

A first checklist of macrofungi for South Africa

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Abstract

Macrofungi are considered as organisms that form large fruiting bodies above or below the ground that are visible without the aid of a microscope. These fungi include most basidiomycetes and a small number of ascomycetes. Macrofungi have different ecological roles and uses, where some are edible, medicinal, poisonous, decomposers, saprotrophs, predators and pathogens, and they are often used for innovative biotechnological, medicinal and ecological applications. However, comprehensive checklists, and compilations on the diversity and distribution of mushrooms are lacking for South Africa, which makes regulation, conservation and inclusion in national biodiversity initiatives difficult. In this review, we compiled a checklist of macrofungi for the first time (excluding lichens). Data were compiled based on available literature in journals, books and fungorium records from the National Collection of Fungi. Even if the list is not complete due to numerous unreported species present in South Africa, it still represents an overview of the current knowledge of the macromycetes of South Africa. The list of names enables the assessment of gaps in collections and knowledge on the fungal biodiversity of South Africa, and downstream applications such as defining residency status of species. It provides a foundation for new names to be added in future towards developing a list that will be as complete as possible, and that can be used by a wide audience including scientists, authorities and the public.

Keywords

biodiversity, conservation, macrofungi, Myxomycetes, slimemolds, South Africa, species lists

Introduction

Macrofungi are fungi that form large fructifications visible without the aid of the microscope and include representatives from the *Basidiomycota* and *Ascomycota* (Roda 2010; Servi et al. 2010). Common names used to refer to these fungi include mushrooms, toadstools, cup fungi, gilled fungi, jelly fungi, coral fungi, stink fungi, bracket fungi, polypores, puffballs, earth starts, truffles, and birds nest fungi (Egbe et al. 2013) and illustrates the visibility of these fungi to the public. Ecologically, macrofungi can be grouped as saprobes, parasites and symbiotic species (for instance mycorrhiza). Most terrestrial macrofungi are saprobes or mycorrhizal symbionts, but some are pathogens of plants or fungi, while those fruiting on woody substrates are usually either saprobes or plant pathogens (Mueller et al. 2007; Maria and Tzenka 2014).

Many macrofungi are edible and rich sources of carbohydrates, proteins, vitamins, and minerals for humans (Ananbeh 2003; Genççelep et al. 2009). They can be naturally harvested or cultivated commercially. For rural communities they serve as a source of protein and income, especially for women. Macrofungi have great bio-exploitation potential in medicine or industry such as in the production of penicillin, lovastatin, and other globally significant medicines, and they remain an untapped resource with enormous industrial potential (Hyde et al. 2019). Mushrooms and other types of macrofungi can grow on decayed organic matters rich in lignin, cellulose, and other complicated carbohydrates, breaking them down for other uses or for bioremediation purposes (Kulshrestha et al. 2014). Modern pharmacological research confirms that large parts of traditional knowledge regarding the medicinal effects of macrofungi are due to proven antifungal, antibacterial, antioxidant, antiviral or other medicinal properties, besides being used as functional foods (Wani et al. 2010). For instance, some of the best known substances present in fungi showing pharmacological properties (especially anticancer and immunological) are polysaccharides (Wasser 2002; Mordali et al. 2007; Zhang et al. 2007; Hyde et al. 2019). Polysaccharides or polysaccharide-protein complexes present in fungi have gained the attention of researchers because it is believed that they can inhibit tumor growth and boost the immune system of the organism. They can enhance host defensive potential or represent biological response modifiers (Leung et al. 2006; Mordali et al. 2007). However, regulation of fungal bio-exploration and research in South Africa is hampered by the absence of biodiversity knowledge.

The fruiting bodies of slime molds or myxomycetes are occasionally observed together with those of macrofungi. The first species was described in 1654 by naturalist Thomas Panckow, who thought it was a species of fungi because of its resemblance to puffballs (Martin and Alexopoulos 1969). Slime molds have two major stages in their lifecycles: a mobile trophic (feeding) and a static fruiting body (reproductive) stage. Modern classifications place them in the Mycetozoan group of Amoebozoa (Baudalf 2008; Fiore-Donno et al. 2010). As bacterivores, slime molds are major components of decomposition and nutrient cycles where they enhance release of nutrients tied up in the microbial biomass (Stephenson and Feest 2015). It is estimated that myxomycete

amoebas alone represent more than 50% of the total amoebae for some agricultural soils (Feest and Campbell 1986). Recent studies suggest that more attention should be placed on the use of slime molds as indicators of soil quality.

A small percentage of the 2.2 to 3.8 million species of fungi estimated in the world are currently described and these are mostly in temperate regions (Hawksworth and Lücking 2017). The tropical regions with the highest fungal diversity have not been fully explored (Hawksworth 2001). The reasons for this disparity, even in First World countries, are taxonomic obstacles that are worsened by a paucity of trained mycologists and especially systematists. The low number of published, rigorous, long-term studies on fungal biodiversity also prevents conclusive answers (Mueller et al. 2007). Not even basic questions, such as those related to the number of macrofungal or slime mold species at a specific location, or whether such diversity is greater in one type of forest than in another, can often be answered.

Despite the importance of macrofungi, information on their diversity is scanty, especially in Africa (Osarenkhoe et al. 2014). Thus, due to the lack of human capacities, national monographs of biodiversity in many African countries rarely encompass fungi. This leads to an unfortunate bias in the complete assessment of biodiversity, the unawareness by the public and decision makers of fungi as important components of ecosystem functioning, and frustration from end users at the lack of information (Gryzenhout et al. 2012). Regulation of fungal natural resources and quarantine is thus severely impeded by the lack of lists and information readily available. Not surprisingly, the fungal biodiversity in southern Africa has been relatively poorly studied to date, and no host has been thoroughly treated (Crous et al. 2006; Gryzenhout et al. 2010, 2012). A working checklist will be greatly beneficial to illustrate strengths and gaps in our fungal biodiversity knowledge in South Africa, and will be useful for regulatory authorities.

To address the lack of basic information for macrofungi in South Africa, the aim of this review was to compile a macrofungal and slime mold names list based on current knowledge and resources. We defined macrofungi as having spore-bearing structures visible to the naked eye (mushrooms, brackets, puffballs, false-truffles, cup fungi, etc.). Since slime molds are also readily observed by the public and perceived as fungi (although they do not reside in the kingdom of Fungi), known slime molds from South Africa were also included. Lichens (structures formed by fungi living in close association with algae and cyanobacteria) were excluded from this review because they represent another ill-studied group without solid supportive capacity, but lichen species should be added in future.

Materials and methods

The species list was compiled from journal and book publications, and national fungorium records. It is not based on field observations. It is hosted on the website www.themycologyblog.com, which is live and can continuously be refined, expanded and

updated. The species list is incorporated by the online resource Cybertruffle's Robigalia (<http://www.cybertruffle.org.uk/>) and the database of the National Collection of Fungi of South Africa ([http://www.arc.agric.za/arc-ppri/Pages/Biosystematics/Mycology%20Unit%20\(Fungi\)/Mycology-National-Collection-of-Fungi.aspx](http://www.arc.agric.za/arc-ppri/Pages/Biosystematics/Mycology%20Unit%20(Fungi)/Mycology-National-Collection-of-Fungi.aspx)).

Results

The macrofungal checklist compiled in this review (Table 1) presents the first national list for macrofungi and slime molds in South Africa. It includes macrofungal and slime mold species names from previous field guides, other publications, as well as names obtained from the National Collection of Fungi's PREM fungorium (based on 3597 records), hosted by the Plant Health and Protection (<http://www.arc.agric.za/arc-ppri/Pages/ARC-PPRI-Homepage>), Agricultural Research Council, South Africa (Table 1). Myxomycete records include 107 species. In total, the South African checklist presented here includes 1160 species, 307 genera and 95 families.

The Basidiomycota consisted of 1008 species, 251 genera and 72 families. At the class level, the Agaricomycetes had the highest number (Fig. 1) of species (992), genera (242), and families (68) hosting 86% of the total number of species of macrofungi. The largest order was represented by the Agaricales (504 species) followed by the Polyporales (251 species), Boletales (50 species), Russulales (49 species) and Geastrales (33 species). The smallest orders were the Gloeophyllales and Gomphales with only two species. The largest family was the Agaricaceae (180 species) followed by the Polyporaceae (172 species). Orders with only two species were the Gloeophyllales and Gomphales, while the Thelephorales had four, and the Tremmelales 6 species.

The Ascomycota was represented by 44 species distributed among 20 genera and 10 families. The Pezizomycetes had 34 species, Sordariomycetes 9 species and the Leotiomycetes one species (Table 1). However, the total number of species in these groups are biased in this study to include only those that can be considered as a macrofungus. One member of the Mucorales (*Pilobolus crystallinus*, Mucoromycota) was also included (Table 1).

More than hundred slime molds have been recorded from South Africa based on the list (Table 1, Fig. 1), with the Physarales (Myxomycota) having the most species (57 species). The 107 names of slime molds contributed originated from published and unpublished sources (Duthie 1917a, b; Doidge 1950; Ndiritu et. al. 2009; Ndiritu and De Haan 2017; Winset KE unpubl. data). Only accepted taxonomic names following the nomenclatural criteria proposed by Lado (2005–2018), which is recognized by the Encyclopedia of Life under Species 2000 and ITIS Catalogue of Life (<http://eol.org/>), were used. All of the five orders of myxomycetes are present in South Africa, and include the Echinosteliales (represented by one family and one genus), Liceales (four families and six genera), Physarales (two families and three genera), Stemonitales (one family and seven genera) and Trichiales (two families and seven genera). The Protosteliales (Protostelids), a sixth order though not generally regarded

Table 1. Checklist of macrofungi and myxomycetes from South Africa.

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Ascomycota	Leotiomycetes	Helotiales	Chlorociboriaceae	<i>Chlorociboria</i>	<i>aeruginosa</i>	(Nyl.) Kanouse ex C.S. Ramamurthi, Korf & L.R. Barr		Yes	
		Peziomycetes	Pezizales	Helvellaceae	<i>Peziza</i> <i>Helvella</i>	<i>leucomelas</i> <i>crispa</i>	(Pers.) Kuntze (Scop.) Fr.		Yes Yes	
				Morchellaceae	<i>Morchella</i>	<i>lacunosa</i> <i>conica</i> <i>edata</i> <i>hybrida</i>	Afzel. Krombh. Fr. Fr.	PREM PREM	Yes Yes	
				Pezizaceae	<i>Kalohariturber</i> <i>Peziza</i>	<i>amimophila</i> <i>dehntii</i> <i>lorensis</i> <i>macropus</i> <i>nigberrensis</i> <i>ostracodermia</i> <i>repanda</i> <i>sibestrus</i> <i>spissa</i> <i>subrepanda</i> <i>vesiculosa</i> <i>pineti</i>	(Henn.) Trappe & Kagan-Zur Saut. Rabenh. P. Crouan & H. Crouan Schumach. Cooke Korf Pers. (Boud.) Sacc. & Traverso Berk. Cooke & W. Phillips Bull. (Batsch) Fuckel	PREM PREM PREM PREM PREM PREM PREM PREM PREM PREM PREM	Yes Yes	
					<i>Pseudohelotium</i> <i>Tetfezia</i>	<i>astroafricana</i> <i>boudieri</i>	Marasas & Trappe Chatin	PREM PREM	Yes Yes	Marasas and Trappe 1973
				Pyrenomataceae	<i>Anthracobia</i> <i>Isaria</i>	<i>daneyi</i> <i>metalomia</i> <i>psychidae</i> <i>sinclairii</i>	Chatin (Alb. & Schwein.) Arnould Pole-Evans (Berk.) Lloyd	PREM PREM	Yes Yes	
					<i>Stucellinia</i>	<i>badio-berbis</i> <i>margaritacea</i> <i>phlyctispora</i> <i>scutellata</i>	(Berk. ex Cooke) Kuntze. (Berk. ex Cooke) Kuntze. (Lepr. and Mont.) (L.) Lamb.	PREM PREM PREM PREM	Yes	
				Rhizomaceae	<i>Rhizina</i>	<i>undulata</i>	Fr.		Yes	
				Sarcoscyphaceae	<i>Phillipsia</i>	<i>kermesina</i>	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880
				Tuberaceae	<i>Tuber</i>	<i>aestivum</i>	PREM			
					<i>Choiromyces</i>	<i>melanosporum</i> <i>echinulatus</i>	Vitrad. Trappe & Marasas		Yes	Trappe and Marasas 1973
Sordariomycetes			Hypocreales	Condycepitaceae	<i>Condyceps</i>	<i>velutipes</i>	Massee			Massee 1895

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun- garium guides	Field guides	Previous publications (if not in field guides)
Fungi	Ascomycota	Sordariomycetes	Xylariales	Xylariaceae	<i>Daldinia</i>	<i>concentrica</i>	(Bolton) Ces. & De Not. (Mont.) Mont.		Yes	
					<i>Poronia</i>	<i>oedipus</i>			Yes	
					<i>Xylaria</i>	<i>longipes</i>	Nitschke		Yes	
						<i>hypoxylon</i> L. (Grev.)			Yes	
						<i>polymorpha</i> (Pers.) Grev.			Yes	
						<i>schreuderiiana</i> Van der Byl				Van der Byl 1932
					<i>Penzancea</i>	<i>stilboidea</i>	Kalchbr. & Cooke			Kalchbrenner and Cooke 1880
						<i>verrucosa</i>	Mill			Miller 1942
	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Agaricus</i>	<i>actiniceps</i>	Kalchbr. & Cooke			Kalchbrenner and Cooke 1881
						<i>abrupitubulus</i>	Peck	PREM		Van der Westhuizen and Eicker 1988
						<i>albogigilacens</i>	(A. Pearson) Bon			
						<i>alveolatus</i>	Kalchbr.			Kalchbrenner 1881
						<i>arvensis</i>	Schaeff.	PREM	Yes	
						<i>angustus</i>	Fr.	PREM	Yes	
						<i>aures</i>	(Masse) F.M. Bailey	PREM		
						<i>bisporus</i>	(J.E. Lange) Imbach	PREM	Yes	
						<i>bitortus</i>	(Quél.) Sacc.	PREM	Yes	
						<i>caliginosus</i>	Jungb.	PREM		
						<i>campestris</i>	L.	PREM	Yes	
						<i>chorophyllus</i>	Berk.			Berkeley 1843
						<i>comitulus</i>	Ces. ex Mussat	PREM	Yes	
						<i>croceophagus</i>	Berk. & Broome		Yes	
						<i>diminutivus</i>	Peck		Yes	
						<i>episphaeria</i>	Berk.			Berkeley 1846
						<i>griseovinaceus</i>	A. Pearson ex Pegler			Pearson 1996
						<i>inaudae</i>	Cooke			Cooke 1890
						<i>montagnei</i>	Kalchbr.	PREM	Yes	
						<i>nobilis</i>	(A. Pearson) Heinem.	PREM	Yes	
						<i>papilionaceus</i>	Bull.	PREM		
						<i>paurophyllus</i>	Berk.			Berkeley 1876
						<i>peroxydatus</i>	Berk.			Berkeley 1843
						<i>placomyces</i>	Peck	PREM	Yes	
						<i>pleropus</i>	Kalchbr. & MacOwan	PREM		
						<i>pogonatus</i>	Kalchbr.			Kalchbrenner 1881
						<i>purpurellus</i>	(F.H. Møller) F.H. Møller	PREM		Van der Westhuizen and Eicker 1988
						<i>segitiformis</i>	Kalchbr. & Cooke			Kalchbrenner and Cooke 1881
						<i>semotus</i>	Fr.	PREM	Yes	
						<i>separatus</i>	L.	PREM		
						<i>sibiraticus</i>	Schaeff.	PREM	Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Agaricus</i>	<i>subicola</i>	(Vitrad.) Peck	PREM	Yes	
						<i>sulphurellus</i>	Kalehrbr. & Cooke	PREM	Yes	Berkeley 1843
						<i>trisulphuratus</i>	Berk.			
						<i>umbellifer</i> var. <i>cin-</i>	Berk.			
						<i>subarvatus</i>				
						<i>xanthodermus</i>				
						<i>xanthodermus</i> var.	(A. Pearson) Bon & Cappelli	PREM	Yes	
						<i>griseus</i>				
						<i>xanthodermus</i> var.	Maire		Yes	
						<i>leptoides</i>				
					<i>Anachnion</i>	<i>xanthodermus</i> var.	(A. Pearson) Bon & Cappelli			
						<i>melaleuginoides</i>				
						<i>albomella</i>	Verwoerd	PREM		
						<i>album</i>	Schwein.	PREM		
						<i>firmoderma</i>	Verwoerd	PREM		
						<i>scleroderma</i>	C.G. Loyd	PREM		
						<i>levispora</i>	Massee	PREM		
						<i>lycopendon</i>	(Dicks.) Pers.	PREM		
						<i>phalloides</i>	(Dicks.) Pers.	PREM	Yes	As <i>Battarraea stevensii</i>
						<i>tepperiana</i>	F. Ludw.	PREM		
					<i>Battarraeoides</i>	<i>adnetii</i>	(Pat. & Hat.) R. Heim & T. Herrera	PREM		
						<i>acoeki</i>	De Villiers, Eicker & Van der Westh.			
					<i>Bovista</i>	<i>capensis</i>	(Fr.) J.C. Coetzee & A.E. van Wyk			De Villiers et al. 1989 Coetzee & Van Wyk 2005
						<i>juglandiformis</i>	Berk. ex Massee			Massee 1888
						<i>lilacina</i>	Mont. & Berk.	PREM		
						<i>promontorii</i>	Kreisel			Kreisel 1967
						<i>umbrina</i>	Bottomley			Bottomley 1948
<i>caelata</i>	(Bull.) Morgan	PREM								
<i>candida</i>	(Rostk.) Hollós	PREM								
<i>capensis</i>	(Lloyd) J.C. Coetzee, Eicker & A.E. van Wyk	PREM								
<i>cyathiformis</i>	(Bosc) Morgan	PREM								
<i>flava</i>	(Massee) Kreisel	PREM								
<i>Calvatia</i>	<i>gigantea</i>	(Batsch) Lloyd	PREM							
	<i>incerta</i>	Bottomley			Bottomley 1948					
	<i>lepidophora</i>	(Ellis & Everh.) Coker & Couch	PREM							
	<i>lilacina</i>	(Mont. & Berk.) Henn.	PREM	Yes						
	<i>rubroflava</i>	(Cragin) Lloyd	PREM							
	<i>meyenianus</i>	(Klotzsch) Lloyd	PREM							
	<i>mohybolites</i>	(G. Mey.) Massee	PREM	Yes						
	<i>Chlamydopus</i>									
		<i>Chlorophyllum</i>								

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun- garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Chlorophyllum</i>	<i>africanum</i> <i>polaeotropicum</i>	Z.W. Ge & A. Jacobs Z.W. Ge & A. Jacobs	PREM PREM		Ge et al. 2018 Ge et al. 2018
					<i>Conioleptia</i> <i>Caprinellus</i>	<i>spongoides</i> <i>curvus</i>	(Berk. & Broome) Vellinga (Kalchbr.) Vilgalys, Hoppole & Jacq. Johnson	PREM PREM	Yes	
						<i>disseminatus</i> <i>domesticus</i>	(Pers.) J.E. Lange (Bolton) Vilgalys, Hoppole & Jacq. Johnson		Yes Yes	
						<i>ephemerus</i> <i>heptemerus</i>	(Bull.) Redhead, Vilgalys & Moncalvo (M. Lange & A.H. Sm.) Vilgalys, Hoppole & Jacq. Johnson	PREM PREM	Yes	
						<i>micacrus</i>	(Bull.) Vilgalys, Hoppole & Jacq. Johnson	PREM	Yes	
					<i>truncorum</i>	<i>atrumentaria</i>	(Scop.) Redhead, Vilgalys & Moncalvo (Bull.) Redhead, Vilgalys & Moncalvo	PREM PREM	Yes	
						<i>cinerea</i>	(Schaeff.) Redhead, Vilgalys & Moncalvo	PREM		
						<i>lagopus</i> <i>nivea</i>	(Fr.) Redhead, Vilgalys & Moncalvo (Pers.) Redhead, Vilgalys & Moncalvo	PREM PREM	Yes Yes	
						<i>picacea</i> <i>stercorea</i>	(Bull.) Redhead, Vilgalys & Moncalvo (Fr.) Redhead, Vilgalys & Moncalvo	PREM PREM		Wood 2017
					<i>Caprinus</i>	<i>agricola</i> <i>ornatus</i>	A. Pearson (O.F. Müll.) Pers.	PREM PREM		Pearson 1950
						<i>digitalis</i> <i>papillatus</i>	(Batsch) Fr. (Batsch) Fr.	PREM PREM	Yes	
						<i>paniculatus</i> <i>vulgare</i>	Kalchbr. Tul. & C. Tul.	PREM PREM		
					<i>Crucibulum</i>	<i>annulata</i> <i>castanea</i>	(Schwein.) Lloyd (Lév.) Bottomley	PREM PREM		
						<i>cervina</i> <i>hypogaea</i>	(Berk.) G.H. Cunningham (Cooke & Massee) G. Cunn. G. Cunn.	PREM PREM		
						<i>verrucosa</i> <i>dellei</i>	Mont Mont	PREM PREM		
					<i>Gyrophagnium</i> <i>Langermannia</i>	<i>uabihbergii</i>	(Fr.) Dting	PREM		
					<i>Lepiota</i>	<i>acutesquamosa</i> <i>canescens</i>	(Weinm.) P. Kumm. A. Pearson	PREM PREM		Van der Westhuizen and Eicker 1988
						<i>citrinella</i> <i>crisata</i>	Beeli (Bolton) P. Kumm.	PREM PREM		
					<i>Lepiota</i>	<i>cristanocystidiata</i>	A. Pearson	PREM	Yes	

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Lepiota</i>	<i>cutifracta</i>	A. Pearson	PREM		
						<i>flava</i>	Beeli	PREM		Van der Westhuizen and Eicker 1988
						<i>justiformis</i>	A. Pearson	PREM		
						<i>goossensiae</i>	Beeli	PREM		Van der Westhuizen and Eicker 1988
						<i>helveola</i>	Bres.		Yes	
						<i>hispidula</i>	Gillet	PREM		Van der Westhuizen and Eicker 1988
						<i>ianthina</i>	Sacc.	PREM		Van der Westhuizen and Eicker 1988
						<i>lutea</i>	Matt.	PREM		
						<i>manganii</i>	(Beck) Sacc.	PREM		
						<i>naticina</i> var. <i>leucothites</i>	(Vittad.) Sacc.	PREM		
						<i>nympheum</i>	(Kalkbbr.) Kalkbbr.	PREM		Van der Westhuizen and Eicker 1988
						<i>praecleara</i>	A. Pearson	PREM		Pearson 1950
						<i>parvannulata</i>	(Lasch) Gillet	PREM		Van der Westhuizen and Eicker 1988
						<i>rhizobola</i>	(Berk.) Sacc.	PREM		
						<i>rosolens</i>	A. Pearson	PREM		
						<i>rososquamosa</i>	Beeli	PREM		Van der Westhuizen and Eicker 1988
						<i>truncata</i>	A. Pearson	PREM		
						<i>umbriroseonata</i>	A. Pearson	PREM		
						<i>urtians</i>	(Kalkbbr. & MacOwan) Sacc.	PREM		
						<i>virescens</i>	Pat.	PREM		
						<i>hisporus</i>	Heinem.	PREM	Yes	
						<i>leucothites</i>	(Vittad.) Wasser		Yes	
						<i>naticina</i>	(Vittad.) Wasser	PREM		Van der Westhuizen and Eicker 1988
						<i>rubrotinctus</i>	(Peck) Singer		Yes	
						<i>biribaumii</i>	(Corda) Singer	PREM	Yes	
						<i>brebissonii</i>	(Godey) Locq.		Yes	
						<i>cepistipes</i>	(Sowerby) Pat.	PREM		
<i>fragilissimus</i>	(Ravend ex Berk. & M.A. Curtis) Pat.		Yes							
<i>zeyheri</i>	(Berk.) Singer	PREM								
<i>asperum</i>	(Lév.) Speg.	PREM								
<i>caespitosum</i>	Wdlw. & Curt.	PREM								
<i>caffronum</i>	Kalkbbr. & Cooke	PREM								
<i>djurense</i>	Henn.	PREM								
<i>dubiei</i>	Bottomley	PREM								
<i>flavum</i>	Massee	PREM								
<i>gammii</i>	Berk.	PREM								
<i>hiemale</i>	Vent.	PREM								
<i>perlatum</i>	Pers.	PREM	Yes							

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	<i>Lycopodium</i>	<i>polymorphum</i>	Vitrad.	PREM		
						<i>pratense</i>	Pers.	Yes	As Vascellum pratense	
						<i>pusillum</i>	Batsch	PREM		
						<i>quadenii</i>	Bortomley	PREM		
						<i>radicatum</i>	Durieu & Mont.	PREM		
						<i>subincarnatum</i>	Peck	PREM		
						<i>umbrinum</i>	Hornem.	PREM		
						<i>excoriatus</i>	(Schaeff.) Wasser	PREM	Van der Westhuizen and Eicker 1988	
						<i>proena</i>	(Scop.) Singer	PREM	Yes	
						<i>prominens</i>	(Sacc.) M.M. Moser	PREM	Yes	
					<i>Montagnia</i>	<i>rhacodes</i>	(Vitrad.) Singer	PREM	Yes	
						<i>zeyheri</i>	(Berk. & Singer) Heinem.	PREM	Yes	
						<i>aureolaria</i>	(DC.) Zeller		Reid and Eicker 1991	
						<i>haussknechtii</i>	Rabenh.		Reid and Eicker 1991	
						<i>candollei</i>	Speng.	PREM		
						<i>corium</i>	(Guers.) Desv.	PREM		
						<i>mycenastrum</i>	(Fr.) Redhead, Vilgalys & Hopple	PREM		
						<i>parusola</i>	(Curtis) Redhead, Vilgalys & Hopple	PREM	Yes	
						<i>plicatilis</i>	Berk.	PREM		
						<i>inquinnans</i>	(L.) Quel.	PREM		
					<i>Psalliota</i>	<i>campestris</i>	A. Pearson	PREM		
						<i>alboargillascens</i>	Schaeff.	PREM		
						<i>arvensis</i>	W.G. Sm.	PREM		
						<i>arvensis</i> var. <i>hortensis</i>	(Fr.) Quel.	PREM		
						<i>conntula</i>	Velen.	PREM		
						<i>dariuscula</i>	A. Pearson	PREM		
						<i>mixta</i>	A. Pearson	PREM	Pearson 1950	
						<i>nobilis</i>	Peck	PREM		
						<i>placomyces</i>	(Schaeff.) Gillet	PREM		
						<i>pratensis</i>	(Peck) Kauffman	PREM		
					<i>Scotium</i>	<i>rodmani</i>	A. Pearson	PREM		
						<i>volvata</i>	A. Pearson	PREM	Pearson 1950	
<i>xanthoderma</i> var. <i>melagrinooides</i>	Kunze	PREM	Kunze 1840							
<i>gaetzi</i>	C.G. Lloyd	PREM	Yes							
<i>obtusum</i>	V.S. White		Yes							
<i>albicans</i>	Pat.		Yes							
<i>bonianum</i>	Lloyd		Yes							
<i>cyclophorum</i>	J.E. Wright	PREM								
<i>exasperatosporum</i>										

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun- garium	Field guides	Previous publications (if not in field guides)	
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Agaricaceae	Tulostoma	<i>graefii</i> pes	J.E. Wright	PREM			
						<i>lesdei</i>	Van der Byl	PREM			
					Xanthagaricus	<i>purpusii</i>	Henn.	Yes			
						<i>transvaalii</i>	C.G. Loyd	PREM			
						<i>luteoloporus</i>	(Heinem. & Little Flower) Little Flower, Hossag. & T.K. Abraham	PREM	Yes		
						Amanita	<i>aurifloccosa</i>	Bas	Yes		
							<i>capensis</i>	Walley & Rammeloo	Yes		
							<i>excala</i>	(Fr.) Berrill.	PREM	Yes	
							<i>foetidissima</i>	D.A. Reid & Eicker	PREM	Yes	
							<i>nappa</i>	(Basch) Berrill.	Yes		
							<i>muscaria</i>	(L.) Lam.	PREM	Yes	
							<i>pantherina</i>	(DC.) Krombh.	PREM	Yes	
							<i>phalloides</i>	(Vaill. ex Fr.) Link	PREM	Yes	
							<i>phalloides</i> var. <i>alba</i>	Costantin & L.M. Dufour	Yes		
							<i>phalloides</i> var. <i>umbrina</i>	(Ferry) Maire	Yes		
						Limacella Suproamanita	<i>reidii</i>	Eicker & Greuning	Yes		
							<i>plenopus</i>	(Kalchbr. & MacOwan) D.A. Reid	PREM	Yes	
					<i>rubescens</i>		Pers.	PREM	Yes		
					<i>solitaria</i>		(Bull.) Fr.	PREM			
					<i>strobiliformis</i>		(Paulet ex Vitrad.) Berrill.	PREM	Yes		
					<i>vagina</i>		(Bull.) Lam.	PREM			
					<i>veldtei</i>		D.A. Reid & Eicker	Yes			
					<i>guttata</i>		(Pers.) Konrad & Maubl.	Yes			
					<i>praecleara</i>		(A. Pearson) Redhead, Vizzini, Drehmel & Conitu	PREM	Yes		
					Bolbitiaceae		<i>trubans</i>	(Bull.) Fr.	PREM	Yes	
							<i>vitellinus</i>	(Pers.) Fr.	PREM	Yes	
							<i>liberatus</i>	(Berk.) R. Heim	PREM		
<i>apala</i>	(Fr.) Arnolds	Yes									
<i>tenera</i>	(Schaeff.) Fayod	PREM	Yes								
<i>mitriformis</i>	(Berk.) R. Heim	PREM									
<i>reticulatus</i>	(Pers.) Gillet	PREM									
<i>congregata</i>	Berk.	PREM	Yes	Van der Westhuizen and Eicker 1988							
<i>ellipsozona</i>	Höhn.	PREM	Yes								
<i>abietina</i>	Schumacher.	PREM									
Clavariaceae	<i>capensis</i>	Thunb.									
	<i>cinerea</i>	Bull.	PREM		Thunberg 1800						

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium guides	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Hygrophoraceae	<i>Hygrocybe</i>	<i>conica</i>	Velen. (Quél.) Kühner	PREM	Yes	
						<i>nigrescens</i>		PREM	Yes	
						<i>zuidensis</i>	Boertm.			Boertman 1998
						<i>ocinctus</i>	(Schaeff.) Fr.	PREM		
						<i>conicus</i>	(Schaeff.) Fr.	PREM		
						<i>conicus</i> var.	(Quél.) Konrad & Maubl.	PREM		
						<i>nigrescens</i>	(Quél.) Konrad & Maubl. (Feltgen) Sacc. & Trotter	PREM		
						<i>discolor</i>	(L.) P. Karst.	PREM		
						<i>separata</i>	(Pers.) Maire	PREM	Yes	
						<i>foenicicii</i>	(Jungb.) Gillet	PREM		
						<i>caliginosus</i>	(L.) Quél.	PREM		Van der Westhuizen and Eicker 1988
						<i>campumilatus</i>	(Pers.) Gillet	PREM		
						<i>fimicola</i>	A. Pearson	PREM		
						<i>fimicoloides</i>	(Bull.) Quél.	PREM	Yes	
						<i>papilionaceus</i>	(Fr.) Gillet	PREM		
						<i>retinigus</i>	(Sowerby) S. Lundell & Nannf.		Yes	Pearson 1950
						<i>semiovatus</i> f. <i>exan-</i> <i>mulatus</i>	(Beck) Sacc.	PREM		
				<i>solidipes</i>	(Fr.) Quél.	PREM				
				<i>sphincrinus</i>	(Berkl. & Broome) Sacc.		Yes			
				<i>subbaletatus</i>	(P. Karst.) Rea	PREM		Van der Westhuizen and Eicker 1988		
				<i>maritima</i>	Plát.			Plát 1950		
				<i>austrorfricanus</i>	(Fr.) P. Kumm.	PREM				
				<i>haustellaris</i>	Cooke	PREM				
				<i>inaudae</i>	(Schaeff.) Straude	PREM	Yes			
				<i>mollis</i>	Kalchbr.	PREM				
				<i>pogonatus</i>	(Pers.) P. Kumm.	PREM	Yes			
				<i>variabilis</i>	A. Pearson ex Pegler			Pearson 1996		
				<i>cinnamomea</i>	A. Pearson			Pearson 1950		
				<i>congregata</i>	P. Karst.			Vellinga et al. 2009		
				<i>curvipes</i>	Sacc.	PREM	Yes			
				<i>euthetes</i>	Bres.		Yes			
				<i>hirtella</i>	(J. Schröt.) Konrad & Maubl		Yes			
				<i>laminella</i>	J.E. Lange	PREM		Van der Westhuizen and Eicker 1988		
<i>microspora</i>	(Britzelm.) Sacc.	PREM		Van der Westhuizen and Eicker 1988						
<i>mixtilis</i>	Gillet		Yes							
*	Bres.		Yes							
<i>patouillandii</i>										

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun- garium	Field guides	Previous publications (if not in field guides)		
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Physalactiaceae	<i>Oudemansiella</i>	<i>canarii</i>	(Jungb.) Höhn.	PREM				
					<i>Hymenopellis</i>	<i>radicata</i>	(Rehhan) Singer	PREM		Van der Westhuizen and Eicker 1988		
					<i>Physalactria</i>	<i>decaryi</i>	Pat.	PREM				
					<i>Xerula</i>	<i>arocavernula</i>	R.H. Petersen & Bougher	PREM		Petersen and Bougher 2008		
					Pluteaceae	<i>Pluteus</i>	<i>applicatus</i>	(Batsch) P. Kumm.	PREM			
							<i>gesterani</i>	Singer	PREM		Singer 1962	
							<i>glabrescens</i>	(Kalchbr.) Sacc.	PREM			
							<i>lenticala</i>	(Kalchbr.) Sacc.	PREM			
							<i>limpidus</i>	(Fr.) Sacc.	PREM			
							<i>ostreatus</i>	(Jacq.) P. Kumm.	PREM	Yes		
							<i>perpusillus</i>	(Lunn.) Gillet	PREM			
							<i>pulmonarius</i>	(Fr.) Quel.	PREM	Yes		
							<i>sejor-cajiu</i>	(Fr.) Singer	PREM			
							<i>sciadium</i>	(Kalchbr. & MacOwan) Sacc.	PREM			
					Pluteaceae	<i>Pluteus</i>	<i>septicus</i>	(Fr.) P. Kumm.	PREM			
				<i>aromarginatus</i>			(Konrad) Kühner	PREM				
				<i>pellitus</i>			(Pers.) P. Kumm.	PREM				
				<i>ronelli</i>			(Brizelm.) Sacc.	PREM	Yes			
				<i>salicinus</i>			(Pers.) P. Kumm.	PREM	Yes			
				<i>senibulbosus</i>			(Lasch) Gillet	PREM	Yes			
				<i>thomsonii</i>			(Berk. & Broome) Dennis	PREM				
				<i>speciosa</i>			(Fr.) Singer	PREM	Yes			
				<i>africana</i>			De Villiers, Eicker & Van der Westh.	PREM				
				<i>pistillaris</i>			(L.) Fr.	PREM	Yes			
				<i>rugospora</i>			De Villiers, Eicker & Van der Westh.	PREM				
				Psathyrellaceae			<i>Oezonium</i>	<i>omnium</i>	Shear	PREM		
								<i>grisola</i>	A. Pearson	PREM		
								<i>condoleana</i>	(Fr.) Maire	PREM	Yes	
				Psathyrellaceae			<i>Psathyrella</i>	<i>lonella</i>	A. Pearson ex Pegler			Pearson 1996
								<i>praelonga</i>	A. Pearson			Pearson 1950
								<i>varicosa</i>	A. Pearson			Pearson 1950
				Pterulaceae			<i>Pterula</i>	<i>subulata</i>	Fr.		Yes	
				Schizophyllaceae	<i>Schizophyllum</i>	<i>commune</i>	Fr.		Yes			
Sebacinaeae	<i>Sebacina</i>	<i>schweinitzii</i>	(Peck) Oberw.		Yes							
Strophariaceae	<i>Agrocybe</i>	<i>pratensis</i>	(Pers.) Fayod	PREM	Yes							
		<i>pediades</i>	(Fr.) Fayod		Yes							
		<i>aromifa</i>	(Schaeff.) P. Karst.	PREM								
	<i>Deconica</i>	<i>coprophila</i>	(Bull.) Fr.	PREM								

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun- garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Strophariaceae	<i>Deconica</i>	<i>protea</i>	(Kalchbr.) Desjardin & B.A. Perry			Kalchbrenner 1876 (as <i>Agaricus proteus</i>)
					<i>Flammula</i>	<i>albicola</i>	(Fr.) P. Kumm.	PREM		
						<i>harnagei</i>	(Fr.) Sacc.	PREM		
						<i>hybrida</i>	(Bull.) Gillet	PREM		
						<i>laetilamellata</i>	A. Pearson	PREM		
						<i>lucurians</i>	A. Pearson	PREM		
						<i>papillata</i>	A. Pearson	PREM		
						<i>penetrans</i>	(Fr.) Quel.	PREM		
						<i>sapinea</i>	(Fr.) Pat.	PREM		
					<i>Galera</i>	<i>hypogaeum</i>	(Batsch) Quel.	PREM		
						<i>lateritia</i>	(Fr.) P. Kumm.	PREM		
						<i>pigmaeoauffinis</i>	(Fr.) Quel.	PREM		Van der Westhuizen and Eicker 1988
						<i>spartea</i>	Velen.	PREM		Van der Westhuizen and Eicker 1988
						<i>tenera</i>	(Schaeff.) P. Kumm.	PREM		
						<i>tenera</i> var. <i>siliginica</i>	(Fr.) P. Kumm.	PREM		
					<i>Gymnopilus</i>	<i>hybridus</i>	(Bull.) Maire	PREM	Yes	
						<i>javanicus</i>	(Fr.) PD. Orton	PREM	Yes	
						<i>penetrans</i>	(Fr.) Murrill	PREM	Yes	
						<i>sapineus</i>	(Fr.) Murrill	PREM	Yes	
					<i>Hebeloma</i>	<i>angustispermum</i>	A. Pearson	PREM		
						<i>anthracophilum</i>	Maire	PREM		
						<i>crustuliniforme</i>	(Bull.) Quel.	PREM	Yes	
						<i>cylindrosporum</i>	Romagn.	PREM	Yes	
						<i>nudipes</i>	(Fr.) Kalchbr.	PREM		
						<i>stipitizans</i>	(Paulet) Gillet	PREM	Yes	
						<i>spoliatum</i>	(Fr.) Gillet	PREM		
					<i>Hymenogaster</i>	<i>albellus</i>	Massee & Rodway	PREM		
						<i>reticulatus</i>	Zeller & C. W.	PREM		
					<i>Hypophoma</i>	<i>candolleianum</i>	(Fr.) Quel.	PREM		
						<i>fasciculare</i>	(Huds.) P. Kumm.	PREM	Yes	
						<i>lateritium</i>	(Schaeff.) P. Kumm.	PREM		
					<i>Koehnomyces</i>	<i>mutabilis</i>	(Schaeff.) Singer & A.H. Sm.	PREM		
					<i>Lenatiomyces</i>	<i>ceres</i>	(Cooke & Massee) Spooner & Bridge 2008	PREM	Yes	
					<i>Naucoria</i>	<i>pediades</i>	(Fr.) P. Kumm.	PREM		
						<i>rusa</i>	(Cooke & Massee) Sacc.	PREM		
						<i>solechina</i>	(Fr.) Quel.	PREM		
						<i>semiorbicularis</i>	(Bull.) Quel.	PREM		

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Strophariaceae	<i>Naucoria</i> <i>Pholota</i>	<i>undulosa</i> <i>aurivella</i> <i>capitata</i> <i>cylindracea</i> <i>flammans</i> <i>muabilis</i> <i>parva</i> <i>pseudoerebia</i> <i>squarrosa</i> <i>spectabilis</i> <i>tagularis</i> <i>unicolor</i>	(Fr.) Sacc. (Batsch) P. Kumm. (Pers.) Gillet (DC.) Gillet (Batsch) P. Kumm. (Schaeff) P. Kumm. A. Pearson A. Pearson (Oeder) P. Kumm. (Fr.) P. Kumm. (Bull.) P. Kumm. (Vahl) Gillet (Bull.) P. Kumm.	PREM PREM PREM PREM PREM PREM PREM PREM PREM PREM PREM		
					<i>Psilocybe</i>	<i>caprophila</i> <i>cylindrispora</i> <i>natalensis</i>	(Bull.) P. Kumm. A. Pearson Gartz, D.A. Reid, M.T. Sm. & Eicker	PREM PREM PREM	Yes Yes	Pearson 1950 Pearson 1996
					<i>Stropharia</i>	<i>coccinea</i> <i>semiglobata</i>	A. Pearson ex Pegler (Batsch) Quél.	PREM		
					<i>Tubaria</i>	<i>farfugacea</i>	(Pers.) Gillet		Yes	
				Tricholomataceae	<i>Anaparrina</i>	<i>spinosissima</i>	(Singer) Singer	PREM	Yes	
					<i>Callypha</i>	<i>rhobia</i>	(W.B. Cooke) W.B. Cooke	PREM		
					<i>Clitocybe</i>	<i>expallens</i> <i>fragrans</i> <i>gentianea</i> <i>nuda</i>	(Pers.) P. Kumm. (With.) P. Kumm. Quél. (Bull.) H.E. Bigelow & A.H. Sm.	PREM PREM PREM PREM		Van der Westhuizen and Eicker 1988 (as <i>Lepista nuda</i>)
						<i>rvulosa</i> <i>splendens</i> <i>toxica</i>	(Pers.) P. Kumm. (Pers.) Gillet Stephens	PREM PREM PREM		Stephens 1966
					<i>Callybia</i>	<i>acervata</i> <i>albuminosa</i> <i>buypacea</i> <i>dryosepala</i> <i>disoria</i> <i>dryophila</i> <i>estuberans</i> <i>fragrantissima</i> <i>fusipes</i> <i>macilenta</i>	(Fr.) P. Kumm. (Berk.) Peck (Bull.) P. Kumm. (Berk. & M.A. Curtis) A. Pearson (Fr.) Quél. (Bull.) P. Kumm. (Fr.) Quél. (Fr.) Quél. A. Pearson (Bull.) Quél. (Fr.) Gillet	PREM PREM PREM PREM PREM PREM PREM PREM PREM PREM		Van der Westhuizen and Eicker 1988 Van der Westhuizen and Eicker 1988

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Agaricales	Tricholomataceae	Calybia	<i>maculatioides</i>	A. Pearson	PREM		
						<i>ocellata</i>	(Fr.) P. Kumm.	PREM		
						<i>radicata</i>	(Rehhan) Quel.	PREM		
					Lepista	<i>stridula</i>	(Fr.) Sacc.	PREM		
						<i>velutipes</i>	(Curtis) P. Kumm.	PREM		
						<i>caffrinum</i>	(Kalchbr. & MacOwan) Singer	PREM	Yes	
					Macroclype	<i>seridata</i>	(Schumann.) Singer	PREM	Yes	
						<i>lobayensis</i>	(R. Heim) Pegler & Lodge	PREM	Yes	
						<i>titans</i>	(H.E. Bigelow & Kimbr.) Pegler, Lodge & Nakasone	PREM	Yes	
					Melanolenca	<i>brevipiles</i>	(Bull.) Pat.	PREM		
						<i>melaleuca</i>	(Pers.) Murrill	PREM		
						<i>glaucocephala</i>	(Laseh) Sacc.	PREM		Van der Westhuizen and Eicker 1988
					Omphalia	<i>micrometes</i>	(Berk. & Broome) Sacc.	PREM		
						<i>oniscus</i>	(Fr.) Gilllet	PREM		
						<i>psidatioides</i>	A. Pearson	PREM		
					Tricholoma	<i>rustica</i>	(Fr.) Quel.	PREM		
						<i>albobrunneum</i>	(Pers.) P. Kumm.		Yes	
						<i>euclypticum</i>	A. Pearson	PREM		Pearson 1950
						<i>melaleucum</i> f.	A. Pearson			
						<i>acystidiatum</i>	A. Pearson			
						<i>meridianum</i>	A. Pearson			Pearson 1950
					Tricholomopsis	<i>seponaceum</i>	(Fr.) P. Kumm.		Yes	
						<i>ustale</i>	(Fr.) P. Kumm.		Yes	
						<i>rutilans</i>	(Schaeff.) Singer		Yes	
					Tricholospodium	<i>lactevolucum</i>	D.A. Reid, Eicker, Cléménçon & Cec. Roux	PREM		
						<i>canibarelloides</i>	(Mont.) Pat.		Yes	
						<i>auricula-judae</i>	(Bull.) Quel.	PREM	Yes	
					Trogia	<i>delicata</i>	(Mont.) Henn.	PREM		
						<i>emini</i>	Henn.	PREM		
						<i>fusosuccinea</i>	(Mont.) Henn.	PREM		
					Auricularia	<i>mesenterica</i>	(Dicks.) Pers.	PREM		
						<i>polytricha</i>	(Mont.) Sacc.	PREM		
						<i>sambucina</i>	Mart.	PREM		
Eichleriella	<i>macrospora</i>	(Ellis & Everh.) G.W. Martin	PREM							
	<i>glandulosa</i>	(Bull.) Fr.	PREM	Yes						
	<i>Exidia</i>	MacOwan & Kalchbr.	PREM							
Heterochaete	<i>purpureocinerea</i>	MacOwan & Kalchbr.	PREM							
	<i>bylanae</i>	Talbot	PREM							

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Auriculariales	Auriculariaceae	<i>Heterochaete</i>	<i>grandispora</i>	P.H.B. Talbot	PREM		
				Incertae sedis	<i>Aporepium</i>	<i>aryae</i>	(Schwein.) Teixeira & D.P. Rogers	PREM		
				Boletaceae	<i>Auroboletus</i>	<i>genialis</i>	(Earle) Klofac		Yes	
					<i>Boletus</i>	<i>aurantus</i>	Schaeff.		Yes	
						<i>aestivus</i>	(Paultet) Fr.	PREM		
						<i>bovinus</i>	Roszk.	PREM		
						<i>bovinus</i> var. <i>viridocaeulescens</i>	A. Pearson	PREM		
						<i>collinitus</i>	Fr.	PREM		
						<i>edulis</i>	Roszk.	PREM	Yes	
						<i>flavus</i>	Pollini	PREM		
						<i>grenvillei</i>	Klorzsch	PREM		
						<i>curtipes</i>	Massee			Maassee 1908
						<i>pinicola</i>	Sw.		Yes	
						<i>reticulatus</i>	Schaeff.		Yes	
						<i>stellenbosiensis</i>	Van der Byl			Van der Byl 1925
						<i>subflammeus</i>	Berk.			Berkeley 1876
						<i>hemichrysus</i>	(Berk. & M.A. Curtis) Singer		Yes	
						<i>Chalciporus</i>	(Bull.) Baraille	PREM	Yes	
						<i>Inleria</i>	(Fr.) Vizzini	PREM	Yes	
						<i>Lectinum</i>	(Schulzer ex Kalchbr.) Singer	PREM	Yes	
						<i>Octaviania</i>	Lloyd	PREM		
						<i>flava</i>	(Rodway) G. Cunn.	PREM		
						<i>chrysenteron</i>	(Bull.) Sutarra		Yes	
						<i>sudanicus</i>	(Har. & Pat.) Heinem.	PREM	Yes	
						<i>obsoletus</i>	(R. Heim) Singer		Yes	
						<i>arida</i>	(Fr.) P. Karst.	PREM		
						<i>cerbella</i>	(Pers.) Pers.	PREM		
						<i>foedinarum</i>	P.H.B. Talbot	PREM		
						<i>incrustata</i>	P.H.B. Talbot	PREM		
						<i>mollis</i>	Ginns			Ginns 1982
						<i>olivacea</i>	Massee	PREM		
						<i>papillosa</i>	P.H.B. Talbot	PREM		
						<i>capense</i>	D.A. Reid			Reid 1963
		<i>gyrodontium</i>	(Bull.) Quél.	PREM	Yes					
		<i>Gyroporus</i>	(Vittad.) Tul. & C. Tul.	PREM						
		<i>Melanogaster</i>	Fr.	PREM						
		<i>Paxillus</i>	(Batsch) Fr.	PREM	Yes					
			<i>extenuatus</i>							
			<i>involutus</i>							

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)		
Fungi	Basidiomycota	Agaricomycetes	Boletales	Paxillaceae	<i>Paxillus</i>	<i>panuoides</i>	(Fr.) Fr.	PREM	Yes			
				Rhizopogonaceae	<i>Rhizopogon</i>	<i>capensis</i>	C.G. Lloyd	PREM				
				Sclerotdermataceae	<i>Pisolithus</i>	<i>tinctorius</i>	Fr. & Nordholm (Mont.) E. Fisch.	PREM	Yes			
					<i>Scleroderma</i>	<i>capense</i>	C.G. Lloyd	PREM	Yes			
						<i>atrinum</i>	Pers.		Yes			
						<i>flavidum</i>	Ellis & Everh.		Yes			
						<i>verrucosum</i>	(Bull.) Pers.		Yes			
						<i>stellenbosensis</i>	Verwoerd	PREM				
						<i>himantoides</i>	(Fr.) P. Karst.		Yes			
						<i>bellinii</i>	(Inzenga) Watling		Yes			
						<i>bovinus</i>	(L.) Roussel		Yes			
						<i>granulatus</i>	(L.) Roussel		Yes			
						<i>luteus</i>	(L.) Roussel		Yes			
			Cantharellales	Cantharellaceae			<i>Cantharellus</i>	<i>cibarius</i>	Fr.	PREM		
								<i>longisporus</i>	Heinem.		Yes	
								<i>asperula</i>	D.P. Rogers	PREM		
								<i>filamentosa</i>	(Pat.) D.P. Rogers	PREM		
								<i>foedinarum</i>	P.H.B. Talbot & V.C. Green	PREM		
								<i>vaga</i>	(Berk. & M.A. Curtis) D.P. Rogers ex Linder	PREM		
								<i>cinerea</i>	(Bull.) J. Schröt.	PREM		
								<i>aristata</i>	(Holmsk.) J. Schröt.	PREM	Yes	
								<i>argillaceum</i>	Bres.	PREM		
								<i>armeniaceum</i>	Sacc.	PREM		
Corticiales	Corticiaceae			<i>Clavulina</i>	<i>coeruleum</i>	(Lam.) Fr.	PREM					
					<i>confluens</i>	(Fr.) Fr.	PREM					
					<i>gloosporum</i>	P.H.B. Talbot	PREM					
					<i>lactum</i>	(P. Karst.) Bres.	PREM					
					<i>luteocystidiatum</i>	P.H.B. Talbot	PREM					
					<i>moniliforme</i>	P.H.B. Talbot	PREM					
					<i>porretosum</i>	Berk. & M.A. Curtis	PREM					
					<i>punctulatum</i>	Cooke	PREM					
					<i>salmonicolor</i>	Berk. & Broome	PREM					
					<i>scutellare</i>	Berk. & M.A. Curtis	PREM					
Corticiales					<i>tumulosum</i>	P.H.B. Talbot	PREM					
					<i>vagam</i>	Berk. & M.A. Curtis	PREM					
				<i>Gyrdia</i>	<i>flocculenta</i>	(Fr.) Höhn. & Litsch.	PREM					

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Fungi	Basidiomycota	Agaricomycetes	Corticiales	Corticiaceae	Dendroboletus	<i>diabiei</i>	P.H.B. Talbot	PREM		
						<i>baudonii</i>	(Pat.) Ryvarden		Yes	
						<i>sulphureus</i>	(Bull.) Murrill		Yes	
					Tropopileus	<i>sphaerophorus</i>	(Berk. & M.A. Curtis) S. Hughes & Deighton	PREM		
						<i>conrabi</i>	Hollós	PREM		
					Geasteropsis	<i>ambiguum</i>	Mont.	PREM		
						Geastrum	<i>arenarium</i>	Lloyd	PREM	
					<i>bryantii</i>		Berk.	PREM		
					<i>campestre</i>	Morgan	PREM			
					<i>carolinatum</i>	Pers.	PREM			
					<i>disinnile</i>	Bottomley	PREM			
					<i>fimbriatum</i>	Tul. & C. Tul.	PREM			
					<i>floriforme</i>	Vitrad.	PREM			
					<i>fornicatum</i>	(Huds.) Hook.	PREM			
					<i>hieronymi</i>	Henn.	PREM			
					<i>hycometricum</i>	Pers.	PREM			
					<i>kalabae</i>	V.J. Staněk	PREM	Yes		
					<i>lageniforme</i>	Cooke	PREM			
					<i>limbatum</i>	Fr.	PREM	Yes		
					<i>mammosum</i>	De Toni	PREM			
					<i>mininum</i>	Chevall.	PREM			
					<i>mirabile</i>	Mont.	PREM			
					<i>nanum</i>	Pers.	PREM			
					<i>pectinatum</i>	Pers.	PREM	Yes		
					<i>pouzarii</i>	V.J. Staněk	PREM			
					<i>quadrifidum</i>	DC. ex Pers.	PREM			
					<i>nabenhorstii</i>	Kunze	PREM			
					<i>saccatum</i>	Speg.	PREM	Yes		
					<i>schmidlii</i>	Vitrad.	PREM			
					<i>schweinitzii</i>	(Berk. & M.A. Curtis) Zeller		Yes		
					<i>sessile</i>	(Sowerby) Pouzar		Yes		
					<i>smaradae</i>	V.J. Staněk	PREM			
					<i>striatum</i>	Quel.	PREM			
<i>triplex</i>	Jungb.	PREM	Yes							
<i>velutinum</i>	Morgan	PREM								
Myriostoma	<i>coliforme</i>	(Dicks.) Corda	PREM	Yes						
	<i>coliforme</i> var. <i>capill-</i>	V.J. Staněk								
	<i>lispotum</i>				Staněk 1958					

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Incertae sedis Phallales	Incertae sedis Phallaceae	<i>Rössia</i>	<i>semiophora</i>		PREM		
					<i>Anthurus</i>	<i>archeri</i>	(Berk.) E. Fisch.	PREM		
					<i>Aseroë</i>	<i>rubra</i>	Labill.	PREM	Yes	
					<i>Blumenavia</i>	<i>angolensis</i>	(Welw. & Curr.) Dring		Yes	
					<i>Clathrella</i>	<i>roscolensis</i>	E. Fisch.	PREM		
					<i>Clathrus</i>	<i>affinis</i>	Lloyd	PREM		
						<i>archeri</i>	(Berk.) Dring	PREM	Yes	
						<i>gracilis</i>	(Berk.) Schltdl.	PREM		
						<i>pseudocancellatus</i>	(E. Fisch.) Lloyd	PREM		
						<i>transvaalensis</i>	Eicker & D.A. Reid		Yes	
						<i>gracile</i>	Berk.			Bottomley 1948; Coetzee 2010
						<i>galericulata</i>	Möller	PREM	Yes	
						<i>rosea</i>	(Delile) E. Fisch.		Yes	
						<i>phalloides</i>	Mattir.	PREM		
						<i>conallocephala</i>	(Welw. & Curr.) Kalkbhr.	PREM	Yes	
						<i>cruciatius</i>	(Lept. & Mont.) Henn.			Bottomley 1948; Coetzee 2010
						<i>gardneri</i>	Berk.	PREM		
						<i>bambusinus</i>	(Zoll.) E. Fisch.	PREM		
						<i>caninus</i>	(Huds.) Fr.	PREM		
						<i>simplex</i>	Lloyd	PREM		
							Bosc		Yes	
						<i>impudicus</i>	L.	PREM	Yes	
						<i>indusiatus</i>	Vent.	PREM	Yes	
							(Bosc) Fr.	PREM	Yes	
						<i>rubicundus</i>	(Bull.) Fr.	PREM		
						<i>biennis</i>	Van der Byl	PREM		
						<i>hobbsii</i>	(L.) Pers.	PREM	Yes	
						<i>quercina</i>	(Berk.) G. Gunn.	PREM		
						<i>ochroleuca</i>	(Pat.) Höhn. & Litsch.	PREM		
						<i>tenue</i>	(Fr.) Pat.	PREM	Yes	
						<i>Phaeolus</i>	<i>schweinitzii</i>	PREM		
						<i>Rhodofomitopsis</i>	<i>iliacinogilva</i>	(Berk.) B.K. Cui, M.L. Han & Y.C. Dai	PREM	
						<i>Anauroderma</i>	<i>leptopus</i>	(Pers.) J.S. Furiado	PREM	
		<i>fiscoporia</i>	Wakef.		Wakefield 1948					
		<i>rude</i>	(Berk.) Torrend	PREM	Yes					
		<i>schomburgkii</i>	(Mont. & Berk.) Torrend	PREM						
		<i>sprucei</i>	(Pat.) Torrend		Yes					
		<i>zuluense</i>	Talbot	PREM						
	<i>Ganoderma</i>	<i>alluaudi</i>	Pat. & Har.	PREM						
		<i>annulata</i>	(Fr.) Gilb.	PREM						

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium guides	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Glocephylales	Glocephylaceae	<i>Glocephylum</i>	<i>sepiarium</i> <i>trabeum</i>	(Wulfen) P. Karst. (Pers.) Murrill	PREM PREM	Yes Yes	
					Gomphales	Gomphaceae	<i>Romaria</i>	<i>formosa</i>	(Pers.) Quéf.	PREM
			Hymenochaetales	Clavariadelphaceae			<i>Clavariadelphus</i>	<i>daulinoides</i>	R.H. Petersen	
					Hymenochaetales	Hymenochaetales	<i>Coltricia</i>	<i>perennis</i>	(L.) Murrill	PREM
			Hymenochaetales	Fomitopariaceae			<i>Fomitoparia</i>	<i>capensis</i>	M. Fisch., Cloete, L. Mostert & Hallen (P. Karst.) Murrill	
					Hymenochaetales	Fuscoporiaceae	<i>Fuscoporia</i>	<i>glava</i>	(Schwein.) T. Wagner & M. Fisch.	
			Hymenochaetales	Hydnaceae			<i>Hydnum</i>	<i>auriscalpium</i>	Lour.	PREM
					Hymenochaetales	Hymenochaetales	<i>longispinosum</i>	Lloyd	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>muclidum</i>	Pers.	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>sclerodontium</i>	Mont. & Berk.	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>setosum</i>	Pers.	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>cinnamomea</i>	(Pers.) Bres.	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>coniformis</i>	G. Cunn.	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>fasciculata</i>	P.H.B. Talbot	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>filva</i>	Burt	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>lucobadia</i>	(Fr.) Höhn. & Litsch.	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>ochromarginata</i>	P.H.B. Talbot	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>pinnatifida</i>	Burt	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>rubiginosa</i>	(Dicks.) Lévl.	PREM	Yes
					Hymenochaetales	Hymenochaetales	<i>semisupposita</i>	Petch	PREM	Yes
			Hymenochaetales	Hymenochaetales			<i>tabacina</i>	(Sowerby) Lévl.	PREM	Yes
Hymenochaetales	Hymenochaetales	<i>tristicula</i>			(Berk. & Broome) Masse	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>glabrus</i>	(Schwein.) Par.	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>ignarius</i>	(L.) Quel.		Yes			
		Hymenochaetales	Hymenochaetales	<i>resupinatus</i>	M. Fisch., Cloete, L. Mostert & Hallen			Cloete et al. 2016		
Hymenochaetales	Hymenochaetales			<i>rimosus</i>	(Berk.) Pilát	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>albobadius</i>	C.G. Loyd	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>duisigeri</i>	C.G. Loyd	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>subcataloides</i>	C.G. Loyd	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>bysogenum</i>	(Jungb.) Ryvarden	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>aurantiaca</i> f. <i>infr-</i>	D.A. Reid	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>dibuliformis</i>		PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>bicolor</i>	P.H.B. Talbot	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>byliana</i>	P.H.B. Talbot	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>grandispora</i>	P.H.B. Talbot	PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>populinus</i>	(Schumacher) Donk	PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>oxyporus</i>		PREM	Yes			
Hymenochaetales	Hymenochaetales			<i>incertae sedis</i>		PREM	Yes			
		Hymenochaetales	Hymenochaetales	<i>incertae sedis</i>		PREM	Yes			

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)		
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Meruliaceae	<i>Irpex</i>	<i>fiavus</i>	(Jungh.) Kalchbr.	PREM				
						<i>grosus</i>	Kalchbr.	PREM				
						<i>modestus</i>	Berk. ex Cooke	PREM				
						<i>obliquus</i>	(Schrad.) Fr.	PREM				
						<i>villerens</i>	Berk. & Broome	PREM				
						<i>fiaveana</i>	(Henn.) Sacc.	PREM				
						<i>pusulata</i>	Berk. & Broome	PREM				
						<i>vollensii</i>	Bres.	PREM				
						<i>corium</i>	(Pers.) Fr.	PREM				
						<i>gelatinosus</i>	Petch	PREM				
					<i>Merrulius</i>	<i>hinantioides</i>	Fr.	PREM				
						<i>lacrymans</i>	(Wulfen) Schumach.	PREM				
						<i>mollicus</i>	Fr.	PREM				
						<i>pinastri</i>	(Fr.) Burt	PREM				
						<i>rufus</i>	Pers.	PREM				
						<i>squalidus</i>	Fr.	PREM				
						<i>tremellosus</i>	Schrad.	PREM				
						<i>ochraceus</i>	(Pers.) Bourdot & Galzin	PREM				
						<i>arguta</i>	(Fr.) Quel.	PREM				
						<i>bicolor</i>	(Alb. & Schwein.) Quel.	PREM				
					<i>Phlebia</i>	<i>mellea</i>	(Berk. & Broome) Rea	PREM				
						<i>strigosonata</i>	(Schwein.) Lloyd	PREM				
					<i>Podoclypha</i>	<i>affinis</i>	(Berk. & M.A. Curtis) Pat.	PREM				
						<i>involuta</i>	(Klorzsch) Imazeki	PREM				
					Phanerochaetaceae	<i>Pseudagarobasidium</i>	<i>parvula</i>	(Lloyd) D.A. Reid	PREM	Yes		Wood and Ginns 2006
							<i>acaciicola</i>	Ginns				
					Podoscyphaceae	<i>Aboortporus</i>	<i>biennis</i>	(Bull.) Singer		Yes		
							<i>lata</i>	(Berk.) Ryvarden	PREM			
					Polyporaceae	<i>Coriolopsis</i>	<i>polyzona</i>	(Pers.) Ryvarden	PREM	Yes		
							<i>strumosa</i>	(Fr.) Ryvarden	PREM			
							<i>azureus</i>	(Fr.) G. Gunn.	PREM			
							<i>obducens</i>	(Pers.) Bourdot & Galzin	PREM			
<i>pubescens</i>	(Schumach.) Quel.	PREM										
<i>unicolor</i>	(Bull.) Pat.	PREM										
<i>zonatus</i>	(Nees) Quel.	PREM										
<i>confragosa</i>	(Bolton) J. Schröt.	PREM	Yes									
<i>brasilienis</i>	(Fr.) Fr.	PREM										
<i>europaeus</i>	Fr.	PREM										

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	<i>Favolus</i>	<i>friesii</i>	Berk. & M.A. Curtis	PREM		
						<i>hispidulus</i>	Berk. & M.A. Curtis	PREM		
						<i>spatulatus</i>	(Jungh.) Lévl.	PREM	Yes	
						<i>annosus</i>	(Fr.) Cooke	PREM		
						<i>caliginosus</i>	(Berk.) Cooke	PREM		
						<i>caryophylli</i>	(Racib.) Bres.	PREM		
						<i>conchatus</i>	(Pers.) Gillet	PREM		
						<i>coninatus</i>	(Wginn.) Gillet	PREM		
						<i>facinens</i>	(Bull.) Cooke	PREM		
						<i>fulvus</i>	(Scop.) Gillet	PREM		
						<i>geotropus</i>	(Cooke) Cooke	PREM		
						<i>gibbosus</i>	(Blume & T. Nees) Sacc.	PREM		
						<i>gilvus</i>	(Schwein.) Lloyd	PREM		
						<i>glaucoportus</i>	Lloyd	PREM		
						<i>hornodermus</i>	(Mont.) Cooke	PREM		
						<i>kamphaeneri</i>	(Fr.) Sacc.	PREM		
						<i>langloisi</i>	Murrill) Sacc. & D. Sacc.	PREM		
						<i>laricis</i>	(F. Rubel) Murrill	PREM		
						<i>leucophaeus</i>	(Mont.) Cooke	PREM		
						<i>lignosus</i>	(Klotzsch) Bres.	PREM		
						<i>lividus</i>	(Kaltchr. ex Cooke) Sacc.	PREM		
						<i>maegregorii</i>	Bres.	PREM		
						<i>marginatus</i>	(Pers.) Fr.	PREM		
						<i>marmoratus</i>	(Berk. & M.A. Curtis) Cooke	PREM		
						<i>melanoporus</i>	(Mont.) Sacc.	PREM		
						<i>minutulus</i>	Henn.	PREM		
						<i>pachyphloeus</i>	Corner	PREM		
						<i>pectinatus</i>	Lloyd	PREM		
	<i>pinicola</i>	(Sw.) Cooke	PREM							
	<i>putearius</i>	Weir	PREM							
	<i>ribis</i>	(Schumach.) Gillet	PREM							
	<i>rimosus</i>	(Berk.) Cooke	PREM							
	<i>robisoniae</i>	(Murrill) Sacc. & Trotter	PREM							
	<i>roburnetus</i>	Lázaro Ibiza	PREM							
	<i>rosens</i>	(Alb. & Schwein.) Fr.	PREM							
	<i>scalaris</i>	(Berk.) Sacc.	PREM							
	<i>senec</i>	(Nees & Mont.) Cooke	PREM							
	<i>sessilis</i>	(Murrill) Sacc. & D. Sacc.	PREM							
	<i>ubunarius</i>	(Sowerby) Gillet	PREM							

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)	
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	<i>Fomes</i>	<i>ungulatus</i>	Lázaro Ibiza	PREM			
						<i>velutinus</i>	Bres.	PREM			
						<i>yucatanensis</i>	(Murrill) Sacc. & D. Sacc.	PREM			
						<i>zambesiansus</i>	(Lloyd) Sacc.	PREM			
						<i>zuluensis</i>	Wakef.	PREM			
						<i>Fornalia</i>	<i>gallica</i>	(Fr.) Bondartsev & Singer	Yes		
							<i>leonina</i>	(Klotzsch) Pat.	PREM		
							<i>protea</i>	(Berk.) D.A. Reid	Yes		
							<i>ingii</i>	(Berk.) Bondartsev & Singer	Yes		
							<i>pseudomappa</i>	P.H.B. Talbot	PREM		
					<i>subata</i>		(Berk.) Redhead & Gimms	Yes			
					<i>albida</i>		Lloyd	PREM			
					<i>crinigera</i>		Fr.	PREM			
					<i>discopoda</i>		Pat. & Har.	PREM			
					<i>drageana</i>		Lév.	PREM			
					<i>Lentinus</i>	<i>friesiana</i>	Spieg.	PREM			
						<i>glabra</i>	(P. Beauv.) Ryvarden	PREM			
						<i>hirria</i> f. <i>hyarix</i>	(Cooke) O. Fidalgo	PREM			
						<i>pubegutinii</i>	Har.	PREM			
						<i>polygamma</i>	(Mont.) Fr.	PREM			
						<i>rigida</i>	Berk.	PREM			
						<i>speciosa</i>	Fr.	PREM			
						<i>tenuis</i>	(Hook.) Fr.	PREM	Yes		
						<i>tricolor</i>	Fr.	PREM			
						<i>zambesiana</i>	Torrend	PREM			
						<i>arularius</i>	(Batsch) Zmitr	PREM	Yes		
						<i>bisus</i>	Quel.	PREM			
					<i>fisatanus</i>	Kalchbr. & MacOwan	PREM				
					<i>flabelliformis</i>	(Bolton) Fr.	PREM				
					<i>lecomtei</i>	Fr.	PREM				
					<i>murnayi</i>	Kalchbr. & MacOwan	PREM				
					<i>nigripes</i>	Fr.	PREM				
<i>omphalodes</i> var. <i>africanus</i>	A. Pearson			Pearson 1950							
<i>sejor-caju</i>	(Fr.) Fr.	PREM	Yes								
<i>strigosus</i>	Fr.	PREM	Yes								
<i>stuppeus</i>	Klotzsch	PREM	Yes								
<i>tigrinus</i>	(Bull.) Fr.	PREM									
<i>tuber-regium</i>	(Fr.) Fr.	PREM									

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	<i>Lenzites</i>	<i>velutinus</i>	Fr.	PREM	Yes	
						<i>villosus</i>	Klorzsch	PREM	Yes	
					<i>Lenzites</i>	<i>zeyheri</i>	Berk.	PREM		
						<i>abietina</i>	(Bull.) Fr.	PREM		
						<i>aspera</i>	(Klorzsch) Fr.	PREM		
						<i>benulina</i>	(L.) Fr.	PREM	Yes	
						<i>guineensis</i>	(Afzel. ex Fr.) Fr.	PREM		
						<i>junghubnii</i>	Lév.	PREM		
						<i>pallisoni</i>	(Fr.) Fr.	PREM		
						<i>quercina</i>	(L.) P. Karst.	PREM		
						<i>repanda</i>	(Mont.) Fr.	PREM		
						<i>tricolor</i>	(Bull.) Fr.	PREM		
					<i>Lopharia</i>	<i>lirelloa</i>	Kalchbr. & MacOwan	PREM		Kalchbrenner & MacOwan 1881
						<i>mirabilis</i>	(Berk. & Broome) Pat.	PREM		
					<i>Lignosus</i>	<i>sacer</i>	(Afzel. ex Fr.) Rywarden	PREM	Yes	
					<i>Microporus</i>	<i>xanthopus</i>	(Fr.) Kuntze	PREM	Yes	
						<i>vinosus</i>	(Berk.) Murrill	PREM		
					<i>Neolentinus</i>	<i>lepidus</i>	(Fr.) Redhead & Ginns	PREM	Yes	
						<i>stipiticus</i>	(Bull.) Fr.	PREM		
					<i>Panus</i>	<i>stipiticus</i> var. <i>farinaceus</i>	(Schumacher) Rea	PREM		
						<i>stuppeus</i>	(Klorzsch) Pegler & R.W. Rayner	PREM		
					<i>Perenniporia</i>	<i>ochroleuca</i>	(Berk.) Rywarden	PREM		
						<i>badius</i>	(Pers.) Zmitr. & Kovalenko	PREM	Yes	
					<i>Phellinus</i>	<i>badius</i>	(Cooke) G. Cunn.	PREM	Yes	
						<i>robustus</i>	(P. Karst.) Bourdot & Galzin	PREM	Yes	
					<i>Polyporus</i>	<i>adustus</i>	(Willd.) Fr.	PREM		
						<i>affinis</i>	Blume & T. Nees	PREM		
						<i>amebus</i>	Berk.	PREM		
						<i>arenosobasus</i>	Lloyd	PREM		
						<i>australensis</i>	Wakef.	PREM		
						<i>baurii</i>	Kalchbr.	PREM		
						<i>berkeleyi</i>	Fr.	PREM		
						<i>biformis</i>	Fr.	PREM		
<i>chilensis</i>	Speng.	PREM								
<i>cichoriacens</i>	Berk.	PREM								
<i>conchatus</i>	C.G. Lloyd	PREM								
<i>cononeus</i>	Pat. & Har.	PREM								
<i>cuticularis</i>	(Bull.) Fr.	PREM								

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium	Field guides	Previous publications (if not in field guides)
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	<i>Polyporus</i>	<i>dicropus</i>	Mont.	PREM	Yes	
						<i>doitgeae</i>	Wakef.	PREM		
						<i>darbanensis</i>	Van der Byl	PREM		
						<i>durus</i>	(Timm) Kreisel	PREM		
						<i>favoloides</i>	Henn.	PREM		
						<i>flabelliformis</i>	Klotzsch	PREM		
						<i>flexilis</i>	Van der Byl	PREM		
						<i>fruticum</i>	Berk. & M.A. Curtis	PREM		
						<i>gibbus</i>	(Schwein.) Fr.	PREM		
						<i>grammocephalus</i>	Berk.	PREM		
						<i>heterodictus</i>	(Bolton) Fr.	PREM		
						<i>immaculatus</i>	Berk. ex Lloyd	PREM		
						<i>isidioides</i>	Berk.	PREM		Berkeley 1843
						<i>masoporus</i>	Lév.	PREM		
						<i>ochrolaccatus</i>	Mont.	PREM		
						<i>ochroleucus</i>	Berk.	PREM		
						<i>ochroporus</i>	Van der Byl	PREM		
						<i>patouillardii</i>	Lloyd	PREM		
						<i>picipes</i>	Rostk.	PREM		
						<i>pacula</i>	(Fr.) Berk. & M.A. Curtis	PREM		
						<i>radiatus</i>	(Sowerby) Fr.	PREM		
						<i>rhizidium</i>	Berk.	PREM		
						<i>rubidus</i>	Berk.	PREM		
						<i>rugulosus</i>	Lasch	PREM		
						<i>rusticus</i>	C.G. Lloyd	PREM		
						<i>schweinitzii</i>	Fr.	PREM		
						<i>semipilatus</i>	Peck	PREM		
						<i>setiporus</i>	Berk.	PREM		
						<i>squamosus</i>	(Huds.) Fr.	PREM		
						<i>subradiatus</i>	Bres.	PREM		
						<i>tefainii</i>	Klotzsch	PREM		
						<i>trichiliae</i>	Van der Byl	PREM		
<i>undatus</i>	Pers.	PREM								
<i>varius</i>	(Pers.) Fr.	PREM								
<i>vibecinus</i> var. <i>antilopum</i>	Kalchbr.	PREM								
<i>sagguinus</i>	(L.) Murrill	PREM		Yes						
<i>albatexta capensis</i>	C.G. Lloyd	PREM								
<i>Trametes</i>	Lloyd				Doitge 1950					

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium guides	Field guides	Previous publications (if not in field guides)		
Fungi	Basidiomycota	Agaricomycetes	Polyporales	Polyporaceae	<i>Trametes</i>	<i>cingulata</i>	Berk.	PREM	Yes			
						<i>edgans</i>	(Spreng.) Fr.	PREM	Yes			
						<i>gibbosa</i>	(Pers.) Fr.	PREM	Yes			
						<i>griseo-lactina</i>	Van der Byl	PREM				
						<i>hirsuta</i>	(Wulfen) Lloyd	PREM	Yes			
						<i>keerii</i>	Van der Byl	PREM				
						<i>meyenii</i>	(Klotzsch) Lloyd	PREM	Yes			
						<i>subflava</i>	C.G. Lloyd	PREM				
						<i>versicolor</i>	(L.) Lloyd	PREM	Yes			
						<i>omphalodes</i> var. <i>africanus</i>	A. Pearson		Yes			
						<i>astrovrficana</i>	Jia J. Chen, L.L. Shen & Y.C. Dai			Chen et al. 2015		
						<i>bicolor</i>	(Pers.) Lentz	PREM	Yes			
						<i>cernicular</i>	(Berk. & M.A. Curtis) Masse	PREM				
						<i>rhodoporum</i>	(Wäkef.) Boidin & Lanq	PREM				
						<i>cristatum</i>	Lloyd	PREM				
			<i>zenkeri</i>	Henn.	PREM							
			Peniophoraceae				<i>arenata</i>	P.H.B. Talbot	PREM			
							<i>aspena</i>	(Pers.) Sacc.	PREM			
							<i>carnea</i>	(Willd.) P. Karst.	PREM			
							<i>cinerea</i>	(Pers.) Cooke	PREM			
							<i>filamentosa</i>	(Berk. & M.A. Curtis) Moffatt	PREM			
							<i>gigantea</i>	(Fr.) Masse	PREM			
							<i>heterocystidia</i>	Burt.	PREM			
							<i>longispora</i> var. <i>brachyspora</i>	P.H.B. Talbot & V.C. Green	PREM			
							<i>lycii</i>	Höhn. & Litsch.	PREM	Yes		
							<i>pelliculosa</i>	P.H.B. Talbot	PREM			
							<i>quercina</i>	(Pers.) Cooke	PREM			
<i>rimicola</i>	(P. Karst.) Höhn. & Litsch.	PREM										
Russulaceae				<i>munquerei</i>	(Bres.) Bres.	PREM						
				<i>tenis</i>	(Pac.) Masse	PREM						
				<i>triscutula</i>	(Berk. & Broome) Boidin & Lanq.	PREM						
				<i>velutina</i>	(DC.) Cooke	PREM						
				<i>deliciosus</i>	(L.) Gray	PREM	Yes					
				<i>hepaticus</i>	Plowr.	PREM	Yes					
				<i>piperatus</i>	(L.) Pers.	PREM						
Russula				<i>agaricina</i>	(Kalchbr. ex Berk.) Tapper & T.F. Elliott	PREM			Van der Westhuizen and Eicker 1988			
				<i>caerulea</i>	Fr.		Yes		Berkeley 1876			

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium guides	Field guides	Previous publications (if not in field guides)					
Amoebozoa	Mycetozoa	Myxomycetes	Physarales	Physaraceae	Graterium	<i>leucophaalum aureum</i>	(Pers. ex J.F.Gmel.) Dirmar (Schumach.) Rostaf.			See text					
						<i>dichyosporum minutum</i>	(Rostaf.) H.Neubert, Noworny & K.Baumann (Leers) Fr.			See text					
					Fuligo	<i>cinerea muscorum</i>	(Schwein.) Morgan Alb. & Schwein			See text					
						<i>septata fragilis</i>	(L.) F.H.Wigg. (Dicks.) Rostaf.			See text					
						Lecarpus	<i>oblonga cinereum</i>	(Berk. & M.A.Curtis) Morgan (Bartsch) Pers.			See text				
							Physarella	<i>mellem</i>	(Berk. & Broome) Massee			See text			
						<i>pezizoidum album</i>		(Jungb.) Pavill. & Lagarde (Bull.) Chevall.		Yes	See text				
						Physarum		<i>auriscalpium bitectum</i>	Cooke G.Lister			See text			
								<i>bivalve bogoriense</i>	Pers. Racib.			See text			
							<i>citrinum compressum</i>	Schumach. Alb. & Schwein.			See text				
						Willkommia					<i>confertum didermoides</i>	T.Machr. (Pers.) Rostaf.			See text
											<i>digitatum flavicomum</i>	G.Lister & Farquhatson Berk.	Yes		See text
											<i>gyrosium javanicum</i>	Rostaf. Racib.			See text
					<i>leucophaalum leucopus</i>						Fr. Link			See text	
					<i>mutabile notabile</i>						(Rostaf.) G.Lister T.Machr.			See text	
					<i>nucleatum penetrale</i>						Rex Rex			See text	
					<i>pusillum roseum</i>						(Berk. & M.A.Curtis) G.Lister Berk. & Broome			See text	
					<i>stellatum tenerum</i>						(Massee) G.W.Martin Rex			See text	
					<i>vernum viride</i>						Sommerf. (Bull.) Pers.			See text	
					<i>Willkommilangea reticulata</i>						(Alb. & Schwein.) Kuntze				See text

Kingdom	Phylum	Class	Order	Family	Genus	Species	Authority	Fun-garium guides	Field guides	Previous publications (if not in field guides)
Amoebozoa	Mycetozoa	Myxomycetes	Stemonitales	Stemonitidaceae	<i>Anaiarchoete</i>	<i>atra</i>	(Alb. & Schwein.) Rostaf.			See text
					<i>Comatricha</i>	<i>alba</i>	Preuss			See text
					<i>Enerthemema</i>	<i>papillatum</i>	(Pers. ex J.F.Gmel.) J. Schröt.			See text
					<i>Lamproderma</i>	<i>arcyrioides</i>	(Sommerf.) Rostaf.			See text
						<i>scintillans</i>	(Berk. & Broome) Morgan			See text
					<i>Stemonaria</i>	<i>irregularis</i>	(Rex) Nann.-Bremek. & Y.Yamam.			See text
						<i>longa</i>	(Peck) Nann.-Bremek.			See text
					<i>Stemonitis</i>	<i>splendens</i>	Rostaf.			See text
						<i>ascifera</i>	(Bull.) T.Macbr.			See text
						<i>fusca</i>	Roth			See text
						<i>herbatica</i>	Peck			See text
						<i>pallida</i>	Wingate			See text
					<i>Stemonitopsis</i>	<i>typhina</i>	(F.H.Wigg.) Nann.-Bremek.			See text
					<i>Calomyxa</i>	<i>metallica</i>	(Berk.) Nieuwl.			See text
					<i>Arcyria</i>	<i>cinerea</i>	(Bull.) Pers.			See text
						<i>demodata</i>	(L.) Wetst.			See text
						<i>incarnata</i>	(Pers. ex J.F.Gmel.) Pers.			See text
						<i>insignis</i>	Kalchbr. & Cooke			See text
						<i>minuta</i>	Buchet			See text
						<i>obovata</i>	(Oeder) Onshberg			See text
						<i>oerstedii</i>	Rostaf.			See text
						<i>paniformis</i>	(Leers) Rostaf.			See text
					<i>Hemitrichia</i>	<i>clavata</i>	(Pers.) Rostaf.			See text
<i>Metatrichia</i>	<i>serpula</i>	(Scop.) Rostaf. ex Lister			See text					
	<i>vesparia</i>	(Bartsch) Nann.-Bremek. ex G.W.Martin & Alexop.			See text					
<i>Oligonema</i>	<i>schweinitzii</i>	(Berk.) G.W.Martin			See text					
<i>Perichaena</i>	<i>depressa</i>	Lib.			See text					
	<i>coriiculis</i>	(Bartsch) Rostaf.			See text					
<i>Trichia</i>	<i>persimilis</i>	P.Karst.			See text					
	<i>affinis</i>	de Bary			See text					
	<i>borryis</i>	(J.F.Gmel.) Pers.			See text					
	<i>favaginea</i>	(Bartsch) Pers.			See text					
	<i>scabra</i>	Rostaf.			See text					
	<i>vana</i>	(Pers. ex J.F.Gmel.) Pers.			See text					
<i>Ceratiomyxa</i>	<i>fruculosa</i>	(O.E.Müll.) T.Macbr.			See text					
<i>Ceratium</i>	<i>sphaeroidemum</i>	Kalchbr. & Cooke			See text					
					Kalchbrenner and Cooke 1880					

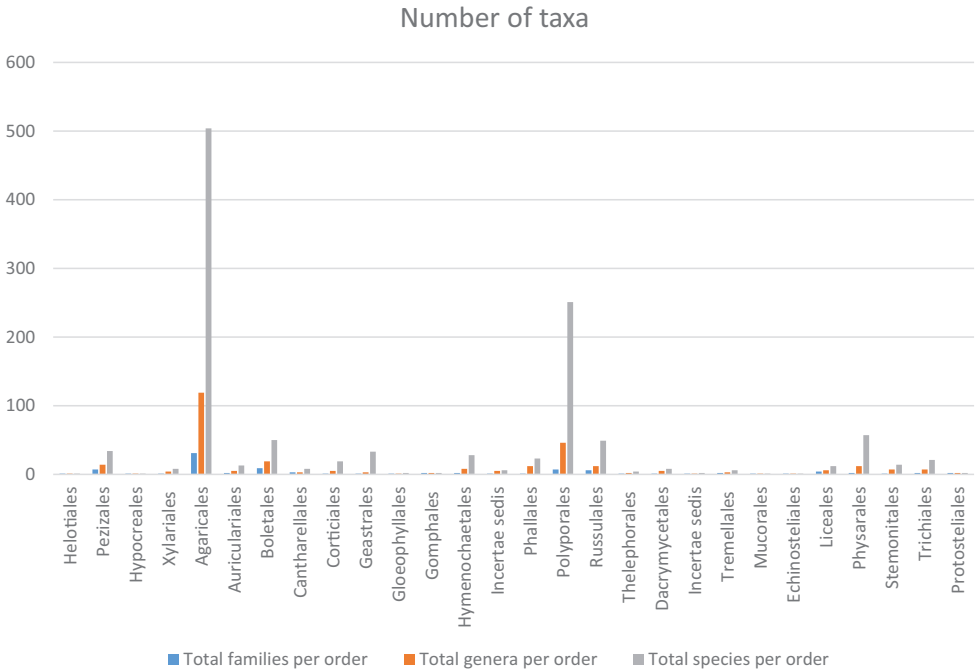


Figure 1. Bargraph indicating proportions of families, genera and species per order.

as myxomycetes, is represented by only two species, *Ceratiomyxa fruticulosa* (O.F. Müll.) T. Macbr and *Ceratium sphaeroideum* Kalchbr. & Cooke (Kalchbrenner and Cooke 1880; Spiegel et al. 2017).

As expected, cosmopolitan and widespread species in Africa have been reported from South Africa, such as *Arcyria cinerea* (Bull.) Pers., *Arcyria denudata* (L.) Wettst., *Stemonitis fusca* Roth, *Physarum pusillum* (Berk. & M.A. Curtis) G. Lister, *P. compressum* Alb. & Schwein., *Lycogala epidendrum* (L.) Fr., *Diderma hemisphaericum* (Bull.) Hornem., *Stemonitis splendens* Rostaf., *Didymium squamulosum* (Alb. & Schwein.) Fr. & Palmquist, *Fuligo septic* (L.) F.H. Wigg., *Hemitrichia serpula* (Scop.) Rostaf. ex Lister, *Metatrichia vesparia* (Batsch) Nann.-Bremek. ex G.W. Martin & Alexop. and *Pericheana depressa* Lib (<http://www.discoverlife.org/>). The number of species reported from South Africa also compares favorably with the approximately 375 myxomycete species reported from the African continent and its territories (Ndiritu and de Haan 2017). However, this is fewer than the 431 species reported from 30 countries in the Neotropics and 880 species from across the world (Lado 2005–2018).

Myxomycetes are not represented in PREM. This large deficit is most likely because slime molds have a different biology from fungi. This also reflects the limited focus that the broad fungal diversity has received in South Africa, with a much larger focus on disease causing fungi of plants, animals and humans. Even within mycological circles, slime molds have received very limited attention and there has been no expertise in studying them.

Discussion

The checklist gives an overview of the visible mycobiota of South Africa from different sources of data. The checklist presented in this publication is the first for South African macrofungi and is as comprehensive as can be of currently collected and published macrofungi. The list will serve as a foundation to add names to a future real-time, developing, online list that should eventually become as complete as possible, similar to what is available for other organisms in South Africa such as plants and animals. Information on South African macrofungi is still scanty and a great degree of inventorying is needed to document existing species, as well as new species, in order to produce more detailed checklists of macrofungi of South Africa. It will also need future refinement and additions are already forthcoming, including ecological and distribution information.

South Africa has a long history of mycology. Based on what was published in the available field guides on macrofungi for South Africa (Stephens and Kidd 1953a, b; Levin et al. 1985; Van der Westhuizen and Eicker 1994; Branch 2001; Gryzenhout 2010; Goldman and Gryzenhout 2019), the most common macrofungal species reported across all the years belonged to several genera, including *Agaricus* L., *Amanita* Pers., *Boletus* L., *Coprinus* Pers., *Lactarius* Pers., *Laetiporus* Murr., *Macrolepiota* Singer, *Russula* Pers., and *Suillus* Gray. There exists a level of overlap of species mentioned in the different field guides, but each field guide also included unique species while not one of them is complete or comprehensive due to publishing constraints. However, even the guides combined do not yet encompass the diversity of known and unknown species present in South Africa.

A number of scientific publications exist that listed macrofungi for South Africa in general. Doidge (1950) summarized the content of her book in tabular form, listing 835 Ascomycete species, 1704 Basidiomycetes species (36%) and several species of myxomycetes. The phytopathogenic component of these species, and species discovered since then, were summarized by Crous et al. (2000). Van der Westhuizen and Eicker (1988) listed the various fungi known at that stage in the Pretoria area (Gauteng Province), while Gorter and Eicker (1988) provided Afrikaans names for a list of fungi. Vellinga et al. (2009) and Wood (2017) listed a number of fungi, including macrofungi that they considered to be introduced into South Africa.

Eicker and Baxter (1999) presented a good overview of research done on basidiomycetes from 1977 to 1999. Their publication provides references to studies on the genera and species of *Phaeolus* (Pat.) Pat., *Pisolithus* Alb. & Schwein., *Termitomyces* R. Heim, *Amanita* Pers., *Chlorophyllum* Masee, *Clathrus* P. Micheli ex L., *Hymenagaricus* Heinem., *Lepiota* (Pers.) Gray, *Macrolepiota* Singer, *Leucoagaricus* Locq. ex Singer, *Leucocoprinus* Pat., *Montagnea* Fr. and *Hymenochaete* Lév. A monograph on resupinate and stereoid *Hymenomycetes*, a revision of *Hymenochaete* Lév. (*Hymenochaetaceae*) (Job, 1987) and a series of papers dealing with *Stereum* Pers., *Lopharia* Kalchbr. & MacOwan, *Cymatoderma* Jungh. and the *Thelephoraceae* (Gorter, 1979). Paul A. van der Byl was known for his pioneering work on polypores or bracket fungi while Averil M. Bottomley documented South African Gasteromycetes (Bottomley, 1948). New species of Gasteromycetes were described, such as *Bovista acocksii* De Villiers, Eicker & Van der Westhuizen (De Villiers

et al. 1989), but limited information is still available for the Geasteraceae of South Africa (Coetzee and Van Wyk 2003). A new basidiomycetous species, namely *Pseudolagarobasidium acaciicola* Ginns, was considered to be a potential biocontrol against the invasive weed *Acacia cyclops* (Wood and Ginns 2006; Kotzé et al. 2015).

A number of recent studies on macrofungi included DNA phylogenetic data. For example, studies during the early part of the last century reported *Armillaria mellea* (Vahl: Fr.) P. Kumm. in South Africa (Pole 1933; Kotzé 1935; Bottomley 1937), that was largely associated with an expanding plantation forestry industry and the pathogenic nature of the fungus. However, recent morphologic and DNA-based studies showed that the fungus killing pine trees in South Africa is *A. fuscipes* Petch (Coetzee et al. 2000), while the Northern Hemisphere species *A. mellea* and *A. gallica* Marxm. & Romagn. are restricted to the Western Cape on non-native trees and dying *Protea* plants in the Kirstenbosch Botanical Gardens, respectively (Coetzee et al. 2000, 2003). However, recent studies alarmingly showed that *A. mellea* is spreading to native fynbos areas and is able to infect a number of native plants in natural ecosystems of the Western Cape (Coetzee et al. 2018).

A number of new *Ganoderma* species were discovered through the use of DNA sequences. These include *Ganoderma austroafricanum* Coetzee, M.J. Wingf., Marinc., Blanchette on *Jacaranda mimosifolia*, which was assumed to be the main causal agent of root rot on these trees (Crous et al. 2014), *G. enigmaticum* M.P.A. Coetzee, Marinc., M.J. Wingf. and *G. destructans* M.P.A. Coetzee, Marinc., M.J. Wingf. (Coetzee et al. 2015). *Ganoderma destructans*, another novel species *G. dunense* Tchotet, Rachjenb. & Jol. Roux, an undescribed novel species of *Ganoderma*, and *Pseudolagaricobasidium acaciicola* were also found associated with dying plants of the invasive weed *Acacia cyclops* in the Eastern and Western Cape Province (Tchoumi et al. 2018). A survey (Tchotet et al. 2017) on wood-rotting basidiomycetes from various declining native tree species in the Garden Route National Park (Western Cape) also showed *Ganoderma* to be the most prominent associated group, together with *Innonotus*, *Fomitoparia* and *Wrightoporia* to a lesser degree. The study also defined other operational taxonomic units (OTUs) with sequence data from such symptoms, and assigned tentative identities based on closest sequence hits on the UNITE database. In Tchotet et al. (2019) the OTU's belonging to *Ganoderma* was further characterized based on multi-gene phylogenies and brought up the number of *Ganoderma* species present in South Africa to 13. From the study another two new species, namely *G. eickeri* Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux and *G. knysnamense* Tchotet, M.P.A. Coetzee, Rachjenb. & Jol. Roux, were described, and the two phylogenetic groups named as *G. cf. resinaceum* Boud. and *G. cf. cupreum* (Sacc.) Bres. could indicate the first reports of these species in South Africa. *Ganoderma cf. cupreum* has not been previously collected or observed (Table 1), while specimens of *G. resinaceum* are present in PREM and the species has been recorded previously (Table 1).

A new *Fomitoporia* species, *F. capensis* M. Fisch., M. Cloete, L. Mostert, F. Halleen, was described from South Africa based on fruit body morphology and combined internal transcribed spacer (ITS) and large-subunit ribosomal RNA gene (LSU) sequence comparisons (Cloete et al. 2014). The new species *Phellinus resupinatus* M. Fisch., M.

Cloete, L. Mostert, F. Halleen, was found to be associated with the disease esca and white rot on grape vines (Cloete et al. 2016). Two new *Chlorophyllum* species, namely *C. palaeotropicum* Z.W. Ge & A. Jacobs and *C. africanum* Z.W. Ge & A. Jacobs, were described based on morphology and DNA sequences of the ITS, partial LSU, the second largest subunit of RNA polymerase II (*rpb2*) and translation elongation factor 1- α (*tef1*) sequences (Ge et al. 2018). The jacaranda stinkhorn (*Itajahya galericulata* Möller) in Pretoria was also typed phylogenetically (Marincowitz et al. 2015).

Fungi associated with termite mounds formed the focus of a number of studies. *Termitomyces* spp. associated with some termite species are arguably some of the best known fungi among non-specialists in South Africa, as they are rather obvious, numerous, interesting and a well-loved delicacy. A number of species have been described from South Africa (Botha and Eicker 1991a, b; Eicker and Baxter 1999; Fine Licht et al. 2005), but not all species of *Termitomyces* associated with the 42 South African fungus growing termite species have been characterized. Neither have the *Xylaria* Hill ex Schrank species (Ascomycetes, Xylariaceae) associated with termite nests been fully characterized. However, *X. fioriana* Sacc. was identified and described in South Africa (Saccardo 1891). Another well-known associate with termite mounds, *Podaxis pistillaris* (L.) Fr., was also found to consist of more than one phylogenetic lineage, including several collections from Africa, that could be supported morphologically and ecologically (Conlon et al. 2016, 2019).

A total of 105 myxomycete species (Table 1) are known from South Africa (Ndiritu and De Haan 2017). The first record of myxomycetes of South African myxomycetes was published in 1917 (Duthie 1917a). Additional published surveys included Duthie (1917b) and Doidge (1950). One would expect more species in South Africa especially when considering the presence of diverse habitats across such a large surface area. Clearly, this is a vastly understudied and underexploited group in South Africa supported by no local expertise.

A number of species presented in past field guides (Table 1), which should present studied fungi, do not have specimens lodged in PREM (15%, excluding slime molds) and are thus not present in our National Collection. For instance, none of the important termite-cultivated *Termitomyces* species, including the iconic *Termitomyces umkowaan* (Cooke & Masee) D.A. Reid that is readily consumed by many, has fungorium specimens in PREM. These even include commonly occurring species such as *Schizophyllum commune* Fr. that are widespread throughout South Africa and that can even be observed in dry conditions. Only 14% of fungi (excluding slime molds) published in previous field guides are also lodged in PREM (Table 1).

Conversely, a very large proportion of species in PREM (77% excluding slime molds) have not been included in popular field guides and are thus largely unknown to citizens interested in these fungi, and even professional mycologists. These pieces of forgotten knowledge are crucial to complete the current and future status of our fungal biodiversity, and represent a glimpse of the diversity in earlier times. For instance, 11 species of *Pholiota* (Fr.) P. Kumm. are lodged in PREM but did not feature in previous field guides. A twelfth species, *P. squarrosa* (Oeder) P. Kumm., is the only species currently listed in field guides but specimens for this species are not lodged in PREM

(Table 1). Many of these collections representing genera or closely related groups, however, represent invaluable research opportunities to update the status of species in South Africa in the form of monographs and contemporary phylogenetic studies, to add new samples and possibly describe novel species.

Although great care was taken to eliminate possible synonyms present in the list, and to provide the most recent names for species listed under previous names (Index Fungorum 2019; Crous et al. 2004), a number of synonyms and previous names most likely are still present. It is impossible to continuously crosscheck the list, but errors can be rectified with future revisions for certain groups in the list that aim to eliminate these problems. It is also important to remember when using the list for research, that previous synonyms (including original published or collected names as listed in the contemporary taxonomic databases Index Fungorum and Mycobank) must also be searched.

A number of names listed in Doidge (1950) are not yet present in the list. Since a large proportion of these listed names have new combinations, it was uncertain whether the original author/-s observed them in the sense of what they are called today, or to what genus or species they were attributed to in the past. Some of these names also proved to be non-existent. Due to the importance of Doidge (1950) and the large number of names it contains, it was thus decided to rather treat the names included in Doidge (1950) separately where they can be more carefully linked to existing names and collections and their validity verified, before inclusion in the current checklist published here.

We emphasize that data obtained from publications and books were based on names only at this stage, because although published, some names were not supported by voucher collections that can be used to validate the accuracy of the included names. Even lists obtained from the fungorium, although tied to specimens, may represent misidentifications, previous synonyms or specimens not yet updated to recent systematic schemes for the particular taxon. Furthermore, a large number of macrofungi are still unnamed in South Africa, remain undiscovered, or new reports continue to be generated where discovered fungi could be identified. However, the working list presented here should form a solid foundation to revise names and add more names in future, especially if tied to certain targets or priorities matched to existing expertise and collaborations.

Having a fungal name list is invaluable. It is the first step towards compiling an atlas for macrofungi, similar to what exists for other organisms in South Africa (for example, Harrison et al. 1997). Such an atlas can also include distribution, ecological and biological data useful for diverse end users in governmental institutions, and those linked to conservation, ecology, academia and citizen science (Gryzenhout 2015). Additional products would be used to compile, for the first time, a red-list of macrofungi based on International Union for the Conservation of Nature (IUCN) criteria, and guidelines to protect them based on their biology. It will aid to identify indicator species to monitor ecological integrity and change. The residency status of macrofungi can be defined better, and species that are truly endemic, naturalized, introduced or

invasive can be defined properly within each group. The need for this is already evident where fungi have been previously listed (Vellinga et al. 2009; Wood 2017) but there was no national list for comparison. In fact, one species listed in Vellinga et al. (2009), *Inocybe curvipes* P. Karst., is not present in previous publications or in PREM (Table 1). The checklist information can be used in education for the sustainable and safe use of fungal natural resources, to produce conservation awareness and regulation to protect naturally harvested species and habitats from over-harvesting (Gryzenhout et al. 2010, 2012). Lastly, the lists will be instrumental to do gap assessments from the compiled data to help identify research needs in future, for example where to focus surveys and collections, revisions, and where the greatest gaps for species descriptions exist. A list will also enable citizen scientist collaboration and participation and make the study of fungi more transparent (Gryzenhout 2015).

Human capacity should be developed in the area of mycology and biodiversity conservation. The species found in each region of South Africa is still unknown and there have not been any recent monographic works. Furthermore, a great need exists to continue revising the list, to ensure that more representatives of species are added and taxonomic revisions are undertaken and included in the list. The list should also be enabled to continue and long-term plans should be developed to ensure its sustainability.

The list presented is only based on species and specimens that could be named. A great deal of unknown taxa of macrofungi still exist. In fact, approximately 200 “unknown” macrofungal species of the fungorium records were left out from the list. Furthermore, approximately half of the records lodged in MushroomMap (<http://adu.org.za/>) represent fungi that could not be identified, whereas a great number of equally unknown fungi is posted on the Mushrooms for South Africa Facebook page (<https://www.facebook.com/groups/MushroomsSouthernAfrica/>), or communicated by citizen scientists (Gryzenhout 2015). This great deficit or inability to name numerous South African macrofungi is indicative of the great diversity that we have, the large proportion that are still undiscovered, unstudied, and hence under-utilized, and the paucity of human capacity to do this (South African Fungal Diversity Network 2013). Without active description and characterization, these fungi will remain in obscurity.

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