Stchigel, Guarro & F.E. Vega	Kutch	GSBTM 2013
		Merimbla ingelheimensis (J.F.H. Beyma) Pitt	Junagadh	GSBTM 2013
Onygenales	Arthrodermataceae	*Epidermophyton floccosum* (Harz) Langeron & Miloch.	Karamsad, Surat	Singh & Beena, 2003; Bhavsar et al. 2012
		Epidermophyton sp.	Ahmedabad	Bhavsar et al. 2012
		Microsporum gypseum (E. Bodin) Guiart & Grigoraki	Ahmedabad	Nawal et al. 2012
		Microsporum sp.	Ahmedabad	Bhavsar et al. 2012
		Trichophyton mentagrophytes (C.P. Robin) Sabour	Surat, Ahmedabad, Karamsad	Bhavsar et al. 2012; Nawal et al. 2012; Singh & Beena, 2003
		Trichophyton rubrum (Castell.) Sabour	Surat, Ahmedabad, Karamsad	Bhavsar et al. 2012; Nawal et al. 2012; Singh & Beena, 2003
		*Trichophyton schoenleinii (*Lebert) Langeron & Miloch. ex Nann.	Surat, Ahmedabad	Bhavsar et al. 2012
		Trichophyton tonsurans Malmsten	Ahmedabad	Nawal et al. 2012
		Trichophyton verrucosum E. Bodin	Surat, Ahmedabad	Bhavsar et al. 2012
		Trichophyton violaceum Sabour. ex E. Bodin	Surat, Ahmedabad, Karamsad	Bhavsar et al. 2012; Nawal et al. 2012; Singh & Beena, 2003
Erysiphales	Erysiphaceae	*Erysiphe acaciae* Erikss.	Dang	GEC 1996
		Erysiphe polygoni DC.	Dang	GEC 1996
		Leveillula taurica (Lév.) G. Arnaud	Dang	GEC 1996
		Phyllactinia guttata (Wallr.) Lév.	Dang	GEC 1996
		Phyllactinia subspiralis (E.S. Salmon) Sawada	Dang	GEC 1996
		Erysiphe necator Schwein	Dang	GEC 1996

Order	Family	Name of the species	Distribution	References
Saccharomycetales	Dipodascaceae	*Geotrichum candidum* Link	Anand	Khan et al. 2013
	Saccharomycetaceae	*Candida albicans* (C.P. Robin) Berkhout	Ahmedabad	Panchal et al. 2013
		Candida sp.	Jamnagar, Surat, Ahmedabad	Katara et al. 2013; Patel et al. 2010; Bhavsar et al. 2012; Khokhar et al. 2013
		Candida tropicalis (Castell.) Berkhout	Ahmedabad, Dang	Panchal et al. 2013
Glomerellales	Glomerellaceae	*Glomerella tucumanensis* (Speg.) Arx & E. Müll.	Dang, Pavagadh,	GEC 1996
		Colletotrichum gloeosporioides (Penz.) Penz. & Sacc.	Thol, Gandhinagar	GSBTM 2013
		Colletotrichum graminicola (Ces.) G.W. Wilson	Dang, Ratanmahal	GEC 1996
		Colletotrichum sp.	Anand	Yadav et al. 2013
Hypocreales	Bionectriaceae	*Myrothecium roridum* Tode	Balaram, Jessore	GSBTM 2013
	Clavicipitaceae	*Balansia sclerotica* (Pat.) Höhn.	Dang	GEC 1996
	Hypocreaceae	*Trichoderma atroviride* P. Karst.	Patan, Gandhinagar, Junagadh,	GSBTM 2013
		Hypocrea muroiana I. Hino & Katum.	Balaram	GSBTM 2013
		Hypocrea sp.	Ahwa, Junagadh	GSBTM 2013
		Trichoderma asperellum Lieckf. & Nirenberg	Jessore, Patan, Bnaskantha	GSBTM 2013
		Trichoderma citrinoviride Bissett	Godhra, Dang	GSBTM 2013
		Trichoderma erinaceum Bissett, C.P. Kubicek & Szakács	Jessore, Junagadh, Gandhinagar	GSBTM 2013
		Trichoderma harzianum Rifai	Panchmahal, Jessore, Junagadh	Nagadesi & Arya, 2012; GSBTM 2013
		Trichoderma koningiopsis Samuels, C. Suárez & H.C. Evans	Godhra, Pavagadh, Jessore	GSBTM 2013
		Trichoderma longibrachiatum Rifai	Jessore, Junagadh, Balaram, Gandhinagar	GSBTM 2013
		Trichoderma sp.	Panchmahal, Waghai, Ahwa, Junagadh, Godhra	Nagadesi & Arya, 2012; GSBTM 2013
		Trichoderma viride Pers.	Panchmahal, Thol, Dang, Ratanmahal	Nagadesi & Arya, 2012, GSBTM 2013
		Trichoderma viridescens (A.S. Horne & H.S. Will.) Jaklitsch & Samuels	Godhra	GSBTM 2013
	Nectriaceae	*Fusarium brachygibbosum* Padwick	Thol	GSBTM 2013
		Gibberella intricans Wollenw.	Polo forest, Jessore, Saputara	GSBTM 2013
		Fusarium fujikuroi Nirenberg	Godhra	GSBTM 2013
		Fusarium incarnatum (Desm.) Sacc.	Junagadh	GSBTM 2013
		Gibberella baccata (Wallr.) Sacc.	Gandhinagar	GSBTM 2013
		Fusarium oxysporum E.F. Sm. & Swingle	Anand, Panchmahal	Khan et al. 2013; Nagadesi & Arya, 2012
		Fusarium pallidoroseum (Cooke) Sacc.	Panchmahal	Nagadesi & Arya, 2012
		Fusarium proliferatum (Matsush.) Nirenberg ex Gerlach & Nirenberg	Godhra	GSBTM 2013

Order	Family	Name of the species	Distribution	References
		Haematonectria haematococca (Berk. & Broome) Samuels & Rossman	Thol, Junagadh, Gandhinagar	GSBTM 2013
		Fusarium sp.	Rajkot, Junagadh	Katara et al. 2013; Kumar et al. 2011; Shah et al. 2013; Thaker et al. 2012; GSBTM 2013.
		Gibberella intermedia (Kuhlmann)	Godhra	GSBTM 2013
		Gliocephalotrichum simplex (J.A. Mey.) B.J. Wiley & E.G. Simmons	Junagadh	GSBTM 2013
Microascales	Ceratocystidaceae	*Ceratocystis paradoxa* (Dade) C. Moreau	Panchmahal	Nagadesi & Arya, 2012
Phyllachorales	Phyllachoraceae	*Phyllachora cynodontis* Niessl	Dang	GEC 1996
		Phyllachora yapensis (Henn.) Syd. & P. Syd.	Dang	GEC 1996
Sordariales	Chaetomiaceae	*Chaetomium atrobrunneum* L.M. Ames	Thol	GSBTM 2013
		Chaetomium brasiliense Bat. & Pontual	Thol, Kutch, Waghai, Junagadh	GSBTM 2013
		Chaetomium globosum Kunze	Panchmahal, Dang, Ratanmahal	Nagadesi & Arya, 2012
		Corynascus kuwaitiensis Z.U. Khan & Suh. Ahmad	Junagadh	GSBTM 2013
	Sordariaceae	*Neurospora sp.*	Anand	Shah et al. 2013
Taphrinales	Taphrinaceae	*Taphrina maculans* E.J. Butler	Dang	GEC 1996
		Taphrina rhomboidalis P. Syd. & E.J. Butler	Dang	GEC 1996
Trichosphaeriales	Trichospariaceae	*Nigrospora sp.*	Gandhinagar, Junagadh	GSBTM 2013
		Nigrospora sphaerica Khuskia oryzae H.J. Huds.	Junagadh	GSBTM 2013
Xylariales	Amphisphaeriaceae	*Pestalotiopsis sp.*.	Panchmahal	Nagadesi & Arya, 2012
	Diatrypaceae	*Eutypa sp.*	Polo forest, Patan	GSBTM 2013
	Xylariaceae	*Daldinia childiae* J.D. Rogers & Y.M. Ju	Panchmahal, Dang, Junagadh	Korat et al. 2013
		Daldinia eschscholzii (Ehrenb.) Rehm	Gandhinagar, Junagadh, Polo forest, Saputara	GSBTM 2013
		Hypoxylon begae Y.M. Ju & J.D. Rogers	Junagadh, Dang	GSBTM 2013
		Hypoxylon fragiforme (Pers.) J. Kickx f.	Junagadh, Rajpipla, Dang	GSBTM 2013
		Xylaria feejeensis (Berk.) Fr.	Gandhinagar, Baroda, Dang	GSBTM 2013
		Xylaria regalis Cooke	Junagadh, Dang	GSBTM 2013
		Xylaria sp.	Junagadh	GSBTM 2013
BASIDIOMYCOTA				
Agaricales	Agaricaceae	*Agaricus blazei* Murrill	Thol, Ratanmahal	GSBTM 2013
		Agaricus bisporus (J.E. Lange) Imbach	Navsari	Korat et al. 2013; GSBTM 2013
		Agaricus goossensiae Heinem.	Thol	GSBTM 2013
		Agaricus silvaticus Schaeff.**	Baroda	
		Cystolepiota oregonensis (H.V. Sm.) Vellinga	Navsari	Korat et al. 2013; GSBTM 2013
		Leucoagaricus vassiljevae E.F. Malysheva, T.Yu. Svetasheva & E.M. Bulakh	Thol	GSBTM 2013

Order	Family	Name of the species	Distribution	References
		Podaxis pistillaris (L.) Fr.	Gandhinagar, Waghai	GSBTM 2013
	Pluteaceae	*Pluteus cervinus* (Schaeff.) P. Kumm.**	Dang, Baroda	
	Cortinariaceae	*Galerina praticola* (F.H. Møller) P.D. Orton	Navasari	Korat et al. 2013
	Clavariaceae	*Clavaria rosea* Dalman **	Jambughoda, Dharampur	
	Inocybaceae	*Crepidotus fimbriatus* Hesler & A.H. Sm.**	Ratanmahal	
	Hygrophoraceae	*Hygrophorus eburneus* (Bull.) Fr.	Navsari	Korat et al. 2013
	Lycoperdaceae	*Lycoperdon pyriforme* Schaeff.	Navsari	Korat et al. 2013
		Calocybe indica Purkay. & A. Chandra	Polo forest, Waghai, Gandhinagar, Thol	GSBTM 2013
	Marasmiaceae	*Marasmius albimyceliosus* Corner	Gandhinagar.	GSBTM 2013
		*Gerronema subclavatum (*Peck) Singer ex Redhead**	Dharampur	
	Mycenaceae	*Mycena sp.*	Waghai	GSBTM 2013
	Phelloriniaceae	*Phellorinia herculeana* (Pers.) Kreisel	Gandhinagar, Junagadh	GSBTM 2013
		Hymenopellis colensoi (Dörfelt) R.H. Petersen	Navsari	Korat et al. 2013
	Pleurotaceae	*Pleurotus cornucopiae* (Paulet) Rolland	Gandhinagar,Dang	GSBTM 2013
		Pleurotus pulmonarius (Fr.) Quél.	Ahmedabad, Junagadh, Dang	GSBTM 2013
	Psathyrellaceae	*Coprinellus micaceus* (Bull.) Vilgalys, Hopple & Jacq. Johnson	Thol, Dang	GSBTM 2013
		Coprinellus xanthothrix (Romagn.) Vilgalys, Hopple & Jacq. Johnson	Gandhinagar	GSBTM 2013
		Parasola plicatilis (Curtis) Redhead, Vilgalys & Hopple**	Ratanmahal	
		Coprinopsis cinerea (Schaeff.) Redhead, Vilgalys & Moncalvo	Gandhinagar	GSBTM 2013
	Schizophyllaceae	*Schizophyllum commune* Fr.	Navsari, Ratanmahal, Jessore, Rajpipla, Gandhinagar, Junagadh, Waghai, Ahwa,	Korat et al. 2013; Nagadesi & Arya, 2012, 2013; GSBTM 2013
	Strophariaceae	*Galerina praticola* (F.H. Møller) P.D. Orton	Navsari	Korat et al. 2013
	Tricholomataceae	*Cantharellula umbonata (*J.F. Gmel.) Singer	Navsari	Korat et al. 2013
		Clitocybe bresadolana Singer	Navsari	Korat et al. 2013
		Collybia butyracea (Bull.) P. Kumm.	Navsari	Korat et al. 2013
		Neolentinus kauffmanii (A.H. Sm.) Redhead & Ginns	Polo forest	GSBTM 2013
		Macrocybe gigantea (Massee) Pegler & Lodge	Gandhinagar, Junagadh	GSBTM 2013
		Tricholosporum porphyrophyllum (S. Imai) Guzmán ex T.J. Baroni	Thol	GSBTM 2013
Atheliales	Atheliaceae	*Athelia rolfsii* (Curzi) C.C. Tu & Kimbr.	Junagadh	Kumar et al. 2013
Auriculariales	Auriculariaceae	*Auricularia cornea* Ehrenb.**	Ratanmahal, Junagadh	
		Auricularia nigricans (Fr.) Birkebak, Looney & Sánchez-García**	Junagadh, Pavgadh,Dang	

Order	Family	Name of the species	Distribution	References
Boletales	Sclerodermataceae	*Scleroderma citrinum* Pers.	Navsari	Korat et al. 2013
Gomphales	Gomphaceae	*Ramaria formosa* (Pers.) Quél.**	Jambughoda , Junagadh	
Gloeophyllales	Gloeophyllaceae	*Gloeophyllum sepiarium* (Wulfen) P. Karst.	Rajpipla	Nagadesi & Arya 2013
Hymenochaetales	Hymenochaetaceae	*Phellinus fastuosus* (Lév.) S. Ahmad	Gandhinagar, Godhra	GSBTM 2013
		Inocutis porrecta (Murrill) Baltazar	Gandhinagar	GSBTM 2013
		Phellinus badius (Cooke) G. Cunn.	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phellinus caryophylli (Racib.) G. Cunn.	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phellinus conchatus (Pers.) Quél.	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phellinus hoehnelii (Bres.) Ryvarden	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phellinus nilgheriensis (Mont.) G. Cunn.	Ratanmahal	Arya et al. 2008; Nagadesi & Arya, 2012
		Phellinus dingleyae P.K. Buchanan & Ryvarden	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phylloporia pectinata (Klotzsch) Ryvarden	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Fuscoporia rhabarbarina (Berk.) Groposo, Log.-Leite & Góes-Neto	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phylloporia ribis (Schumach.) Ryvarden	Thol	GSBTM 2013
		*Fomitiporia robusta (*P. Karst.) Fiasson & Niemelä	Vadia palace, Rajpipla, Pavagdh, Dang	Nagadesi & Arya 2013
		Fuscoporia senex (Nees & Mont.) Ghob.-Nejh.	Thol	GSBTM 2013
		Phellinus setulosu Fuscoporia wahlbergii (Fr.) T. Wagner & M. Fisch.	Vadia palace, Rajpipla	Nagadesi & Arya 2013
		Phellinus sp.	Ratanmahal	Nagadesi & Arya, 2012
Polyporales	Fomitopsidaceae	*Antrodia sitchensis* (D.V. Baxter) Gilb. & Ryvarden	Rajkot	Thaker et al. 2012
		Fomitopsis Africana Mossebo & Ryvarden	Godhra, Gandhinagar, Junagadh, Polo forest	GSBTM 2013
		Fomes meliae (Underw.) Murrill	Thol	GSBTM 2013
		Laetiporus sulphureus (Bull.) Murrill	Navsari	Korat et al. 2013
	Ganodermataceae	*Ganoderma sp.*	Gandhinagar	GSBTM 2013
		Ganoderma annulare	Gandhinagar	GSBTM 2013
		*Ganoderma australe (*Fr.) Pat.	Gandhinagar, Dang, Junagadh	GSBTM 2013
		Ganoderma orbiforme (Fr.) Ryvarden	Thol, Ratanmahal, Navsari	Korat et al. 2013; GSBTM 2013; Nagadesi & Arya; 2012,
		Ganoderma multipileum Ding Hou	Gandhinagar, Waghai, Junagadh, Polo forest, Thol	GSBTM 2013
		Ganoderma applanatum (Pers.) Pat. (1887)	Navsari, Baroda ,Dang, Junagadh	Chandulal et al.
	Meruliaceae	*Flavodon flavus* (Klotzsch) Ryvarden	Rajpipla, Ratanmahal, Godhra, Gandhinagar, Waghai, Junagadh	Nagadesi et al. 2013; Nagadesi & Arya, 2012, GSBTM 2013
		Podoscypha petalodes (Berk.) Boidin	Gandhinagar, Rajpipla	GSBTM 2013
	Polyporaceae	*Trametes versicolor* (L.) Lloyd	Navsari, Ratanmahal	Korat et al. 2013, Nagadesi & Arya, 2012

Order	Family	Name of the species	Distribution	References
		Funalia caperata (Berk.) Zmitr. & V. Malysheva	Gandhinagar, Ahwa, Junagadh	GSBTM 2013
		Funalia aspera (Jungh.) Zmitr. & V. Malysheva	Ratanmahal,Dang	Arya et al. 2008
		Daedalea flavida Lév.**	Junagadh	
		*Dichomitus squalens (*P. Karst.) D.A. Reid	Junagadh	GSBTM 2013
		Earliella scabrosa (Pers.) Gilb. & Ryvarden	Junagadh	GSBTM 2013
		Trametes apiaria (Pers.) Zmitr., Wasser & Ezhov	Ratanmahal, Vijaynagar	Arya et al. 2008; Nagadesi & Arya 2012, 2013
		Daedaleopsis nitida (Durieu & Mont.) Zmitr. & V. Malysheva**	Dharampur, Ratanmhal	
		Hexagonia tenuis Speg.	Ratanmahal, Dang	Nagadesi & Arya 2012, 2013
		Microporus vernicipes (Berk.) Kuntze	Waghai, Saputara, Junagadh	GSBTM 2013
		Microporus xanthopus (Fr.) Kuntze	Junagadh, Pavagdh	
		Microporus ochrotinctus (Berk. & M.A. Curtis) Kuntze	Gandhinagar, Junagadh	GSBTM 2013
		Navisporus floccosus (Bres.) Ryvarden	Ratanmahal	Arya et al. 2008; Nagadesi & Arya 2012, 2013
		Polyporus tricholoma Mont.	Gandhinagar, Rajpipla, Dang	GSBTM 2013
		Polyporus arcularius Rostk.**	Dangs, Ratanmahal	
		Trametes ljubarskyi Pilát	Gandhinagar	GSBTM 2013
		Lenzites betulina (L.) Fr.	Ratanmahal, Junagadh	Nagadesi & Arya, 2012
		Lenzites eximia Berk. & M.A. Curtis	Ratanmahal, Rajpipla	Nagadesi & Arya, 2012
		Lenzites stereoides (Fr.) Ryvarden	Ratanmahal, Dang	Arya et al. 2008, Nagadesi & Arya 2012, 2013,
		Lenzites sp.	Waghai, Ahwa, Saputara	GSBTM 2013
		Antrodia malicola (Berk. & M.A. Curtis) Donk	Ratanmahal	Arya et al. 2008
		Trametes lactinea (Berk.) Sacc.	Ratanmahal	Arya et al. 2008
		Trametes sp.	Ratanmahal	Nagadesi & Arya,2012
		Trametes pini (Brot.) Fr.	Ratanmahal	Nagadesi & Arya, 2012
		Trametes hirsute (Wulfen) Lloyd**	Junagadh	Present study
		Trametes versicolor (L.) Lloy,**	Junagadh	
		Trametes ljubarskyi Pilát**	Junagadh	
	Sparassidaceae	*Sparassis crispa* (Wulfen) Fr,**	Waghai	
Russulales	Auriscalpiaceae	*Lentinellus cochleatus* (Pers.) P. Karst.	Navsari	Korat et al. 2013
	Bondarzewiaceae	*Amylosporus campbellii* Berk.) Ryvarden	Gandhinagar, Junagadh	GSBTM 2013
		Bondarzewia berkeleyi (Fr.) Bondartsev & Singer	Ratanmahal	Nagadesi & Arya, 2012, 2013
Dacrymycetales	Dacrymycetaceae	*Dacryopinax spathularia* (Schwein.) G.W. Martin**	Dang, Junagadh, Ratanmahal	

Order	Family	Name of the species	Distribution	References
Doassansiales	Doassansiaceae	*Heterodoassansia hygrophilae* (Thirum.) Vánky	Dang	GSBTM 2013
Georgefischeriales	Eballistraceae	*Eballistra brachiariae (*Viégas) R. Bauer, Begerow, A. Nagler & Oberw	Dang	GSBTM 2013
Entylomatales	Entylomataceae	*Entyloma bidentis* Speg.	Dang	GEC 1996
		Eballistra oryzae (Syd. & P. Syd.) R. Bauer, Begerow, A. Nagler & Oberw.	Dang	GEC 1996
Microbotryales	Microbotryaceae	*Microbotryum emodensis* (Berk.) M. Piepenbr.	Dang	GEC 1996
		Sphacelotheca erythraeensis (Syd. & P. Syd.) G.P. Clinton	Dang	GEC 1996
		Sporisorium isachnes (Syd. & P. Syd.) Vánky	Dang	GEC 1996
		Sporisorium iseilematis (Syd., P. Syd. & E.J. Butler) Vánky	Dang	GEC 1996
		Sporisorium cruentum (J.G. Kühn) Vánky	Dang	GEC 1996
		Sporisorium sorghi Ehrenb. ex Link	Dang	GEC 1996
		Sporisorium tanglinense (Tracy & Earle) L. Guo	Dang	GEC 1996
Pucciniales	Chaconiaceae	*Acervulopsora ichnocarpi* Thirum.	Dang	GEC 1996
		Chaconia butleri (Syd. & P. Syd.) Mains	Dang	GEC 1996
		Maravalia aulica (Syd.) Y. Ono	Dang	GEC 1996
	Phakopsoraceae	*Kweilingia divina* (Syd.) Buriticá	Dang	GEC 1996
		Uredopeltis chevalieri J. Walker & R.G. Shivas	Dang	GEC 1996
		Kuehneola flacourtiae (Mundk. & Thirum.) Thirum.	Dang	GEC 1996
		Phragmidiella sp.	Kutch	Saxena & Ranhotra. 2009
	Pucciniaceae	*Puccinia cacao* McAlpine	Dang	GEC 1996
		Puccinia cynodontis Lacroix ex Desm.	Dang	GEC 1996
		Puccinia duthiae Van der Byl	Dang	GEC 1996
		Puccinia substriata Ellis & Barthol.	Dang	GEC 1996
		Puccinia prainiana Barclay	Dang	GEC 1996
		Puccinia purpurea Cooke	Dang	GEC 1996
		Puccinia ruelliae Lagerh.	Dang	GEC 1996
		Puccinia versicolor Dietel & Holw.	Dang	GEC 1996
		Puccinia wattiana Barclay	Dang	GEC 1996
		Trochodium ajrekari Gharse	Dang	GEC 1996
		Trochodium sampathense Thirum.	Dang	GEC 1996
		Uromyces appendiculatus F. Strauss	Dang	GEC 1996
		Uromyces clignyi Pat. & Har.	Dang	GEC 1996
		Uromyces hobsoni Vize	Dang	GEC 1996

Order	Family	Name of the species	Distribution	References
		Uromyces inayati Syd. & P. Syd.	Dang	GEC 1996
		Uromyces mucunae Rabenh.	Dang, Junagadh	GEC 1996
		Uromyces orientalis Syd. & P. Syd.	Dang	GEC 1996
		Uromyces setariae-italicae Yoshino	Dang	GEC 1996
	Raveneliaceae	*Hapalophragmium ponderosum* Syd, P. Syd. & E.J. Butler	Dang	GEC 1996
		Ravenelia acaciae-arabicae Mundk. & Thirum.	Dang	GEC 1996
		Ravenelia albizziae-amarae Bacc.	Dang	GEC 1996
		Ravenelia hobsoni Cooke	Dang	GEC 1996
		Ravenelia ornata Syd. & P. Syd.	Dang	GEC 1996
Tremellales	Aporpiaceae	*Elmerina dimidiata* (A. David) D.A. Reid	Ahwa	GSBTM 2013
	Tremellaceae	*Tremella foliacea* Pers.**	Dang, Junagadh	
		Tremella mesenterica Retz. **	Panchmahal, Junagadh	
Ustilaginales	Anthracoideaceae	*Anthracocystis ehrenbergii* (J.G. Kühn) McTaggart & R.G. Shivas	Dang	GEC 1996
	Glomosporiaceae	*Anthracocystis formosana* (Sawada) McTaggart & R.G. Shivas	Dang	GEC 1996
		Anthracocystis heteropogonicola (Mundk. & Thirum.) McTaggart & R.G. Shivas	Dang	GEC 1996
		Sorosporium paspali McAlpine	Dang	GEC 1996
	Ustilaginaceae	*Cintractia axicola* (Berk.) Cornu	Dang	GEC 1996
		*Melanopsichium eleusines (*Kulk.) Mundk. & Thirum.	Dang	GEC 1996
		Melanopsichium pennsylvanicum Hirschh.	Dang	GEC 1996
		Pericladium grewiae Pass.	Dang	GEC 1996
		Ustilago crameri Körn.	Dang	GEC 1996
		Ustilago cynodontis (Pass.) Henn.	Dang	GEC 1996
		Ustilago maydis (DC.) Corda	Dang	GEC 1996
		Ustilago crus-galli Tracy & Earle	Dang	GEC 1996
		Sporisorium scitamineum (Syd.) M. Piepenbr., M. Stoll & Oberw.	Dang	GEC 1996
		Ustilago sparsa Underw.	Dang	GEC 1996
CHYTRIDIOMYCOTA				
Blastocladiales	Physodermataceae	*Physoderma aeschynomenis* Thirum. & M.D. Whitehead	Dang	GEC 1996
		Physoderma echinochloae Thirum. & M.D. Whitehead	Dang	GEC 1996
		Physoderma zeae-maydis F.J.F. Shaw	Dang	GEC 1996
Chytridiales	Synchytriaceae	*Woroninella puerariae* (Henn.) Syd.	Dang	GEC 1996

Order	Family	Name of the species	Distribution	References
"ZYGOMYCOTA"				
Mucorales	Mucoraceae	*Absidia sp.*	Ratanmahal	Nagadesi & Arya, 2012
		Mucor irregularis Stchigel, Cano, Guarro & Ed. Álvarez	Polo, Waghai	GSBTM 2013
		Mucor racemosus Bull.	Ratanmahal, Dang, Jessore	Nagadesi & Arya, 2012
		Mucor sp.	Anand	Shah et al. 2013
		Rhizopus arrhizus A. Fisch.	Godhra, Ratanmahal, Dang	GSBTM 2013
		Rhizopus sp.	Ratanmahal	Nagadesi & Arya ,2012
		Rhizopus stolonifer (Ehrenb.) Vuill.	Ratanmahal, Dang	Nagadesi & Arya, 2012
		Helicocephalum sp.	Ratanmahal	Nagadesi & Arya, 2012

Result & Discussion

Table 1 list 334 species of 158 genera on the basis of available literature and our own collections (Figure 1-6) from different biogeographic regions of Gujarat. The list is arranged according to Webster and Weber (2007) except the species belonging to "Zygomycota" which is kept as a group with uncertain position. It includes 78 families comprising 59 genera of Ascomycota, 85 genera of Basidiomycota, 3 genera of Chytridiomycota, 3 genera of Oomycota, 4 genera of "Zygomycota" and 5 genera belonging to Myxomyota. A perusal of the literature indicates that most of the studies on fungal diversity of Gujarat are recent while earlier studies are very few or almost nil. Most of these studies are published in journals having restricted distribution and limited availability.

The 341 species listed here include 98 species of our own collection and 243 species from previous data. At the family level, Polyporaceae has the largest number of species (12 genera: 25 species) followed by Trichocomaceae (6 genera: 28 species) and Pucciniaceae (3 genera: 18 species). The most represented genera are *Aspergillus, Ganoderma, Microporus, Dictyophora, Flavodon, Schizophyllum, Coprinus, Daldinia, Polyporus, Xylaria* and *Auricularia.* It has to be emphasized that this list is a very preliminary one revealing only a small part of the total fungal diversity of the state.

Acknowledgements

Authors are thankful to Prof. (Dr.) K. D. Hyde (Editor in Chief) and anonymous reviewers for their critical comments on the manuscript. Financial assistance by the Gujarat Biodiversity Board is gratefully acknowledged.

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