

**Client report
to the Botanic Gardens and Parks Authority**



**Fungi survey -
Kings Park and Botanic Garden 2010**

Author: Neale L. Bougher

Department of Environment and Conservation, Western Australia



**Government of Western Australia
Department of Environment and Conservation**

December 2010

In conjunction with the Perth Urban Bushland Fungi Project

Perth
Urban
Bushland
Fungi



Figures 1 - 6: Examples of the fungi discovered in Kings Park during 2010. Each of these species is highlighted in the discussion section of this report.



Figure 1: *Galerina pumila* (BOUGHER 672)



Figure 2: *Pluteus perroseus* (BOUGHER 635)



Figure 3: *Trechispora microspora* (BOUGHER 687)



Figure 4: *Banksiamyces toomansis* (BOUGHER 665)



Figure 5: *Lanzia sp. funnel, scurfy stem* (BOUGHER 519)



Figure 6: *Lanzia sp. funnel, scurfy stem* (BOUGHER 519)

Figures 7 - 11: Examples of the fungi discovered in Kings Park during 2010 (continued). Each of these species is highlighted in the discussion section of this report.



Figure 7: *Rhodocollybia sp. leather brown* (BOUGHER 669). Showing its clumped growth form and its position at the base of a sheoak tree.



Figures 9, 10: *Tubaria sp. nov. rich red brown* (BOUGHER 689). Above (Fig. 9): Rich cap colour when young. Below (Fig. 10): Showing the typically strong change to paler colours when older and drier.



Figure 8: *Tylopilus fuscobrunneus* (BOUGHER 616) Showing brown colour changes of the tubes and context.



Figure 11: *Peniophora scintillans* (BOUGHER 688)

Background and Objectives

Kings Park and Botanic Garden is located only 1.5 km from central Perth, Western Australia, and includes a regionally significant bushland covering about 267 ha of the 400 ha Park. Kings Park lies on Spearwood dune systems with underlying limestone geology. The bushland has various vegetation types including woodlands with Tuart (*Eucalyptus gomphocephala*), Jarrah (*Eucalyptus marginata*), Marri (*Corymbia calophylla*), Banksia (including *Banksia attenuata*, *B. grandis*, *B. menziesii*, and *B. prionotes*), and Sheoak (*Allocasuarina fraseriana*). Three major plant communities occur at Kings Park – limestone heathland, banksia woodland, and low moist areas with *Banksia ilicifolia* (Barrett and Tay, 2005).

Fungi and their linkages with flora and fauna undoubtedly have central roles in maintaining the ecology and health of the bushland at Kings Park. Fungi are also present in the Botanic Garden, including beneficial and decomposer fungi and some troublesome pathogenic fungi such as *Armillaria*. Major human-induced changes in the vegetation particularly since European settlement are likely to have caused changes in the fungus communities at Kings Park. The nature of these changes for fungi is not known because there have been only sporadic, uncoordinated records of fungi and their ecology at the park. Efforts to document the fungi at Kings Park since European settlement in the area have resulted in the accumulation of numerous records and collections, indicating that many hundreds of species of fungi are likely to occur in the park. However, the efforts have been mostly sporadic and uncoordinated and have not yielded an accurate measure of the total number of fungi species recorded to date at Kings Park. Any estimate the number of fungi species known so far from Kings Park (see below) depends on the level of acceptance of the many unverified or unverifiable names as representing or not individual species.

Recently, a historical investigation was undertaken into the fungi recorded from Kings Park and Botanic Garden dating back to the first known scientific record in 1839 (Bougher 2009a, 2010a b). Up until 2009 a total of 285 scientific names of fungi had been recorded from Kings Park, with 122 of the names designated to species level. However, it is uncertain how many species of fungi accurately had been recorded up to 2009 at Kings Park because 145 of the 285 names are not based on specimens retained at a herbarium and therefore cannot be verified. If all un-vouchered records are dismissed and vouchered records are considered alone, the total number of fungi species recorded up to 2009 at Kings Park may be estimated as between 80 (the number of names based on vouchered specimens identified to species level) and 140 (all vouchered names and including treating each vouchered collection designated as “sp.” as a unique taxon).

In 2009, the Botanic Gardens and Parks Authority took a significant step to address the poor knowledge base about Kings Park’s fungi by contracting the first of intended annual surveys to document the macrofungi of Kings Park. The survey in 2009 recorded a total of 123 species of fungi including 67% (82) new records for Kings Park (Bougher 2009a). 34 of the 82 new records in 2009 were identified to species level. With the addition of this data to the historical data, there are 156 species of fungi recorded so far from Kings Park. This is a conservative estimate based only on records named to species level (Bougher 2009a *, 2010a).

* Bougher (2009a) quoted 165 fungi named to species level as having been recorded from Kings Park up to and including the 2009 survey. Bougher (2010a) slightly adjusted the figures for pre-2009 species, and as a result the adjusted figure up to and including the 2009 survey is 156.

Ongoing protection and improvement of knowledge about bushland Flora, Fauna and Fungi is an integral part of future management of Kings Park and Botanic Garden. Fungi have direct relevance to the Strategic Policies in the Kings Park and Botanic Garden Draft Management Plan 2009-2014 (Botanic Gardens and Parks Authority 2009). This includes scientific aspects of conserving and enhancing any native biological diversity of the designated land, inspiring educational & community involvement in biodiversity conservation, health & restoration of bushland, and undertaking research into collections of WA and other flora. The current work was contracted to improve the knowledge base about fungi at Kings Park and Botanic Garden.

The objective of this work was to:

Undertake the second annual fungi survey for the draft Kings Park and Botanic Garden Draft Management Plan 2009-2014 (Botanic Gardens and Parks Authority 2009). This survey addressed the following:

a. Field survey

- Inventory of macrofungi fruiting at scheduled survey (including native & exotic, rare & endangered).
- Identity and description (key attributes) of species observed.
- Permanent reference resource of selected specimens.

b. Report

- Inventory and location of fungi observed during the current survey, identified to genus or species level, based on current survey: including possible designation as native and exotic, rare and endangered, beneficial, disease.
- Known vegetation and plant associations of fungal species recorded.

Methods

2. Fungi survey

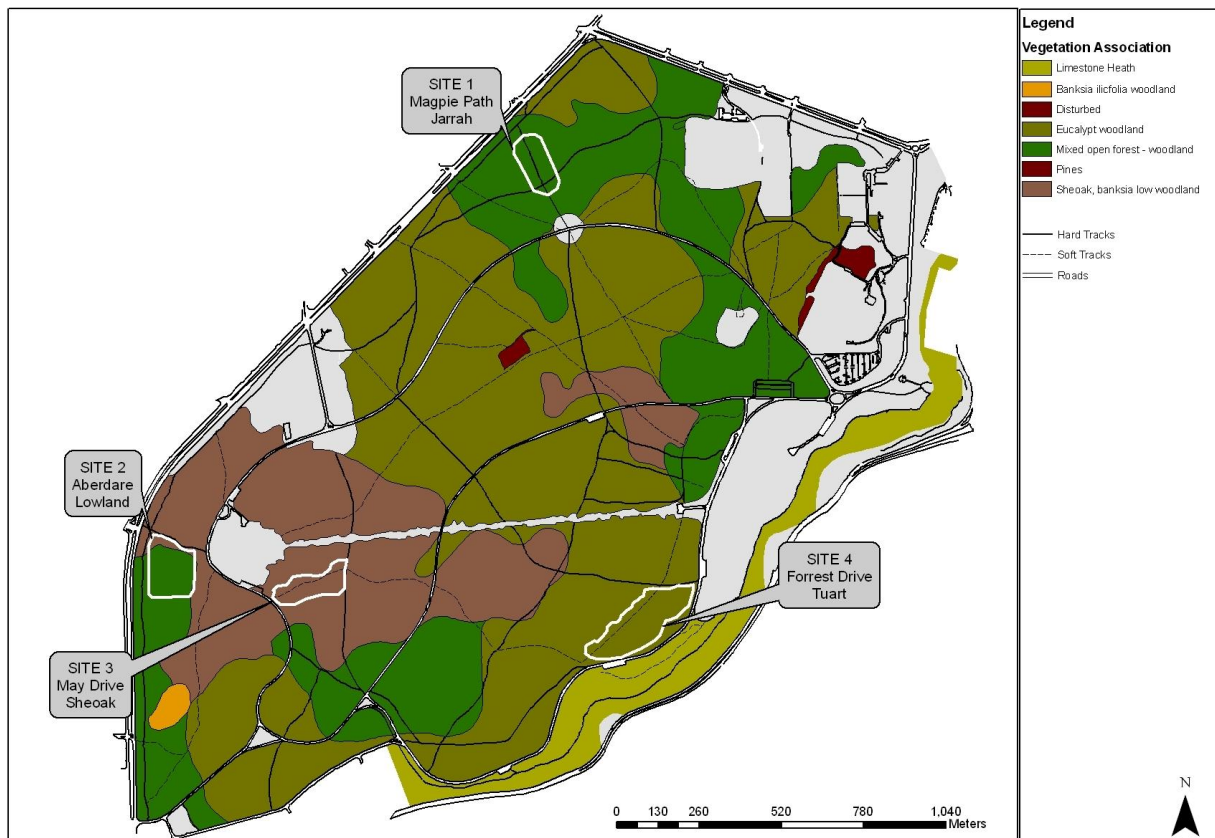
Fungi were collected in Kings Park from 15th June to 20th July 2010. Four sites representing different vegetation types in Kings Park were surveyed for macrofungi (Table 1, Map 1). The surveys within the vegetation types were measured by a person x time basis – approximately 60 person time minutes per site each survey time. The number and intensity of surveys were dictated by weather conditions and limitations imposed by the consultancy contract. All fungi observed were georeferenced, recorded and photographed *in situ*. Selected fungi were collected for later description, vouchering and identification. During recording and collecting, particular attention was given to many of the main fungal microhabitats including open and mossy ground, litter, woody debris and logs, bark of living trees. Specific vegetation or plant associations of fungi were noted.

Fungi were identified to genus or species level by constructing morphological descriptions of the fungi collected, and examining key microscopic characteristics of specimens. Identifying fungi is often more complicated than identifying plants, as there are no complete keys to the Australian fungi (such as Blackall & Grieve for the W.A. plants) to refer to. There are very few guidebooks, and they are far from complete in coverage, and in many cases quite inaccurate. A range of resources were utilized for identification: direct comparisons of macro and micro characters between Kings Park material and identified reference herbarium material (PERTH – Western Australian Herbarium), comparison with published mycological literature, and more generally by utilizing the author's own experience, knowledge and records. Identification enabled: (a) assessment of probable broad ecological roles of the fungi in community sustainability, (b) designation of fungi as native and exotic, and (c) a database of inventory data obtained for Kings Park and Botanic Garden comparable to available data of other similar woodland bushland areas. All of the fungi collected were photographed and preserved as air-dried, coded herbarium voucher material lodged at the Department of Environment and Conservation's Western Australian Herbarium, Kensington (PERTH).

Table 1: Sites surveyed for fungi at Kings Park in 2010.

Site ID	Site Name	Details/ Coordinates	Vegetation	Notes	Survey Visits 2010
1	Magpie Path	Approx. 25 m on either side of 200 m length of path. Survey south point on paved path: 31°57' 17.93" S x 115°49' 54.83". North point on path: 31°57' 11.71" S x 115°49' 51.90".	Jarrah open woodland	This area was partly burnt in 2009. Some invasive sugar gums are present.	2
2	Aberdare Lowland	Approx. 25 m on either side of 150 m length of path. Survey start point on sand track off May Drive: 31°57' 57.50" S x 115°49' 14.80". End point on track: 31°58' 2.32" S x 115°49' 12.97".	Mixed open forest – woodland	South side of track last burnt 1989. More timber than in the north side (site 3).	2
3	May Drive Sheoak	Approx. 25 m on either side of 250 m length of path. Survey start point on sand track off May Drive: 31°58' 0.00" S x 115°49' 22.02". End point on track: 31°57' 57.13" S x 115°49' 30.53".	<i>Allocasuarina/Banksia</i> low woodland.	Last burnt probably in 1962. Dominated by <i>Allocasuarina</i> and banksias but there is also a patch of young marri.	2
4	Forrest Drive Tuart (Block S18)	Area approx. 400 m in length x 100 m wide on interior side of Forrest Drive. Area approx. bounded by the following points: NE corner - 31°57' 59.11" S x 115°50' 8.51". NW corner - 31°58' 6.88" S x 115°49' 58.90". SE corner (at Forrest Dr.) - 31°57' 58.90" S x 115°50' 13.06". SW corner (at Forrest Dr.) - 31°58' 7.44" S x 115°49' 59.60".	Tuart woodland	Extensively burnt early in 2009. Fungi survey primarily in the remaining unburnt fringes.	2
5	Opportunistic	Entire area of Kings Park.	Natural and planted	Includes all other areas of bushland and gardens in the Park.	3

Map 1: Sites surveyed for fungi at Kings Park and Botanic Garden in 2010



Results

A total of 108 species of fungi were obtained in 2010 during the period of this consultancy (Table 2). This number is a conservative figure because it includes 14 names that represent an as yet unresolved mixture of unknown numbers of species, e.g. *Exidia ragbag*, and *Undetermined slime mould rag bag* (see Table 2).

The fungi from 2010 represent 67 known genera and 43 families (+ 11 undetermined or ragbag groupings and therefore genera and families unknown) (Table 3). All species are considered to be indigenous except one exotic species (introduced from outside Western Australia) – *Puccinia myrsiphilli* which is a rust pathogen of bridal creeper. Detailed data for the fungal collections from 2010 that were vouchered for permanent reference are given in Appendix 2.

- 47% of the species (51) from the current 2010 survey are considered to be new records for Kings Park (colour entries in Table 2), i.e. they do not match any of the fungi from the 2009 survey, or any of the pre-2009 names that have specific epithets. *
- 53% of the fungi (57 species) in the current survey are considered to be the same as species recorded before 2009 (black entries in Table 2), i.e. same as any of the pre-2010 names that have specific epithets.
- 34 of the 51 new records are identified to species level, 8 are only identified to genus level, and 9 are not assigned a genus or a species name (Table 2).
- *Galerina pumila*, *Peniophora scintillans*, *Pluteus perroseus*, and *Trechispora microspora* had not been recorded before in Western Australia.
- None of the fungi were recorded in all five of the survey sites. *Gymnopilus allantopus* was the only species recorded in four of the sites. Five fungi were found in three sites and 14 in two sites.
- Site 4 had 13 fungi shared with other sites – almost the same number as the 14 species exclusive to that site (Table 3).
- Saprotrophic fungi (89 species) were more diverse than mycorrhizal fungi (17) and pathogenic fungi (1) (Table 3).
- Fungi were present in a wide range of vegetation and microhabitat types. Dead wood with 66 species, and leaf litter with 32 species, had the greatest diversity of fungi (Table 3).
- Four species were observed on recently burnt ground: *Anthracobia melaloma*, *Peziza tenacella*, *Pholiota highlandensis* and *Hygrocybe sp. pearly*. *Pulvinula archeri* (found on burnt ground in 2009) was not observed in 2010.

* NOTES: (i) The figure for “new records” considers only pre-2009 names that have specific epithets and does not consider any pre-2009 records that were not identified to species level. (ii) Species groups listed in 2010 (“ragbags” in Table 2) are not included as new records in this report if there had been any category of name listed under a particular genus pre-2010, e.g. *Exidia ragbag* is excluded because *Exidia glandulosa* had been recorded at Kings Park in 1971.

Table 2: Identity and some ecological characteristics of fungal species in Kings Park 2010 (arranged in order of genus, species). **Blue** = new records of species previously not recorded from Kings Park found during 2010. **Sp. ID** refers to Perth Urban Bushland fungi Project code numbers assigned to taxa. **“Ragbag” species names** refer to uncertain numbers of undetermined species grouped under a common name pending further studies to resolve their identity.

Ecology/Life modes: S = saprotrophic; P = pathogenic; M = mycorrhizal; ? = not known or cannot be assumed with confidence.

Microhabitat types: A = Animal; B = Bark of living tree; BG = Burnt ground/litter; D = Dung; DT = Diseased or dying tree/plant; DW = Dead wood/logs; L = Leaf litter or soil; MB = Moss on bark of living tree; MG = Moss on ground, wood or rocks; U = Underground

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native / Exotic	Voucher Code	2010 SITES	1	2	3	4	5	ALL YEARS (2009& 2010)
KP064	<i>Aleurina ferruginea</i>	Pyronemataceae	Fleshy Cup Fungus	CD	S	L	N		1	Y					1
KP057	<i>Amanita cf. punctata</i>	Amanitaceae		MU	M	L	N		2			Y			2
KP058	<i>Amanita fibrillosipes</i>	Amanitaceae		MU	M	L	N		2			Y			2
KP071	<i>Amanita ochroterrea</i>	Amanitaceae		MU	M	L	N		4				Y		4
KP075	<i>Amanita ragbag, white with ring</i>	Amanitaceae		MU	M	L	N	Davison30-2010	1, 4	Y			Y		1, 4
KP091	<i>Amanita sp. ragbag, white no ring</i>	Amanitaceae		MU	M	L	N		1	Y					1
KP070	<i>Amanita walpolei</i>	Amanitaceae		MU	M	L	N	BOUGHER 650	1	Y					1
KP050	<i>Anthracobia melaloma</i>	Pyronemataceae	Orange Fire Anthracobia	CD	S	BG	N	BOUGHER 560	1	Y					1, 4
KP087	<i>Arcyria insignis</i>	Arcyriaceae		SL	S	DW	N		1	Y					1
272	<i>Arcyria obvelata</i>	Arcyriaceae		SL	S	DW	N		1	Y					1
KP017	<i>Auriporia sp. orange-pored</i>	Fomitopsidaceae		RE	S	DW	N		2		Y				2
KP082	<i>Banksiamyces toomansis</i>	Leotiaceae		CD	S	DW	N	BOUGHER 665	2		Y				2
14	<i>Bolbitius vitellinus</i>	Bolbitiaceae	Egg Yolk Fungus	MU	S	L	N		4				Y		4, 5
KP055	<i>Boletus sinapetruculentus</i>	Boletaceae		MU	M	L	N		3			Y			3
18	<i>Bovista ragbag</i>	Lycoperdaceae		PF	S	L	N		1	Y					1
19	<i>Calocera guepinioides</i>	Dacrymycetaceae	Scotsman's Beard	JE	S	DW	N		1	Y					all
9	<i>Campanella gregaria</i>	Tricholomataceae	Gregarious Bells	SH	S	DW	N	E9353, E9390, E9416	1, 2	Y	Y				all
224	<i>Ceratiomyxa fruticulosa</i>	Ceratiomyxaceae	Icicle Fairy Fans	SL	S	DW	N	E9420	1, 2	Y	Y				1, 2, 4, 5
KP072	<i>Ceriporia tarda</i>	Phanerochaetaceae		RE	S	DW	N	BOUGHER 652	4				Y		4
28	<i>Clitocybe ragbag, no odour</i>	Tricholomataceae		MU	S	DW	N	BOUGHER 670	1, 3	Y		Y			1, 3, 5
27	<i>Clitocybe semiocculta</i>	Tricholomataceae		MU	S	DW	N		2		Y				2
KP090	<i>Collaria arcyrionema</i>	Arcyriaceae		SL	S	DW	N		1	Y					1
36	<i>Coprinopsis cf. stangliana</i>	Psathyrellaceae	Western Australian Magpie Fungus	MU	S	L	N		4				Y		4, 5
379	<i>Cortinarius archeri</i>	Cortinariaceae	Archer's Cortinar	MU	M	L	N	BOUGHER 615	3			Y			3
232	<i>Cortinarius ochraceofulvus</i>	Cortinariaceae		MU	M	L	N		1, 4	Y			Y		1, 4
40	<i>Crepidotus eucalyptorum</i>	Crepidotaceae	Eucalypt Crepidotus	SH	S	B	N	E9360	1, 4	Y			Y		1, 4
382	<i>Crepidotus mollis</i>	Crepidotaceae		SH	S	DW	N	BOUGHER 648	1, 4				Y		1, 2, 4
KP084	<i>Crinipellis sp. tiny cushions</i>	Tricholomataceae		MU	S	DW	N	BOUGHER 684	1	Y					1

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micr o Habit at	Native / Exotic	Voucher Code	2010 SITES	1	2	3	4	5	ALL YEARS (2009& 2010)
47	<i>Descolea maculata</i>	Cortinariaceae	Spotted Descolea	MU	M	L	N	BOUGHER 685	1	Y					1
54	<i>Exidia ragbag</i>	Exidiaceae		JE	S	DW	N		1, 2	Y	Y				1, 2, 4, 5
KP015	<i>Exidiopsis sp. yellow scabs</i>	Auriculariaceae	Yellow scabs	JE	S	DW	N	E9320	2		Y				2, 3, 4
119	<i>Fomitiporia robusta</i>	Hymenochaetaceae	Woody Layered Bracket Fungus	BR	S	DT	N		2		Y				2
KP081	<i>Galerina pumila</i>	Cortinariaceae		MU	S	L	N	BOUGHER 672	5					Y	5
KP063	<i>Galerina sp. small, decurrent gills</i>	Cortinariaceae		MU	S	L	N	BOUGHER 637	1	Y					1
66	<i>Gymnopilus allantopus</i>	Cortinariaceae	Golden Wood fungus	MU	S	DW	N	E9355	1, 2, 3, 4	Y	Y	Y	Y		all
67	<i>Gymnopilus perplexus</i>	Cortinariaceae		MU	S	DW	N	BOUGHER 667	3			Y			3
68	<i>Gymnopilus purpuratus</i>	Cortinariaceae		MU	S	DW	N		4				Y		4, 5
71	<i>Henningsomyces candidus</i>	Schizophyllaceae	Miniature Chimney Pots	TU	S	DW	N	E9361	1, 2, 3	Y	Y	Y			1, 2, 3, 4, 5
375	<i>Hjortstamia crassa</i>	Phanerochaetaceae	Violet Skin Fungus	RE	S	DW	N	BOUGHER 522	1	Y					1, 3, 4
KP032	<i>Hygrocybe sp. pearly</i>	Hygrophoraceae		MU	S	L/B G	N	E9358, E9381, E9387	2		Y				1, 2, 4
KP028	<i>Hymenoscyphus sp. cushion-dome shape</i>	Leotiaceae		CD	S	DW	N	E9363, E9366, BOUGHER 674	1, 2	Y	Y				1, 2
461	<i>Hyphodontia arguta</i>	Hyphodermataceae		RE	S	DW	N		1	Y					1
78	<i>Hyphodontia sp. white, low tubercles</i>	Hyphodermataceae		RE	S	DW	N		2, 3		Y	Y			1, 2, 3, 4
178	<i>Hypocrea sp. teal green</i>	Hypocreaceae		CU	S	DW	N		2		Y				2
440	<i>Hypoxyton bovei</i>	Xylariaceae		FL	S	DW	N		3			Y			3
82	<i>Laccaria lateritia</i>	Tricholomataceae	Brick Red Laccaria	MU	M	L	N	E9455	1	Y					1, 2, 5
KP077	<i>Lachnum virgineum</i>	Hyaloscyphaceae		CD	S	DW	N		4				Y		4
KP012	<i>Lanzia sp. funnel, scurfy stem (formerly as Hymenoscyphus cf. immutabilis)</i>	Helotiaceae/Sclerotiniaceae		CD	S	DW	N	BOUGHER 519, BOUGHER 673	2		Y				1, 2
102	<i>Mycena kuurkacea</i>	Tricholomataceae	Bleeding Mycena	MU	S	L	N		1	Y					
101	<i>Mycena nargan</i>	Mycenaceae	Spotted Pixie Cap	MU	S	DW	N	BOUGHER 520	1, 2, 4	Y	Y		Y		1, 2, 4
KP044	<i>Mycena ragbag, in litter</i>	Tricholomataceae		MU	S	L	N		1	Y					1, 5
KP045	<i>Mycena ragbag, on wood</i>	Mycenaceae		MU	S	DW	N		1, 4	Y			Y		1, 3, 4, 5
KP005	<i>Mycena sp. dark brown/black in litter</i>	Mycenaceae		MU	S	L	N		1, 2, 3	Y	Y	Y			1, 2, 3
KP021	<i>Mycena sp. small, lemon cap, strigose base, on wood</i>	Mycenaceae		MU	S	L	N	E9319	3			Y			2, 3, 5
110	<i>Omphalotus nidiformis</i>	Tricholomataceae	Ghost Fungus	SH	S/P	DW /B	N	E9423	1, 4	Y			Y		1, 3, 4, 5
290	<i>Panus fasciatus</i>	Polyporaceae	Hairy Panus	MU	S	DW	N		1	Y					1
KP093	<i>Peniophora scintillans</i>	Corticaceae		RE	S	DW	N	BOUGHER 688	1	Y					1
KP051	<i>Peziza tenacella</i>	Pezizaceae	Lilac Fire Cup	CD	S	BG	N	BOUGHER 561	4				Y		4
KP083	<i>Phellinus cf. gilvus</i>	Hymenochaetaceae		BR	S	DW	N		1	Y					1

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micr o Habit at	Native / Exotic	Voucher Code	2010 SITES	1	2	3	4	5	ALL YEARS (2009& 2010)
120	<i>Phellinus ragbag bracket-like</i>	Hymenochaetaeae		BR	S	DW	N		1	Y					1
120	<i>Phellinus sp. extensive resupinate</i>	Hymenochaetaeae		BR	S	DW	N	E9454	4				Y		2, 3, 4
106	<i>Phlebia subceracea</i>	Meruliaceae	Golden Splash Tooth	RE	S	DW	N	BOUGHER 666	3			Y			3
123	<i>Pholiota communis</i>	Strophariaceae	Common Pholiota	MU	S	DW	N		4				Y		4
KP078	<i>Pholiota highlandensis</i>	Strophariaceae		MU	S	BG	N	BOUGHER 647	4				Y		4
KP053	<i>Phylloporus clelandii</i>	Boletaceae		MU	M	L	N	BOUGHER 646	4				Y		4, 5
225	<i>Physarum viride</i>	Physaraceae	Yellow Stalked Slime Mould	SL	S	DW	N		1	Y					1, 3
128	<i>Pisolithus ragbag</i>	Sclerodermataceae	Dog Poo Fungus	PF	M	L	N		1, 4	Y			Y		1, 4
458	<i>Pluteus pauperculus</i>	Pluteaceae	Yellow Gilled Pluteus	MU	S	DW	N	E9352, BOUGHER 686	1	Y					1
KP066	<i>Pluteus perroseus</i>	Pluteaceae		MU	S	DW	N	BOUGHER 635	1	Y					1
KP060	<i>Pluteus petasatus</i>	Pluteaceae		MU	S	L/D W	N	BOUGHER 617	5					Y	5
133	<i>Pluteus ragbag, delicate on wood</i>	Pluteaceae		MU	S	DW	N		4				Y		4
138	<i>Psathyrella ragbag, in litter</i>	Psathyrellaceae		MU	S	L	N	E9415	1	Y					1, 5
KP076	<i>Psathyrella ragbag, on wood</i>	Psathyrellaceae		MU	S	DW	N		4				Y		4
KP068	<i>Psathyrella sp. strong veil, burnt wood</i>	Psathyrellaceae		MU	S	DW	N	BOUGHER 634	1	Y					1
406	<i>Puccinia myrsiphilli</i>	Pucciniaceae		RU	P	DT	E		1	Y					1
140	<i>Pycnoporus coccineus</i>	Corioliaceae	Scarlet Bracket Fungus	BR	S	DW	N		1, 2	Y	Y				1, 2, 4, 5
141	<i>Ramaria gracilis</i>	Ramariaceae	Slender Coral	CO	M	L	N		1, 4	Y			Y		1, 4
KP037	<i>Ramaria sp. white</i>	Ramariaceae		CO	M	L	N		1	Y					1, 4
467	<i>Resupinatus subapplicatus</i>	Tricholomataceae	Grey Anenome	SH	S	DW	N	E9379, E9422	1, 3, 4	Y		Y	Y		1, 3, 4, 5
189	<i>Rhodocollybia sp. weedy</i>	Tricholomataceae		MU	S	L	N		1	Y					1
KP080	<i>Rhodocollybia sp. leather brown</i>	Tricholomataceae		MU	S	DW	N	BOUGHER 668 BOUGHER 669	3			Y			3
221	<i>Russula erumpens</i>	Russulaceae	Erupting Russula	MU	M	L	N	BOUGHER 614	2, 3, 4		Y	Y	Y		2, 3, 4
KP079	<i>Skeletocutis amorpha</i>	Polyporaceae		RE	S	DW	N	BOUGHER 691	3			Y			3
KP061	<i>Stemonitis lignicola</i>	Stemonitidaceae		SL	S	DW	N		1	Y					1
204	<i>Stemonitis ragbag</i>	Stemonitidaceae		SL	S	DW	N		1	Y					1
211	<i>Stereum illudens</i>	Stereaceae	Purplish Stereum	BR	S	DW	N	E9362	1	Y					1
159	<i>Tomentella pilosa</i>	Thelephoraceae		RE	S	DW	N	BOUGHER 690	1	Y					1
KP088	<i>Trechispora microspora</i>	Sistotremataceae		RE	S	DW	N	BOUGHER 687	1	Y					1
207	<i>Tremella mesenterica group</i>	Tremellaceae	Yellow Brain Fungus	JE	S	DW	N	E9453	3			Y			1, 3, 5
250	<i>Trichia decipiens</i>	Trichiaceae		SL	S	DW	N		4				Y		4
KP027	<i>Trichia decipiens var. olivacea</i>	Trichiaceae		SL	S	DW	N	E9477	1, 2	Y	Y				1, 2

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native / Exotic	Voucher Code	2010 SITES	1	2	3	4	5	ALL YEARS (2009& 2010)
368	<i>Tubaria serrulata</i>	Crepidotaceae	Common Tubaria	MU	S	L	N	BOUGHER 521	1	Y					1
KP092	<i>Tubaria sp. nov. rich red brown</i>	Crepidotaceae		MU	S	L/D W	N	BOUGHER 689	5					Y	5
395	<i>Tubifera ferruginosa</i>	Reticulariaceae		SL	S	DW	N		1	Y					1
166	<i>Tubulicrinis sp. white thin smooth</i>	Tubulicrinaceae		RE	S	DW	N		2		Y				2, 3
KP059	<i>Tylopilus fuscobrunneus</i>	Boletaceae		MU	M	L	N	BOUGHER 616, BOUGHER 645	4, 5				Y	Y	4, 5
KP089	<i>Undetermined ascomycete minute dull tan discs on wood</i>	Unknown		CD	S	DW	N		1	Y					1
KP067	<i>Undetermined ascomycete minute grey discs on wood</i>	Unknown		CD	S	DW	N		1	Y					1
KP054	<i>Undetermined minute white shell</i>	Unknown		SH	S	DW	N		3			Y			3
KP065	<i>Undetermined mould ochraceous</i>	unknown		MO	S	DW	N		1	Y					1
KP085	<i>Undetermined resupinate bright yellow, pored</i>	unknown		RE	S	DW	N		1	Y					1
KP056	<i>Undetermined resupinate entirely white, smooth</i>	Unknown		RE	S	DW	N		2			Y			2
KP073	<i>Undetermined resupinate mustard curtains</i>	unknown		RE	S	DW	N		4				Y		4
KP074	<i>Undetermined resupinate ochre smooth</i>	unknown		RE	S	DW	N	BOUGHER 649	4				Y		4
KP086	<i>Undetermined resupinate ragbag</i>	unknown		RE	S	DW	N		1	Y					1
KP069	<i>Undetermined resupinate waxy, white & ochre-orange, tubes</i>	Unknown		RE	S	DW	N	BOUGHER 638	1	Y					1
107	<i>Undetermined slime mould ragbag</i>	Unknown		SL	S	DW // L	N		4				Y		3, 4
172	<i>Volvariella speciosa</i>	Pluteaceae	Common Rosegill	MU	S	L	N		5					Y	5

Table 3: Taxonomic rank, life mode, habitat, and sites of fungi in Kings Park in 2010.

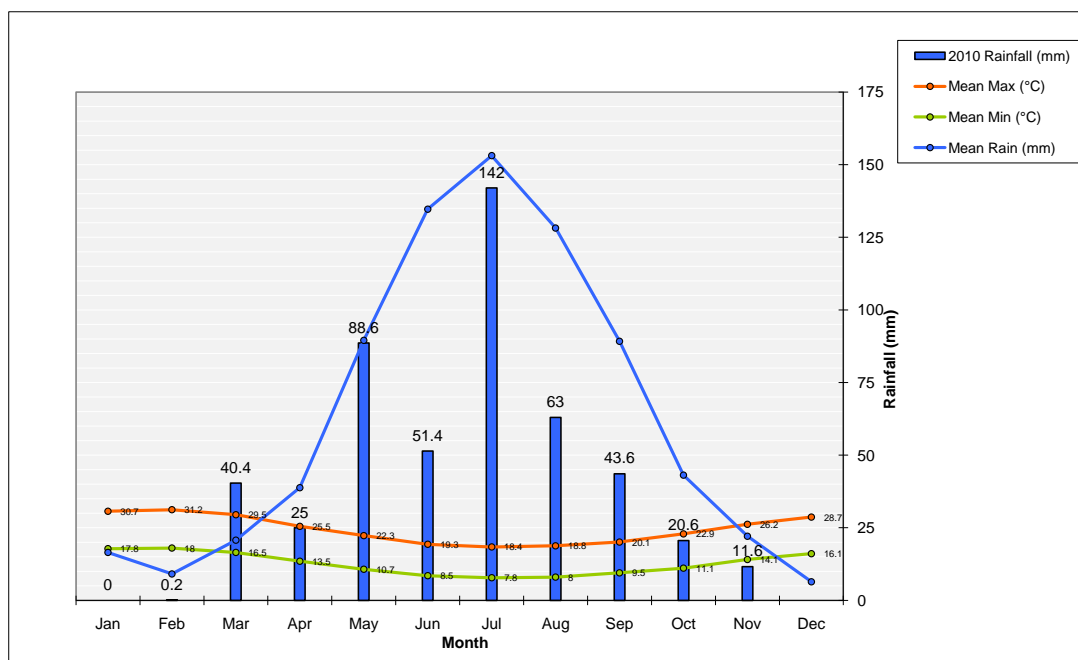
Note: some fungi may have more than one life-mode type, and modes for most have not been confirmed.

Category	No. species	Example species
Taxonomic ranks		
Species	108	(includes 14 ragbags)
Genera	67	(+ 10 of unknown genus)
Families	43	(+ 10 of unknown family)
Ecology/Lifemode types		
Saprotrophic	89	<i>Gymnopilus perplexus</i>
Pathogenic	1	<i>Puccinia myrsiphilli</i>
Mycorrhizal	17	<i>Russula erumpens</i>
Saprotrophic or pathogenic	1	<i>Omphalotus nifdiformis</i>
Main habitat types (+ 5 species with two or more habitats)		
B = Bark of living tree	1	<i>Crepidotus eucalyptorum</i>
BG = Burnt ground/litter	3	<i>Pholiota highlandensis</i>
DT = Diseased or dying tree/plant	2	<i>Fomitipora robusta</i>
DW = Dead wood/logs	66	<i>Pluteus perroseus</i>
L = Leaf litter or soil	32	<i>Galerina pumila</i>
Survey Sites		
1	42 exclusive / 7 shared	<i>Collaria arcyrionema</i>
2	13 / 6	<i>Hypocrea sp. teal green</i>
3	10 / 3	<i>Phlebia subceracea</i>
4	14 / 13	<i>Ceriporia tarda</i>
5	4 / 1	<i>Pluteus petasatus</i>
Origin		
Native	107	<i>Tubaria serrulata</i>
Exotic	1	<i>Puccinia myrsiphilli</i>



Some of the participants during the 2010 fungi survey at Kings Park. From left (in left photo): Peter Broome, Kay Rae, Aruni Jayasekera, Marty Brotherson, Peter Davison, and Elaine Davison.

Chart 1: Rainfall for Perth in 2010 compared with the long-term average.



Discussion

Fungi biodiversity at Kings Park and Botanic Garden

Low rainfall in Perth in 2010 (see Chart 1, above) undoubtedly restricted the fruiting of fungi at Kings Park during this year. In particular, well below average rainfall in the month of June would have had a major effect. In the Perth region the development and production of fruit bodies by a large majority of macrofungi usually reaches a peak in June or early July. During the 2010 survey a total of 108 fungi were recorded – fifteen fewer than the 123 fungi recorded in the 2009 survey (Bougher 2009a). Many different fungi were observed in each of the past two years – e.g. 60% (64) of the species recorded in 2010 were not recorded in 2009 survey.

It is not possible to accurately estimate the number of fungi species known so far from Kings Park. Any estimate depends on the level of acceptance of unverified or unverifiable names as representing or not individual species, particularly the names recorded before 2009 (Bougher 2010a, b). However a total of 190 fungi named to species level have been recorded from Kings Park. This total is comprised of:

1. 33 of the 51 new records in 2010 that were identified to species level and not recorded from Kings Park before 2010.
2. 156 named species recorded before 2010 (Bougher 2009a *) which included:
 - 122 recorded before 2009 (80 vouchered and 42 unvouchered).
 - 34 of the 82 new records in 2009 that were identified to species level.
3. *Lysurus mokusin* must be added to the current total as it was found and identified at Kings Park (BOUGHER 588) in late December 2009 and was not recorded in the 2009 report.

* After completing the 2009 fungi report (Bougher 2009a) the numbers of pre-2009 fungi indicated in Table 1 of that report were updated slightly during preparation of the journal paper (Bougher 2010a). Names with a specific epithet with vouchers at the WA Herbarium changed from 83 in the 2009 report to 80 in the journal paper. Names with a specific epithet and not vouchered in WA Herbarium changed from 38 to 42. The total number of fungi with specific names changed from 121 to 122. The total number of names from changed 284 to 285.

New Records

51 (47%) of the fungi recorded in 2010 survey had not been previously recorded at Kings Park. *Galerina pumila*, *Peniophora scintillans*, *Pluteus perroseus*, and *Trechispora microspora* had not been recorded before in Western Australia. The figure of 51 of the 108 fungi recorded in 2010 considered in this report as “new records” for Kings Park is likely to be an over-estimate. It is possible that some of the 51 “new” fungi (including any of the 34 identified to species level, 8 identified to genus level, or 9 not assigned a genus or a species name) match the species identity of names recorded at Kings Park before 2010. However it is uncertain as to how many more of the 2010 and pre-2010 names match the same species identity. This is largely because the species identity of most of the pre-2009 names are not verified as yet (143 pre-2009 names with vouchers), or cannot be verified (141 pre-2009 names without vouchers). Also the figure for “new records” only considers pre-2009 names that have specific epithets and discounts all pre-2009 records that were not identified to species level.

Some notable fungi recorded at Kings Park in 2010

Galerina pumila (Figure 1, see on page 2): During 2010 this small *Galerina* of the section *Mycenopsis* fruited in large numbers on grassy areas at Kings Park. This species had not been recorded before in Western Australia. It has a hemispherical, finely translucent-striate, hygrophanous cap, and smooth-pale spores. The specimens from Kings Park in 2010 key to *Galerina subpumila* in an Australian treatment of the genus *Galerina* (Wood 2005), but that species has different cheilocystidia and larger spores.

Pluteus perroseus (Figure 2): This species has a distinctively dark brown to fuscous black velvety cap. Its gills are free (not attached to the stem), and they are white at first but gradually become dull pink with age. The edges of the gills are not black, in difference to some other similar-sized species of *Pluteus* that also occur on woody substrates in the Perth region such as *P. atromarginatus*. *P. perroseus* was described from New Zealand by Horak (1983) and it is known in eastern Australia (Horak 2008) but previously had not been recorded in Western Australia.

Trechispora microspora (Figure 3): This species forms fully resupinate, white, thin, easily removed, membranous-arachnoid fruit bodies on bark on the base of living *Allocasuarina fraseriana* trees at Kings Park. White rhizomorphs associated with the fruit bodies are covered with sharp-angled crystals (see crystals under microscope). This species was previously unrecorded in Western Australia. In the Perth region, *T. microspora* seems to favour a similar microhabitat to *Botryobasidium subcoronatum* (see Bougher 2009b, p. O-8). The latter has been recorded at Bold Park (Bougher 2010c) and is likely to occur at Kings Park. Both species are superficially similar to the eye, but *B. subcoronatum* does not form any rhizomorphs and its fruit bodies are less arachnoid. Microscopically the two species are easily distinguishable by differences in the size and shape of their spores.

Banksiamyces toomansis (Figure 4): As with all other members of the genus *Banksiamyces* this species is thought to occur exclusively on banksia cones. It was found for the first time at Kings Park during the 2010 survey, and was growing on a fallen cone of *Banksia menziesii*. *B. toomansis* may be easily overlooked as it produces minute bluish-grey discs on short scaly stems. It has been recorded in numerous other locations in south western and south eastern Australia.

Lanzia sp. funnel, scurfy stem (Figures 5, 6): This fungus has been recorded at two different sites at Kings Park, both times on fallen wood and bark of *Eucalyptus cladocalyx* - site 1 in 2009 (BOUGHER 519, E9363, E9366) and site 2 in 2010 (BOUGHER 673). Other collections of this fungus have been made from Bold Park in 2004 and 2009 (E9275, E9393) and those were referred to as “*Hymenoscyphus* sp. 1 brown funnels” (see discussion in Bougher 2010c). Based on field observations this fungus was initially labelled as a species of *Hymenoscyphus* but closer examinations revealed it to be a species of *Lanzia*. It has characteristics typical of *Lanzia*: (a) Parallel brown pigmented/encrusted elements in the ectal excipulum with some emerging from the surface probably giving the surface a scurfy texture macroscopically; (b) Hyaline spores; (c) Some black

stromatised substrate tissue associated with the specimens. However, the Kings Park specimens do not match descriptions of any of the six lignicolous (wood-inhabiting) species of *Lanzia* recorded for Australia (Spooner 1987, Simpson and Grgurinovic 2003). The specimens have larger spores (10-12 x 4.7-5 microns) than attributed to *L. prasinum* (less than 10 microns in length). The spores fit the length of *L. australis* spores, but that species differs by lacking a dark brown subhymenial layer (Spooner 1987). Another difference may be that the fruit bodies of *L. australis* are sessile or have only a short stem. However stem length may be a variable character in some species of *Lanzia*. The length of the stems observed among the Bold and Kings Park collections is highly variable. Therefore the Kings Park and Bold Park specimens could be considered as *L. australis*. This possibility is strengthened by the observation that the asci wall of the local specimens is thickened apically and the pore is outlined blue in Melzers reagent – a character typical of *L. australis* (Spooner 1987).

Rhodocollybia sp. leather brown (Figure 7): Two collections of this hitherto unobserved fungus were made at Kings Park in 2010. In both cases the fruit bodies emerged in clumps from dead bark attached to the base of dying *Allocasuarina fraseriana* trees. This fungus seems to fit the genus *Gymnopus* or *Rhodocollybia* based on the following characteristics: (i) the general form and habit of the fruit bodies; (ii) the presence of abundant gnarled-branched elements in the pileipellis, stipitopellis and hymenium; (iii) absence of a radicating stem; (iv) absence of a distinctive odour; (v) spores hyaline in water or KOH. However the spores produce a milky white spore print and are suggestive of genus *Rhodocollybia* because they are cyanophilus (with blue staining wall) in Trypan Blue, and dextrinoid in iodine (to the eye, the spore mass appears to become brown when iodine is dropped onto a slide). The other species of *Rhodocollybia* collected at Kings Park in 2010 (*Rhodocollybia* sp. weedy) occurs on soil or in leaf litter, usually in highly disturbed areas throughout the Perth region (see image and notes in Bougher 2009b, page J-40).

Tylopilus fuscobrunneus (Figure 8): Like many other local boletes (mushroom fungi with pores instead of gills) this species fruits early on in the fungi season. At Kings Park it has usually finished fruiting by about the end of June each year. Some distinctive features of *T. fuscobrunneus* include: (i) large stout fruit bodies with a snuff to cigar brown cap up to 20 or 25cm diameter which can become undulating and deeply lobed; (ii) cream flesh and pale greenish hymenium that discolours fleetingly greenish-bluish then changes to dark reddish-brown; (iii) brown spore deposit without any olive tinge; (iv) narrow, cylindrical, pale spores. The colour of *T. fuscobrunneus* fruit bodies may be quite variable, depending on the level of exposure. Typically its fruit bodies rapidly emerge above the litter and thereby become exposed to the atmosphere and soon develop and retain a predominant dark brown colour. However, if a fruit body is completely buried under sand and litter during most of its development, it may remain entirely cream to white with some red-brown bruises at maturity (such as in collection BOUGHER 645). In cases where a fruit body is partially buried and partially exposed, a pale portion may persist near the margin. The brown spore print of this fungus suggests that it may be a species of *Porphyrellus* (which is variously considered to be a discrete genus or a subgenus of *Tylopilus*).

Tubaria sp. nov. rich red brown (Figures 9, 10): This species has a striking rich red-brown cap (Figure 9). The cap is strongly hygrophanous and becomes entirely pale straw-coloured when older or drier (Figure 10). The rich colouration, whitish annulus on the stem and flecks on the pileus margin, and spore and cystidia type all suggest BOUGHER 689 belongs to the *T. confragosa* group. Molecular data confirms that this fungus is positioned in the *Confragosae* clade of *Tubaria*, and that it has a phylogenetic position near some other heavily pigmented species of *Tubaria* such as *T. rufofulva*, and *T. vinicolor* (Matheny and Bougher, unpublished data). Furthermore its rDNA sequence matches that of an unidentified species of *Tubaria* collected from Tasmania in 2009.

Peniophora scintillans (Figure 11): This species was previously unrecorded in Western Australia. Its fully resupinate fruit bodies are smooth but glistening (see under hand lens), and mainly dull ochre with some reddish tinges in parts. The fruit bodies are not easily removed from the woody substrate. The Kings Park specimen (BOUGHER 688) is identical or close to *P. scintillans* by virtue of the following characteristics: (i) fruit bodies rich cream with pink tinges; (ii) presence of naked (non-encrusted) context hyphae with clamped

septa; (iii) abundant fusiform-conical metuloid cystidia in multiple but not regular layers; (iv) absence of vesicles and gloeocystidia; (v) ellipsoid spores. However it must be noted that BOUGHER 688 has smaller spores and larger metuloids than indicated for *P. scintillans* by Cunningham (1963).

Conclusion and recommendations

A total of 190 fungi named to species level have been recorded from Kings Park, but many more species are likely to occur there. This year's survey captured many new records (47% of records in 2010) for the Park, and 60% in 2010 were different to the species recorded the year before. It is recommended that surveys of fungi continue to be undertaken annually in Kings Park in order to document the diversity of fungi at Kings Park. Continuing support from staff and volunteers is highly desirable. Further training of volunteers and staff is recommended in order to recognize a greater array of fungi, particularly the less conspicuous types of fungi. Surveys will also supplement the Perth Urban Bushland Project (PUBF) established in 2004 (see www.fungiperth.org.au) – a broader-based initiative which aims to raise awareness about fungal biodiversity, and to document the fungi of Perth's urban bushlands. The support of DEC's Western Australian Herbarium will be critical to help facilitate taxonomic studies needed to resolve the identity of more of the records of fungi from Kings Park. This will help provide a more accurate assessment of the numbers of fungi species present at Kings Park. Like at Bold Park, resolution of the identity of fungi at Kings Park will continue to be a developmental process, with the identity of more species gradually resolved each year. Financial support for taxonomic studies would help to accelerate the process. It is also recommended that a published account of the fungi in Kings Park and Bold Park be produced, such as a colourful field book and/or pamphlets and posters.

Acknowledgements

Thanks to the following 13 volunteers who donated their time and efforts to participate as members of the “collecting crew” for one or more of the fungi surveys days in 2010: Peter Broome, Yvonne Broome, Elaine Davison, Peter Davison, Joe Froudust, Patricia Gurry, Roz Hart, Aruni Jayasekera, Kay Rae, Phylis Robertson, Sean Roche, Kirsten Tullis, and Pat Wenham. Five staff from the Botanic Gardens and Parks Authority (BGPA) – Don Bache, Marty Brotherson, Peter Goodsell, Ryan Glowacki, and Shane Hunter - also assisted in the field on at least one of the survey days. Steve Easton (BGPA) advised and assisted with the selection of fungi survey sites, and in the production of maps and climatic data. Dr Elaine Davison (Curtin University) and Peter Davison also assisted further by examining specimens of slime moulds and *Amanita* and determining their identification when possible.

Valuable technical and general support was provided by staff members of the Perth Urban Bushland Fungi project team - Roz Hart, Aruni Jayasekera, and Brett Glossop. Perth Urban Bushland Fungi is a collaborative project between the WA Naturalists' Club and the Urban Bushland Council in conjunction with the Department of Environment and Conservation's Western Australian Herbarium.

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Appendix 1

The subset of fungi that were processed, described, & lodged as herbarium vouchers from Kings Park and Botanic Garden 2010: Western Australian Herbarium (PERTH), Kensington

Genus	Species	Code	Descriptive Notes	Plants	Date
<i>Amanita</i>	<i>walpolei</i>	BOUGHER 00650	Characteristic Features: See description by E. Davison of collection made after morning's foray at Magpie Path site in Kings Park on 22 June 2010. Davison coll. number is: EMD 25-2010.	<i>Eucalyptus marginata</i> , <i>Corymbia calophylla</i> , <i>Allocasuarina fraseriana</i>	29/06/2010
<i>Banksiamyces</i>	<i>toomansis</i>	BOUGHER 00665	Characteristic Features: (i) Minute mouse grey fruit bodies up to 2.5 mm diam., resembling very short galvanized iron tacks; (ii) Underside of disc and stem with slightly raised scaly/warty areolate patches which become larger as the fruit body ages and dries. (iii) Stem is variable in length but always very short. See some further descriptive notes and a diagram on original field sheet. MICRO: Spores hyaline, smooth-walled, fusoid, e.g. 7.2-9.3 x 2.0-2.8 microns. Ascii cylindrical, base not swollen, 8-spored, e.g. 61 x 55 microns. Paraphyses filiform, branched, apex unswollen, not projecting beyond the asci, less than 2 microns wide. External scales on the underside of disc and on stem are comprised of dark brown cells (see photo).	<i>Banksia menziesii</i>	13/07/2010
<i>Ceriporia</i>	<i>tarda</i>	BOUGHER 00652	Characteristic Features: (i) KOH bright red on surface; (ii) thin-pored, whitish, resupinate growth.	<i>Banksia sp.</i>	29/06/2010
<i>Clitocybe</i>	<i>sp. no odour</i>	BOUGHER 00670	Characteristic Features: (i) pileus clay-buff (32 or 33 Brit. Fungi colour), 2-3 mm diam., with depressed centre, not translucent-striate; (ii) gills closely spaced; (iii) base of stem 'gluey' with bits of litter attached. (iv) no odour. (v) overall perly-waxy appearance when fresh.	<i>Allocasuarina fraseriana</i>	13/07/2010
<i>Cortinarius</i>	<i>archeri</i>	BOUGHER 00614	Characteristic Features: (i) violet cap; (ii) viscid ring, discoloured brown; (iii) violet below the ring on the stem.	<i>Allocasuarina fraseriana</i>	15/06/2010
<i>Cortinarius</i>	<i>ochraceofulvus</i>	BOUGHER 00636	Characteristic Features: (i) brown mature cap; (ii) orange-brown gills	<i>Eucalyptus gomphocephala</i>	22/06/2010
<i>Crepidotus</i>	<i>mollis</i>	BOUGHER 00648	Characteristic Features: (i) colourfades as matures; (ii) Cotton wool appearance where cap is attached to the wood.	<i>Eucalyptus gomphocephala</i> , <i>Banksia</i>	29/06/2010
<i>Crinipellis</i>	<i>sp. tiny cushions</i>	BOUGHER 00684	Characteristic Features: (i) minute size: 1-2 mm diam. X 1 mm tall; (ii) dull cream colour; (iii) pileus densely hirsute (fine white hairs); (iv) stipe central, short, smooth above a point where the pileal margin joined the stipe; (v) inrolled pileal margin with appendiculate hairs when young; (vi) fruit bodies sit on the wood like a cushion because the stem is so short. Probably one or two steps away from being a cyphelloid fungus? Possibly fits in singer's Marasmieae tribe? The hairs are not truly dextrinoid or thick-walled so probably is not genus <i>Crinipellis</i> . MICRO: Spores globose, dull, yellowish in water, smooth-walled, thin-walled, e.g. 5.4-8.2 microns diam. Basidia: cylindroclavate, clamped, 4-spored, e.g. 39-45 x 9.5-9.6 microns. Hymenial cystidia: infrequent, hyaline, thin-walled, clamped, ventricose-narrow with tapering or papillate apex, e.g. 30-45 x 8.2-8.5 microns. Hairs: glassy cytoplasm in water or KOH, cylindrical, tapering, variable, septate, thin-walled, with clamps, some with minor encrustations, some branched, often in bundles. In Melzers reagent: Spores pale yellowish with thin dark wall, i.e. not amyloid or dextrinoid. All tissues are yellowish but not brown (dextrinoid). The hairs are also yellowish, and the cytoplasmic contents often appear coagulated greenish-yellow refractive. Possibly some hairs have a slight blue tinge in wall near their apex?	<i>Banksia attenuata</i>	20/07/2010
<i>Descolea</i>	<i>maculata</i>	BOUGHER 00685	Characteristic Features: (i) Ochre veil remnants on the obscurely translucent-striate pileus which in these specimens is showing uneven hygrophanous; (ii) Stipe with a membranous, grooved (imprint of the gills) annulus. Spores amygdaliform, minutely verruculose, perisporium not loosening, smooth micro, e.g. 10.4-12.3 x 5.6-6.8 microns	<i>Eucalyptus marginata</i>	20/07/2010
<i>Galerina</i>	<i>sp. small decurrent gills</i>	BOUGHER 00637	Characteristic Features: (i) Arcuate decurrent gills; (iii) bright brown colours; (iii) partial veil present but evanescent. Pileus: 8-12 mm diam., at first convex with incurved margin, surface covered with white pubescence, and margin attached to a whitish fibrillose partial veil which is rapidly evanescent. Later flat with a slight central depression, margin crenate to torn and thin, obscurely translucent-striate. Colour at first chestnut brown but soon fading to paler from centre outwards. Lamellae: arcuate decurrent, tan then bright brown, edge concolorous, smooth and entire. Stipe: up to 40 x 1 mm.; pliable/tough; with sparse whitish longitudinal fibrils, similar in colour to cap (darkest near base) no trace of veil on mature stem. Basal mycelium white.	<i>Eucalyptus marginata</i>	22/06/2010
<i>Galerina</i>	<i>pumila</i>	BOUGHER 00672	Characteristic Features: (i) Pileus hemispherical, finely translucent-striate, hygrophanous. Keys to section Mycenopsis in Wood (2005) G. subpumila but that has different cheilocystidia and larger spores. BOUGHER 672 seems still close to <i>G. pumila</i> (spores appear smooth and pale in KOH, small fruit body size, and habit is OK) but has smaller spores and more regularly swollen-tipped and smaller cystidia. Pileus: 5-25 mm diam.; hemispherical and never expanding to applanate, with finely translucent-striate margin that is white when young (due to veil remnants adhering); chestnut brown then brighter and more obviously translucent-striate later, dry, reluctantly hygrophanous (paler from centre outwards). Partial veil: white, cortinoid, evanescent on stipe, persistent at first on the pileal margin. Lamellae: adnexed to free, (sharply dipping near stipe), to 8 mm deep (i.e. quite deep), closely spaced, edge very minutely fringed, concolorous with face, pale tan in button maturing to orange-brown, lamellules abundant. Stipe: up to 45 x 2 mm, cylindrical without swollen base, longitudinally silky fibrillose below point where pileus margin joined the stipe when young; without annular zone. Uniformly straw-coloured, not darkening anywhere. Basal mycelium: white, sparse. MICRO: Spores ellipsoid in side view, ovoid in face view, smooth-walled, pale in KOH, thin-walled, without germ pore or perisporium evident, suprahilar depression absent in most spores, e.g. 7.2-8.5 x 4.3-5.2 microns. Cheilocystidia abundant, variable in shape (e.g. lageniform, cylindrical, sphaeropedunculate to capitulate), hyaline in KOH/water, smooth/thin-walled, e.g. 35 x 5 (neck) x 8 (head) microns. Pleurocystidia absent. Basidia 4-spored. Clamps present.	<i>Eucalyptus spp.</i>	13/07/2010

Genus	Species	Code	Descriptive Notes	Plants	Date
<i>Gymnopilus</i>	<i>perplexus</i>	BOUGHER 00667	Characteristic Features: The following suggests this collection is <i>Gymnopilus perplexus</i> : (i) small size of the fruit bodies; (ii) present of a central stipe; (iii) bright rusty golden pileus and yellow gills; (iv) tibiform cheilocystidia with thick-walled head; (v) lipids obscuring the microscopic preparation; (vi) spore size and form (see below, and photos). However it is doubtful as to whether the spores are dextrinoid. Pileus: up to 11 mm diam., convex to almost globular when young with a whitish marginal veil; becoming broadly convex with age; brownish orange to darker near centre, surface slightly fibrillose, dimpled and pitted, edge smooth, slightly wavy in older specimens. Lamellae: Yellowish-orange (Fungimap 107), adnexed, closely spaced, with short lamellules alternating with lamellae, up to 2mm deep, edge smooth. Stipe: up to 30 mm tall, cylindrical (broader base when young), white fibrils near apex, pale at base (Fungimap 105). Flesh concolorous with surface. Veil: a white, rapidly evanescent cortina. MICRO: Spores ellipsoid, verrucose with a suprahilar plage, rich rust brown in KOH, e.g. 8.0-9.5 x 5.7-6.6 microns. Clamps present. Cheilocystidia tibiform, hyaline, thin-walled, head thick-walled, e.g. 33 x 7 microns.	<i>Banksia sp.</i>	13/07/2010
<i>Hymenoscyphus</i>	<i>sp. cushion-dome shape</i>	BOUGHER 00674	Characteristic Features: (i) minute size up to 4-5 (6) mm diam. (ii) dull brown colour; (iii) short or no stem, smooth on surface. This is a different species to BOUGHER 673, and may well be genus <i>Lanzia</i> , but the micro features need checking. It differs macroscopically by having a shorter or no stem, the stem when present is smooth, the colour is duller and most retain a convex shape rather than the funnel shape of BOUGHER 673. Appears in abundance on sugar gum wood in same habitat as BOUGHER 673. Notes from field sheet: Numerous disks with short stipes growing on surface of bark. Circular, mid-brown - a little darker than fulvous (12 Roy Bot Gard chart). Under surface similar colour. Margin from both sides darker along very edge. As drying out they become paler and less translucent (similar to clay-pink 30). Most stipes very short - less than 1mm. See diagram on field sheet, and macro photos.	<i>Eucalyptus cladocalyx</i>	13/07/2010
<i>Lanzia</i>	<i>sp. funnel, scurfy stem</i>	BOUGHER 00673	Characteristic Features: (i) funnel-shaped fruit bodies with cap less than 0.3 mm diam., and stem up to 0.7 mm tall; (ii) fulvous brown to milky coffee colour; (iii) surface of stipe often scurfy. Same species as BOUGHER 519, E9363, and E9366 also from Kings Park on sugar gum wood. See diagram and descriptive notes on original field sheet, and see macro and micro photos. This fungus has parallel brown pigmented/encrusted elements in the ectal excipulum some on the surface probably giving the surface scurfy texture macroscopically. The spores are hyaline, and some black stromatised substrate tissue is associated with the specimens. So it is typical of genus <i>Lanzia</i> . The Kings Park specimens (BOUGHER 673 in 2010, and BOUGHER 519 in 2009) do not match any of the six lignicolous (wood-inhabiting) species of <i>Lanzia</i> recorded for Australia (Spooner 1987, Simpson and Grgurinovic 2003). The spores of BOUGHER 673 specimens are 10-12 x 4.7-5 microns and therefore larger than for <i>L. prasinum</i> (less than 10 microns in length). The spores fit the length of <i>L. australis</i> spores. However that species differs from the Kings Park specimens by being sessile or only a short stem, and by lacking a dark brown subhymenial layer (Spooner 1987). In similarity, the asci wall is thickened apically and the pore is outlined blue in Melzers reagent.	<i>Eucalyptus cladocalyx</i>	13/07/2010
<i>Peniophora</i>	<i>scintillans</i>	BOUGHER 00688	Characteristic Features: (i) Fully resupinate, not easily removed, smooth but under lens glistening due to abundant projecting cystidia; (ii) dull ochrew with reddish tinge in parts. The following suggest this is close to <i>P. scintillans</i> : (i) naked (non-encrusted) context hyphae with clamps, (ii) abundant fusiform-conical metuloids in many layers but not regulated layers, (iii) absence of gloeocystidia and vesicles, (iv) fruit body rich cream with pink tinge, and (v) ellipsoid spores. However BOUGHER 688 has smaller spores and larger metuloids than indicated for that species by Cunningham. Also it must be noted that the spore print produced on a glass slide was white, not red as is considered an important character for genus <i>Peniophora</i> (Eriksson et al. vol. 5). An alternative identification could be <i>Phanaerochaete</i> but BOUGHER 688 has clamps in the context and subhymenium. MICRO: Spores ovoid-ellipsoid, flat on one side, hyaline in KOH, yellowish in Melzers with some bluish refractance (due to lighting only?), smooth/thin-walled, with 2 bubbles in KOH, small e.g. 3.4-3.7 x 2.0-2.7 microns. Metuloid cystidia very abundant, narrowly fusoid, thick-walled (e.g. 2 microns), coarsely encrusted, hyaline in KOH, e.g. 47-61 x 7.0-9.6 microns, embedded and projecting, in multi-layers but not in regular layers or with distinct intervening sterile hyphae. Clamps abundant on context hyphae which are hyaline, 2.5-4 microns wide, smooth, thin walled. No vesicles seen. Monomitic. No gloeocystidia seen. Basidia hyaline, cylindro-clavate, 4-spored, e.g. 16-23 x 3-3.5 microns. Very occasional capitate element in hymenium, e.g. 6.4 microns diam (see photo).	<i>Banksia sp.</i>	20/07/2010
<i>Phlebia</i>	<i>subceracea</i>	BOUGHER 00666	Characteristic Features: (i) Vivid yellow colour; (ii) Hymenial surface with minute blunt projections approx. 0.1-0.2 (0.3) mm long.	<i>Banksia sp.</i>	13/07/2010
<i>Pholiota</i>	<i>highlandensis</i>	BOUGHER 00647	Characteristic Features: (i) stipe narrow with multiple rusty-orange scales along entire length (but can easily disappear with age), but no distinct annular zone; (ii) Chestnut brown pileus becoming paler with age, surface may be viscid but soon drying (sand grains adhere to the cap), smooth or with minute radially arranged appressed fibrils; (iii) Lamellae dull tan at first, darkening but never dark brown; (iv) Habit on soil in burnt area. Micro: Spores brown in KOH, smooth-walled, ellipsoid, apex not attenuated, no visible germ pore, small apiculus, e.g. 7.2-7.7 x 4.6-4.8 microns. Thinning of apical wall is evident in some immature spores. Pleuro and cheilo cystidia ventricose, abundant (see photos). Some pleurocystidia with agglutinated material at apex (see photo). Sterile gill edge. Pileipellis a loose cuticle; hyphae with clamps, some encrusted.	<i>Eucalyptus gomphocephala</i>	29/06/2010
<i>Phylloporus</i>	<i>clelandii</i>	BOUGHER 00646	Characteristic Features: (i) solid, robust; (ii) bright yellow gills bruising rapidly to blue then gradually to pink/rose; (iii) flesh ivory/white bruising gradually to pink then rose.	<i>Acacia saligna, Eucalyptus gomphocephala, Macrozamia</i>	29/06/2010
<i>Pluteus</i>	<i>petasatus</i>	BOUGHER 00617	Characteristic Features: (i) Free, white then pinkish gills; (ii) White, smooth stem about same length as cap diam.; (iii) brown squamules at least near centre of cap; (iv) grassy odour. Pileus: up to 80 mm diam., flat-convex with flat area over stipe apex; margin strongly incurved to inrolled when young, later thin, sometimes forming a thin gelatinous appendiculate flap (in wet weather); surface greasy to glutinous in wet conditions (rain at the time), central area with brown recurved squamules radially arranged. Lamellae: free, to 12mm deep, not greatly ventricose, closely spaced; edge and face concolorous, white/cream developing dull pinkish colour with age; edge smooth and entire; lamellules abundant. Stipe: 40-70 x 5-12 mm (usually length is about the same as pileus diam.), cylindrical with barely swollen truncate base; flesh solid, white, unchanging; surface white, entirely smooth, separates cleanly from the pileus; no veils evident. Flesh white, unchanging. Basal mycelium white, in a dense clod at base of stipe, not abundant or rhizomorphic. Micro: pleurocystidia scattered, metuloid, apex 1-3 pronged. Spores broad ellipsoid, e.g. 7.1 x 5.1 microns. Clamps not seen.	<i>Eucalyptus sp.</i>	15/06/2010
<i>Pluteus</i>	<i>perroseus</i>	BOUGHER 00635	Characteristic Features: (i) Dark brown (fuscous black) velvety cap; (ii) White then dull pink, free gills; (iii) Gill edge not dark. Pileus: 40-60 mm diam., flat-convex with low central umbo; surface dry, velvety, breaking up into minute dark scabers, dark (fuscous black) developing pale patches (where the under-surface is revealed) with age; margin thin, incurved when young, entire but may split deeply in one or two places. Lamellae free, ventricose, to 10 mm deep; crowded or sparsely spaced, edge and face concolorous - white at first, soon pinkish, edge smooth and entire, 1 short lamellule between most pairs of lamellae.	<i>Eucalyptus cladocalyx</i>	22/06/2010

Genus	Species	Code	Descriptive Notes	Plants	Date
<i>Pluteus</i>	<i>pauperculus</i>	BOUGHER 00686	Stipe: up to 80 x 60 mm; cylindric or widening towards base, with truncate slightly swollen base; solid; pale whitish-cream, shiny, smooth except for some dark brown fibrils matted into appressed scales in lower part (variable in extent and density). Micro: Pileipellis a cutis giving rise to bundles of fusoid end-cells some with dark cytoplasmic pigment (see photos). Spores broad ellipsoid, e.g. 7.4-8.3 x 5.5-5.8 microns. Pleurocystidia absent, or scattered and rare. Cheilocystidia variable, e.g. utriform, vesiculose, fusoid; not metuloid. Clamps absent. Caulocystidia or end cells slender, fusoid, and some hyphae and end cells with dark cytoplasm.	<i>Eucalyptus cladocalyx</i>	20/07/2010
<i>Psathyrella</i>	<i>sp.</i>	BOUGHER 00634	Characteristic Features: (i) white veil patches abundant on cap when young. Pileus: 7-15mm diam, convex becoming flat, moist but not glutinous, smooth, faintly translucent-striate towards margin. Veil spots on young specimens, brown when young fading as maturing. Margin incurved, ragged with age. Lamellae: adnexed, edge smooth, 3 mm deep, closely spaced, light greyish-brown. Stipe cylindrical with slightly bulbous base, whitish, hollow.	<i>Allocasuarina fraseriana</i>	22/06/2010
<i>Rhodocollybia</i>	<i>sp. nov.</i>	BOUGHER 00668	Characteristic Features: Same species as BOUGHER 669 (see full description of that collection). To note in this collection: (1) Pileus margin is wavy; (2) No umbo is present on any of the pilei; (3) Collection consists of a clump of three specimens all co-joined near to their base, and all embedded in rotted sheoak bark with many white rhizomorphs present (see photo). (4) The lamellae are all clay-coloured (face and edge), and have not developed darker as yet; (5) The interior of the stipe is stringy-fibrous (as it also is in BOUGHER 669).	<i>Allocasuarina fraseriana</i>	13/07/2010
<i>Rhodocollybia</i>	<i>sp. nov.</i>	BOUGHER 00669	Characteristic Features: (i) dark leather-brown colour of cap and stipe; (ii) darkening flesh; (iii) tough, fibrous, non-rooting stipe. Seems to fit <i>Gymnopus</i> and <i>Rhodocollybia</i> e.g. the form and habit of the basidiomes, the gnarled-branched pileipellis and stiptopellis elements, and the spores. However, the spores do appear to have a dextrinoid of some kind - golden in Melzers, the spore deposit turns brownish on the slide after Melzers is added, and the spores are cyanophilic (walls dark blue in Trypan Blue) - all characters more typical of <i>Rhodocollybia</i> . The presence of numerous white rhizomorphs is also found in some <i>Rhodocollybia</i> species. The very dark colour of the pileus and stipe, the presence of scattered gnarled and cylindric "cystidia" on the lamellae, pileus and stem do not match any named species of <i>Gymnopus</i> or <i>Rhodocollybia</i> in Australia (those in Grgrinovic book under <i>Collybia</i>). Pileus: 35-55 mm diam., appanate then upturning with a central umbo in one specimen; margin plane, not translucent-striate and not splitting radially; surface uniformly the colour of old wet leather, soft-moist, smooth but eroding. Lamellae: adnexed, to 7 mm deep, non-ventricose, edge smooth, cream - paler than face which is fawn at first maturing to a dark ash-grey colour with a faint purplish tinge, and finally darkening almost to the pileus colour. Lamellules very abundant - 1 or 2 between each pair of lamellae. Stipe up to 100 x 10 mm, solid but fibrous, developing a hollow near apex when old.; cylindrical with curved slightly swollen but not rooting base which is often sand encrusted and has numerous white rhizomorphs attached. Surface dry, smooth or minutely furfuraceous (cystidia?), uniformly dark leather brown (similar to pileus). No annulus or veil remnants evident. Flesh: straw-coloured initially upon cutting, but especially in the pileus the flesh is black in parts, soft in the pileus but stringy fibrous in the stipe. Basal mycelium: white rhizomorphs in the rotting wood. MICRO: see page of notes attached to original field sheet, and micro photos of BOUGHER 669.	<i>Allocasuarina fraseriana</i>	13/07/2010
<i>Russula</i>	<i>erumpens</i>	BOUGHER 00615	Characteristic Features: (i) Densely fleshed, heavy, stout fruit body; (ii) Crowded cream gills discolouring rusty in parts; (iii) Short cylindrical white stem, dulling with handling; (iv) Cap white to cream, smooth, sand-covered, with depressed centre.	<i>Allocasuarina fraseriana</i>	15/06/2010
<i>Skeletocutis</i>	<i>amorpha</i>	BOUGHER 00691	Characteristic Features: (i) Fully resupinate with labyrinthine pores 3 per mm, variable in size and shape sometimes forming large sheets of indeterminate growth; (ii) Cream with pinkish tan bruised areas; (iii) Margin of low white pores then a white arachnoid fringe at the extreme margin; (iv) No rhizomorphs. (v) No subiculum - in cross-section the tubes extend right down to the wood. This appears to be close to <i>S. amorpha</i> by virtue of: (i) small allantoid spores; (ii) mucilage/crystal granules present; (iii) dimitic hyphal system; (iv) cystidioles present. However <i>S. amorpha</i> is supposedly only found on Pinaceae conifers, and in section the fruit body is supposed to be honey yellow and have a context/subiculum. BOUGHER691 is mainly cream, with only some parts pinkish-tan. Compare with BOUGHER 538. MICRO: Spores strongly allantoid, smooth/thin-walled, hyaline in KOH, very small, e.g. 3.2-3.6 x 1.2 microns (see photos). Capitate cystidia at pore mouth, hyaline-glassy, mooth-walled (see photos). Als variably-shaped terminals are present. Crystals in circular clusters loose and scattered throughout hymenium (see photos). Hyphal system dimitic, thick-walled skeletal dominate. Clamps present on generative hyphae, which are 2-3 microns wide (see photo), not encrusted. No metuloid present. Conidium? Seen (see photo) vesiculose, thick-walled. Trama partially gelatinised.	<i>Banksia attenuata</i>	20/07/2010
<i>Tomentella</i>	<i>pilosa</i>	BOUGHER 00690	Characteristic Features: (i) Ochre to rusty resupinate fruit body; (ii) Soft, felty-arachnoid to low tuberculate surface; (iii) Orange-ochre rhizomorphs present. MICRO: Spores dull olive brown in KOH, 3-lobed angular in frontal view, verrucose with tapering warts/spines, e.g. 6.4-8.5 x 5.3-5.6 microns (see photos). Cystidia scattered singly, subcapitate, smooth/thick-walled, yellow pigmented, e.g. 6-8 microns wide (see photos). All hyphae clamped. Rhizomorphs consist of clamped, darker hyphae.	<i>Corymbia calophylla</i>	20/07/2010
<i>Trechispora</i>	<i>microspora</i>	BOUGHER 00687	Characteristic Features: (i) Fully resupinate, thin, easily removed, membranous to arachnoid growths; (ii) White rhizomorphs present. This could be either <i>T. microspora</i> or <i>T. praefocata</i> - both species have sharp crystals and rhizomorphs, but the smaller spore size of <i>T. microspora</i> fits better. (<i>T. praefocata</i> is probably a synonym of <i>T. microspora</i> anyway). Note: In WA at least, this fungus occurs in a similar microhabitat to <i>Botryobasidium subcoronatum</i> . In urban bushlands of Perth they both occur on the inside of bark attached to and fallen off adjacent to the base of the trunk of standing trees. Both fungi form thin, white, fully resupinate growths and therefore look superficially similar. However microscopically the two fungi are very different (see notes and photo for both species). MICRO: Spores ellipsoid, hyaline to pearly in KOH, not dextrinoid- yellowish with ornaments bluish? in Melzers (may just be refractance), e.g. 4.3-4.7 x 2.3-3.1 microns, thin-walled, spinose due to narrow peg-like ornaments approx. 0.5 microns tall, hilar appendix not conspicuous. Basidia: squat-cylindrical, not uniform, 4-spored, clamped, arising from racemose arrangement (see photo) from narrow clamped hyphae e.g. 2 microns wide. Hyphae: 1.5-2 microns wide, clamped, some knucklebone ampullate septa (i.e. swollen on one side and narrow on the other side) and those are present in the strands (rhizomorphs). Sharp crystals abundant, loose (not attached to hyphal walls). Occasional pyriform smooth element, sometimes with a long projection emerging from some strands, clamped at base. Conidium? No cystidia present. Rhizomorphs: surrounded by broken stellate and sharp-aculeate crystals in abundance. No differentiated rind and cortex. Consists of hyphae in parallel-wavy arrangement, 1-3 microns wide, smooth/thin-walled. Clamped. Some hyphae swollen at the septum, at least on one side of it (see photos). No thick-walled hyphae present, so fruit bodies (and rhizomorphs) are entirely monitic.	<i>Allocasuarina fraseriana</i>	20/07/2010
<i>Tubaria</i>	<i>sp. nov.</i>	BOUGHER 00689	Characteristic Features: (i) The pileus is rich red-brown when fresh and young but is strongly hygrophanous and becomes entirely pale straw-coloured when older or drier; (ii) The margin of the young pileus is white due to adhering small scattered whitish	<i>Eucalyptus spp.</i>	20/07/2010

Genus	Species	Code	Descriptive Notes	Plants	Date
			<p>flecks; (iii) The lamellae edge is finely fimbriate (not serrulate); (iv) The lamellae appear to run down the stipe a short distance; (v) The stipe is fragile and quite short, and has a whitish silky annular band. The rich colouration, whitish annulus on the stipe and flecks on the pileus, and spore and cystidia type all suggest BOUGHER 689 belongs to the <i>T. confragosa</i> group (<i>Confragosae</i> clade) of <i>Tubaria</i>. Pileus: 20-40 mm diam., hemispherical at first with a white margin due to adhering cobweb-like fibrils of the partial veil, soon expanding and eventually becoming appanate with an obscurely translucent-striate, thin margin which may remain intact or become deeply split. Pileal surface dry, smooth but at least at first with small scattered pale brown or whitish velar flecks; uniformly deep red-brown (between 6E7 and 7E7) when fresh and young then later more chestnut orange-brown (near 6D8 to 7D8), often rapidly and strongly hygrophanous (becoming pale from the centre outwards) fading entirely to pale straw-coloured. Lamellae: arcuate-descending down the stipe a short distance but not truly decurrent; to 7 mm deep; crowded then closely spaced; edge smooth to the eye, minutely fimbriate under lens (not serrulate); edge and face concolorous; pale ochre in button, then chestnut brown (near 6D8) at maturity; lamellules abundant - two short and one longer lamellule between each pair of lamellae. Stipe: up to 30 x 4 mm, i.e. quite short for the size of the pileus; fragile and easily broken; cylindrical; fistulose (hollow and with longitudinal fibrils). Surface dry; densely silky-fibrillose above the annular zone, less fibrillose below. Partial veil: thick fibrillose-silky to submembranous when intact, forming evanescent scattered fibrils on the pileus (see as described above) and remains on the stipe as a ragged, appressed white band which may persist for some time but usually eventually disappears with age. MICRO: Spores broad ovoid, smooth-walled, no germ pore evident, e.g. 6.6 - 7.1 x 4.5 - 4.7 microns. Chelocystidia abundant-crowded forming a sterile gill edge, cylindrical, with not or barely swollen apex, sometimes sinuous, hyaline, smooth-walled, e.g. 50 - 75 x 5.0 - 5.5 microns. See further notes and microphotos.</p>		
<i>Tylopilus</i>	<i>fuscobrunneus</i>	BOUGHER 00616	<p>Characteristic Features: (i) Flesh discolours fleetingly greenish-bluish, then dark brown; (ii) Similar colour reactions with hymenium and on the cap; (iii) cap snuff to cigar brown; (iv) stout robust form; (v) narrow pale spores producing a brownish spore deposit. Pileus: up to 150mm diam., convex but soon undulating and often becoming deeply lobed or contorted with age; uniformly snuff to cigar brown (near 6F5 to 7F5), bruising dark (almost black), soft, smooth, dry; margin thin, entire. Hymenium: Tubes up to 15 mm long, pale greenish when young, rapidly turning dull reddish-brown but also notable with fleeting bluish-greenish flush especially near to the pileus. Pore concolorous and also bruising in same way, variable in shape, small (2-3 per mm), no radial pattern. Stipe: up to 80 x 50 mm, stout-clavate, solid, smooth, dry, pale cream when young, soon bruising darker and eventually dark (nearly black) over most parts. Flesh: cream but rapidly discolouring bluish-greenish which then fades and is replaced by a dark brown colour which gets even darker after a further 10 minutes or so. Basal mycelium not conspicuous. Micro: spores pale in KOH, cylindrical-fusoid, e.g. 10-11 x 3.5-4.2 microns.</p>	<i>Corymbia calophylla</i> , <i>Eucalyptus</i> sp.	15/06/2010
<i>Tylopilus</i>	<i>fuscobrunneus</i>	BOUGHER 00645	<p>Characteristic Features: (i) white stipe, yellowish cap; (ii) small size.</p>	<i>Eucalyptus marginata</i> , <i>Corymbia calophylla</i> , <i>Allocauarina fraseriana</i>	29/06/2010
<i>Undetermined resupinate</i>	<i>waxy, white & ochre-orange, tubes</i>	BOUGHER 00638	<p>Characteristic Features: (i) waxy amorphous growth, mainly cream but yellowish-cream to ochre-orange in parts; (ii) some parts developing cream tubes up to 10 mm long, and irregular and elongated pores of same colour; (iv) margin cottony, otherwise not differentiated. Micro: Spores ovoid, smooth, hyaline in water and in KOH, pale golden in Melzers, e.g. 6.5 - 8.5 x 5.1 - 5.6 microns. (see photos) Trimitic. All hyaline in water; KOH, dextrinoid (bright golden) in Melzers. Basidia 4-spored. No cystidia. No clamps.</p>	<i>Allocauarina fraseriana</i>	22/06/2010
<i>Undetermined resupinate</i>	<i>ochre smooth</i>	BOUGHER 00649	<p>Characteristic Features: (i) Minutely felty, fully resupinate growth, ochre to greyish in colour, darker where stained by brown oily droplets (which were present in the field but had dried up before examination in the lab); (ii) Up to 2-3 mm thick in parts, with a darker brown dense thick layer below a thin paler felty surface layer. The brownish spore print and ornamented spores suggest BOUGHER649 is genus <i>Tomentella</i>. But the dendrocystidia and predominant richly-branched binding hyphae which form a thick tough subiculum (2-3mm thick) suggests this is not <i>Tomentella</i>. MICRO: Spores globose, with a verrucose-rugulose ornamentation of blunt warts, possible amyloid but hard to tell (the ornaments are prominent in Melzers), e.g. 5.4 to 5.8 microns diam., pale greyish-greenish in KOH, with one large oil droplet, hilar appendix prominent. Dendrocystidia/Dichohyphidia abundant, some thick-walled and brown pigmented. Basidia cylindrical, thin-walled, collapsing, hyaline, 4-spored, e.g. 30 x 6 microns. The thick lower layer of the fruit body is composed of richly-branched binding hyphae. No clamps were seen, but this may not have been possible because did not see any generative hyphae at all (only the binding type hyphae).</p>	<i>Eucalyptus gomphocephala</i>	29/06/2010
<i>Undetermined resupinate</i>	<i>mustard curtains</i>	BOUGHER 00651	<p>Characteristic Features: (i) Irregular odonoid and curtain-like projections less than 1mm tall; (ii) Intervening spaces with dull greyish waxy low growth; (iii) overall colour mustard yellow. MICRO: Spores hyaline in KOH, cylindrical or ellipsoid, some broader at one end, some with adaxial depression, wall appears verruculose, e.g. 6 x 3.2-3.5 microns.</p>	<i>Banksia</i> sp.	29/06/2010
<i>Volvariella</i>	<i>speciosa</i>	BOUGHER 00671	<p>Characteristic Features: (i) large size (cap up to 100 mm diam.); (ii) viscid cap; (iii) volva at base of tall (130 x 25 mm) stem.</p>	<i>Eucalyptus</i> spp.	13/07/2010