

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



**Fungi survey -
Kings Park and Botanic Garden 2012**

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

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In conjunction with the Perth Urban Bushland Fungi Project

Perth
Urban
Bushland
Fungi



Figures 1 - 4: Examples of the fungi discovered in Kings Park during 2012. Each of these species is highlighted in the discussion section of this work.



Figure 1: *Inocybe fibrillosibrunnea* (NLB 1042).



Figure 2: *Inocybe sp. (cf. BOU494)* (NLB 1043).

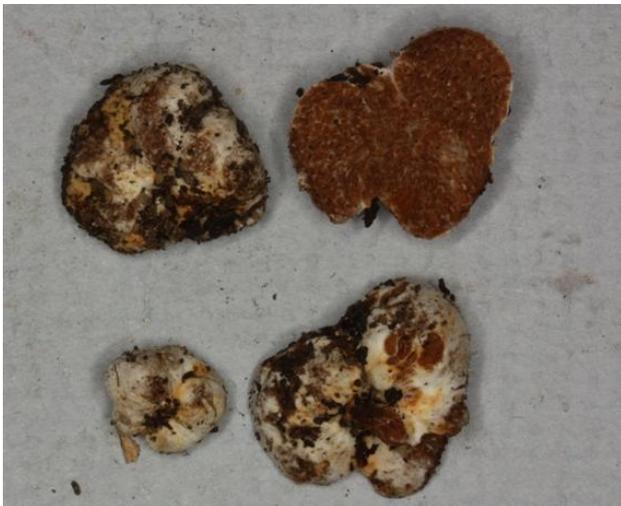


Figure 3: *Descomyces sp. nov* (NLB 1038).



Figure 4: *Mycena carmeliana* (NLB 1035).

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 406 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 Allocasuarina (*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 luteobubalina*. 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. A historical investigation into the the fungi recorded from Kings Park and Botanic Garden dating back to the first known scientific record in 1839 revealed that a total of 285 scientific names of fungi had been recorded from Kings Park up until 2009, with 122 of the names designated to species level (Bougher 2010a, 2010b).

Any estimate the number of fungi species known so far from Kings Park depends on the level of acceptance of the many unverified or unverifiable names as representing or not individual species. 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 - 67% considered to be new records for the park (Bougher 2009a). A second contract survey, in 2010, recorded a total of 108 species of fungi - 47% new records (Bougher 2010c, Bougher 2011a). After the third contract survey in 2011 which recorded 106 species of fungi (25% new records), a total of 206 different fungi (including 26 slime moulds) named to species level have been have been recorded from Kings Park (Bougher 2011b). The total number of fungi and slime mould species known from Kings Park to date is undoubtedly much greater. Many unidentified or possibly inaccurately identified records from Kings Park remain to be verified.

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 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 within Kings Park and Botanic Garden.

The objective of this work was to:

Undertake the fourth 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

Fungi survey

Fungi were recorded and collected in Kings Park from early June to early July 2012. Unseasonably dry weather in July combined with a series of cold nights may have severely limited the intensity and duration of fruiting of macrofungi at Kings Park during this period. 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).

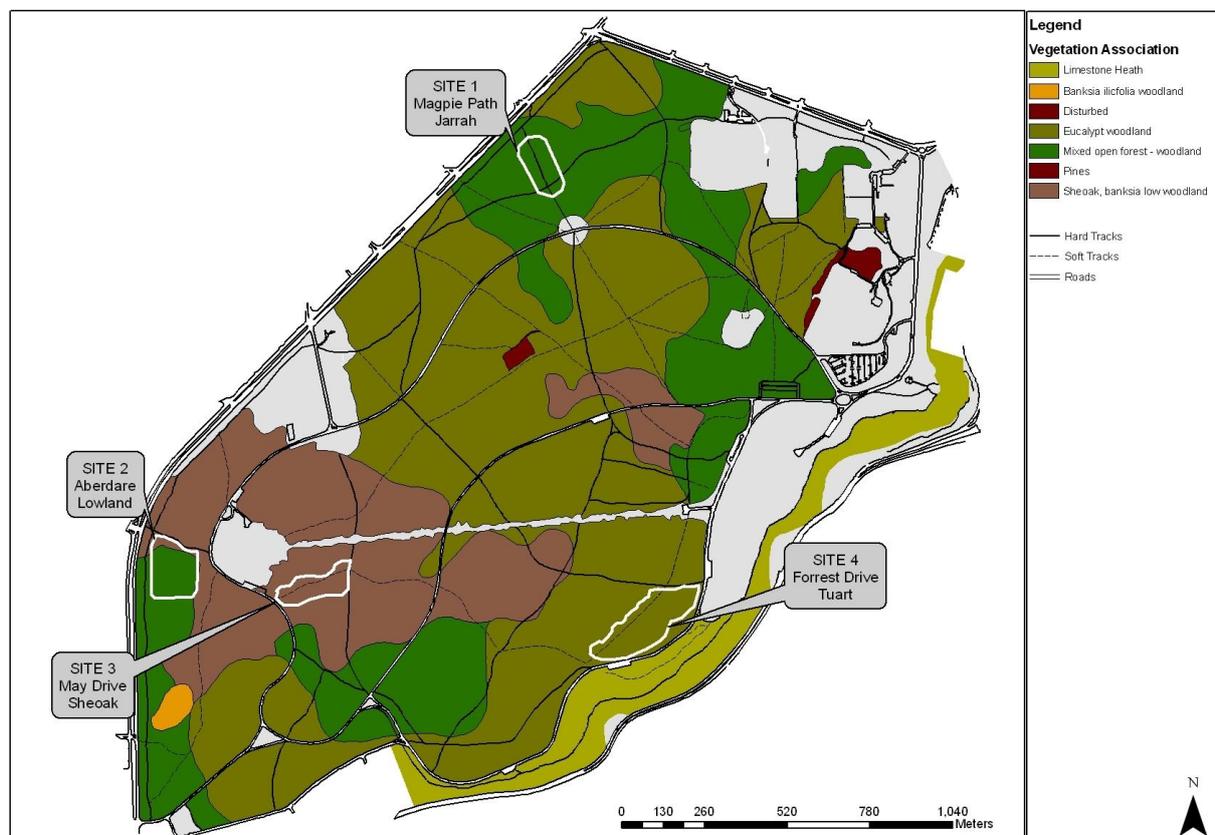


Some of the participants during the 2012 fungi survey at Kings Park.

Table 1: Sites surveyed for fungi at Kings Park in 2012.

Site ID	Site Name	Details/ Coordinates	Vegetation	Notes	Survey Visits 2012
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' 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 Allocasuarina	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 1989. Dominated by <i>Allocasuarina</i> and <i>Banksias</i> 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.	1
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 2012



Results

A total of 123 species of fungi were recorded in 2012 during the period of this consultancy (Table 2). This number is a conservative figure because it includes 16 names that represent an as yet unresolved mixture of unknown numbers of species, e.g. *Crepidotus ragbag* (see Table 2).

The fungi from 2012 represent 77 known genera and 47 families (+ 5 undetermined or ragbag groupings for which genera and families unknown) (Table 3). All species are considered to be indigenous except one exotic species (introduced from outside Western Australia) – *Suillus granulatus* which is a mycorrhizal associate of *Pinus*. Descriptive data for the 51 fungal collections from 2012 that were vouchered for permanent reference are given in Appendix 2.

- 24% of the species (29) from the current 2012 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 to 2011 surveys, or any of the pre-2009 names that have specific epithets. *
- 76% of the fungi (94 species) in the current survey are considered to be the same as species recorded previously (black entries in Table 2), i.e. same as any of the pre-2012 names that have specific epithets.
- 9 of the 29 new records are identified to species level, 18 are only identified to genus level, and 2 are not assigned a genus or a species name (Table 2).
- *Gymnopilus allantopus* and *Tylophilus fuscobrunneus* were the only records found in all five of the survey sites. *Henningsomyces candida* and *Limacella pitereka* were recorded in four of the sites.
- Saprotrophic fungi (85 species) were represented by more species than mycorrhizal fungi (35) and pathogenic fungi (2) (Table 3).
- Fungi were present in a wide range of vegetation and microhabitat types. Dead wood with 58 species, and leaf litter or soil with 56 species had the greatest diversity of fungi (Table 3).
- As in previous years, *Anthracobia melaloma* was observed on burnt ground. However other fire recovery species previously seen at Kings Park such as *Pholiota hilandensis*, *Peziza tenacella*, *Pulvinula archeri* and *Hygrocybe sp. pearly* were not observed in 2012.

* NOTES: (i) The figure for “new records” considers 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 2012 (“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-2012. Therefore *Hypoxyylon ragbag* was excluded because various records as *Hypoxyylon bovei* had been recorded at Kings Park in previous years (see Bougher 2011).

Table 2: Identity and some ecological characteristics of fungal species in Kings Park 2012 (arranged in order of genus, species). **Maroon** = new records of species previously not recorded from Kings Park found during 2012. **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.

Forms: BR = bracket; CD = cup/disc; CO = coral; CU = cushion; CY = cyphelloid; FL = flask; JE = jelly fungus; MO = mould; MU = mushroom; PF = puffball/earthball; PS = pustules; RE = resupinate; RU = rust; SH = shell/fan/spoon; TR = truffle. *Ecology/Life modes (putative in most cases):* S = saprotrophic; P = pathogenic; M = mycorrhizal. *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. *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	Microhabitat	Native/Exotic	Voucher Code	2012 SITES	1	2	3	4	5	ALL YEARS (2009 - 2012)	New in 2012
KP137	1. <i>Abortiporus biennis</i>	Meruliaceae		BR	S	DW	N		4				Y		4	New
KP132	2. <i>Agaricus subrufescens</i>	Agaricaceae		MU	S	L	N		5					Y	5	
KP064	3. <i>Aleurina ferruginea</i>	Pyronemataceae		CD	S	L	N	NLB 1052	1, 2	Y	Y				1, 2	
KP070	4. <i>Amanita walpolei</i>	Amanitaceae		MU	M	L	N	BOUGHER 650	1	Y					1	
KP149	5. <i>Amanita basiorubra</i>	Amanitaceae		MU	M	L	N		2		Y				2	
5	6. <i>Amanita xanthocephala</i>	Amanitaceae	Yellow Headed Amanita	MU	M	L	N		5					Y	1, 2, 4, 5	
KP121	7. <i>Amanita sp. yellowing bulb</i>	Amanitaceae		MU	M	L	N	BOUGHER 999	5					Y	5	New
KP122	8. <i>Amanita conicobulbosa</i>	Amanitaceae		MU	M	L	N	BOUGHER 1000	5					Y	5	
4	9. <i>Amanita umbrinella</i>	Amanitaceae		MU	M	L	N	NLB 1029	5					Y	5	
KP075	10. <i>Amanita ragbag, white with ring</i>	Amanitaceae		MU	M	L	N	Davison30-2010 BOUGHER 746	1, 3	Y		Y			1, 3, 4	
KP058	11. <i>Amanita fibrilloses</i>	Amanitaceae		MU	M	L	N	BOUGHER 989 BOUGHER 990 BOUGHER 993	2, 3		Y	Y			2, 3	
KP043	12. <i>Amanita sp. ochre ring</i>	Amanitaceae		MU	M	L	N	E9424, BOUGHER 998	2, 4, 5		Y		Y	Y	2, 4, 5	
KP050	13. <i>Anthracobia melaloma</i>	Pyronemataceae	Orange Fire Anthracobia	CD	S	BG	N	BOUGHER 560	1, 4	Y			Y		1, 4	
6	14. <i>Arcyria ragbag</i>	Arcyriaceae		SL	S	DW	N		2		Y				2	
7	15. <i>Armillaria luteobubalina</i>	Tricholomataceae		MU	P	DT	N	NLB 1030	5					Y	5	
KP017	16. <i>Auriporia sp. orange-pored</i>	Fomitopsidaceae		RE	S	DW	N	E9325, E9326	1	Y					2, 3	
KP154	17. <i>Austropaxillus muelleri</i>	Boletaceae		MU	M	L	N		1	Y					1	
KP082	18. <i>Banksiamyces toomansis</i>	Leotiaceae		CD	S	DW	N	BOUGHER 665	4				Y		2, 4	
KP125	19. <i>Boletus prolinius</i>	Boletaceae		MU	M	L	N	BOUGHER 992	3			Y			3	New
KP126	20. <i>Boletus sp. brown cap, non bluing</i>	Boletaceae		MU	M	L	N	BOUGHER 997	3			Y			3	New
KP120	21. <i>Boletus sp. red brown cap</i>	Boletaceae		MU	M	L	N	BOUGHER 988	5					Y	5	
KP039	22. <i>Calocera sp. spindle</i>	Dacrymycetaceae		JE	S	DW	N	E9389	1						4	
19	23. <i>Calocera guepinioides</i>	Dacrymycetaceae	Scotsman's Beard	JE	S	DW	N		1, 3	Y		Y			all	
9	24. <i>Campanella gregaria</i>	Tricholomataceae	Gregarious Bells	SH	S	DW	N	E9353, E9390, E9416	2, 3		Y	Y			all	
224	25. <i>Ceratiomyxa fruticulosa</i>	Ceratiomyxaceae	Icicle Fairy Fans	SL	S	DW	N	E9420 BOUGHER 752	3			Y			all	
KP072	26. <i>Ceriporia tarda</i>	Phanerochaetaceae		RE	S	DW	N	BOUGHER 652 NLB 1023	1, 2, 3	Y	Y	Y			1, 2, 3, 4	

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native/Exotic	Voucher Code	2012 SITES	1	2	3	4	5	ALL YEARS (2009 - 2012)	New in 2012
KP049	27. <i>Clavulina vinaceocervina</i>	Clavulinaceae	Flesh-coloured Coral Fungus	CO	M	L	N	E9455	1	Y					1	
28	28. <i>Clitocybe ragbag, no odour</i>	Tricholomataceae		MU	S	DW	N	BOUGHER 670	1, 2, 3	Y	Y	Y			1, 2, 3, 5	
479	29. <i>Clitopilus hobsonii</i>	Entolomataceae	Tiny white fans	SH	S	DW	N	BOUGHER 515, 525	1, 3	Y		Y			1, 2, 3, 4	
30	30. <i>Coltricia cinnamomea</i>	Hymenochaetaceae		MU	S	L	N		1, 2, 4	Y	Y		Y		1, 2, 4	
KP140	31. <i>Conchomyces bursiformis</i>	Tricholomataceae		SH	S	DW	N	NLB 1051	3			Y			3	New
KP152	32. <i>Coprinellus truncorum</i>	Psathyrellaceae		MU	S	DW/L	N	NLB 1047	1	Y					1	New
KP109	33. <i>Coprinellus pyrhanthes</i>	Psathyrellaceae		MU	S	L	N	BOUGHER 733	5					Y	5	
36	34. <i>Coprinopsis cf. stangliana</i>	Psathyrellaceae	Western Australian Magpie Fungus	MU	S	L	N		4				Y		4, 5	
KP153	35. <i>Cortinarius sp. frosty cap center</i>	Cortinariaceae		MU	M	L	N		1	Y					1	New
379	36. <i>Cortinarius archeri</i>	Cortinariaceae	Archer's Cortinar	MU	M	L	N	BOUGHER 615	2		Y				2, 3	
KP148	37. <i>Cortinarius sp. silvery blue</i>	Cortinariaceae		MU	M	L	N	NLB 1046	2		Y				2	New
KP133	38. <i>Cortinarius sp. dull yellow, with ring</i>	Cortinariaceae		MU	M	L	N	NLB 1031	5					Y	5	New
232	39. <i>Cortinarius ochraceofulvus</i>	Cortinariaceae	Golden Tuart Cort	MU	M	L	N		1, 3, 4	Y		Y	Y		1, 4, 5	
KP115	40. <i>Cortinarius ragbag</i>	Cortinariaceae		MU	M	L	N	NLB 1036	2, 3, 4		Y	Y	Y		2, 3, 4	
43	41. <i>Crepidotus ragbag</i>	Crepidotaceae		SH	S	DW	N		1	Y					1, 4, 5	
186	42. <i>Crepidotus sphaerosporus</i>	Crepidotaceae		SH	S	DW	N	E9367	2		Y				1, 2	
40	43. <i>Crepidotus eucalyptorum</i>	Crepidotaceae	Eucalypt Crepidotus	SH	S	B	N	E9360	2, 4		Y		Y		1, 2, 4	
382	44. <i>Crepidotus mollis</i>	Crepidotaceae		SH	S	DW	N	BOUGHER 648 NLB 1034	2, 4		Y		Y		1, 2, 4	
KP139	45. <i>Descomyces sp. nov.</i>	Cortinariaceae		TR	M	U	N	NLB 1038	4				Y		4	New
KP131	46. <i>Diachea leucopoda</i>	Stemonitidaceae		SL	S	DW	N		4, 5				Y	Y	4, 5	New
54	47. <i>Exidia ragbag</i>	Exidiaceae		JE	S	DW	N		3			Y			all	
119	48. <i>Fomitiporia robusta</i>	Hymenochaetaceae	Woody Layered Bracket Fungus	BR	S	DT	N		1, 5	Y				Y	1, 2, 5	
56	49. <i>Fomitopsis lilacinogilva</i>	Coriolaceae		BR	S	DW	N		1, 4	Y			Y		1, 4	
58	50. <i>Fuligo septica</i>	Physaraceae	Dog vomit slime mould	SL	S	L	N		4				Y		3, 4	
KP135	51. <i>Gloeocystidiellum sp. smooth, white</i>	Stereaceae		RE	S	DW	N	NLB 1041	4				Y		4	New
KP147	52. <i>Grandinia sp. grey waxy tuberculate</i>	Corticaceae		RE	S	DW	N		2		Y				2	New
67	53. <i>Gymnopilus perplexus</i>	Cortinariaceae		MU	S	DW	N	BOUGHER 667	1	Y					1, 3	
68	54. <i>Gymnopilus purpuratus</i>	Cortinariaceae		MU	S	DW	N		1, 3, 4	Y		Y	Y		1, 3, 4, 5	
66	55. <i>Gymnopilus allantopus</i>	Cortinariaceae	Golden Wood fungus	MU	S	DW	N	E9355	all	Y	Y	Y	Y	Y	all	
70	56. <i>Harknessia</i>	Melanconidaceae	Tuart Nut Fungus	PS	S	DW	N		4				Y		4	

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native/Exotic	Voucher Code	2012 SITES	1	2	3	4	5	ALL YEARS (2009 - 2012)	New in 2012
	<i>uromycoides</i>															
71	57. <i>Henningsomyces candidus</i>	Schizophyllaceae	Miniature Chimney Pots	CY	S	DW	N	E9361	1, 2, 3, 4	Y	Y	Y	Y		all	
375	58. <i>Hjortstamia crassa</i>	Phanerochaetaceae	Violet Skin Fungus	RE	S	DW	N	BOUGHER 522	1	Y					1, 3, 4	
75	59. <i>Hymenochaete sp. ochre resupinate</i>	Hymenochaetaceae		RE	S	DW	N		4				Y		2, 4	
KP028	60. <i>Hymenoscyphus sp. cushion-dome shape</i>	Leotiaceae		CD	S	DW	N	E9363, E9366, BOUGHER 674	1, 2	Y	Y				1, 2	
78	61. <i>Hyphodontia sp. white, low tubercules</i>	Hyphodermataceae		RE	S	DW	N	BOUGHER 754	3			Y			1, 2, 3, 4	
KP003	62. <i>Hyphodontia breviseta</i>	Hyphodermataceae		RE	S	DW	N	BOUGHER 512 BOUGHER 774	3			Y			2, 3	
KP150	63. <i>Hypoxylon ragbag</i>	Xylariaceae		FL	S	DW	N		1	Y					1	
KP138	64. <i>Hysterangium sp. white unchanging</i>	Hysterangiaceae		TR	M	U	N	NLB 1037	4				Y		4	New
KP146	65. <i>Inocybe sp. nov. (cf. BOU494)</i>	Inocybaceae		MU	M	L	N	NLB 1043	2		Y				2	New
KP118	66. <i>Inocybe jarrahae'</i>	Inocybaceae		MU	M	L	N	BOUGHER 909	4				Y		4	
KP144	67. <i>Inocybe fibrillosibrunnea</i>	Inocybaceae		MU	M	L	N	NLB 1042	1, 3	Y		Y			1, 3	New
82	68. <i>Laccaria lateritia</i>	Tricholomataceae	Brick Red Laccaria	MU	M	L	N	E9455	2		Y				1, 2, 3, 5	
KP077	69. <i>Lachnum virgineum</i>	Hyaloscyphaceae		CD	S	DW	N	NLB 1039	2, 4		Y		Y		2, 4	
84	70. <i>Laetiporus portentosus</i>	Fomitopsidaceae		BR	P	DT	N		3			Y			3	
92	71. <i>Limacella pitereka</i>	Amanitaceae	Slimacella	MU	S	L	N	E9351 NLB1025	1, 2, 3, 4	Y	Y	Y	Y		1, 2, 3, 4	
KP123	72. <i>Lycoperdon cf. hiemale</i>	Lycoperdaceae		PF	S	L	N	BOUGHER 1033	5					Y	5	New
93	73. <i>Lycoperdon ragbag</i>	Lycoperdaceae		PF	S	L	N		1, 4	Y			Y		1, 4	
KP129	74. <i>Mycena tenerrima</i>	Mycenaceae		MU	S	L	N		1	Y					1	New
KP021	75. <i>Mycena sp. small, lemon cap, strigose base, on wood</i>	Mycenaceae		MU	S	L	N	E9319 BOUGHER 771	2		Y				2, 3, 5	
KP128	76. <i>Mycena sp. bluish cap & stem</i>	Mycenaceae		MU	S	L	N	BOUGHER 994	3			Y			3	New
KP045	77. <i>Mycena ragbag, on wood</i>	Mycenaceae		MU	S	DW	N		4				Y		ALL	
KP136	78. <i>Mycena carmeliana</i>	Mycenaceae	Orange-cupped pixie cap	MU	S	DW	N	NLB1035	4				Y		4	New
101	79. <i>Mycena nargan</i>	Mycenaceae	Spotted Pixie Cap	MU	S	DW	N	BOUGHER 520 NLB 1022 NLB1024	1, 2, 3	Y	Y	Y			1, 2, 3, 4	
KP005	80. <i>Mycena sp. dark brown/black in litter</i>	Mycenaceae		MU	S	L	N		1, 2, 3	Y	Y	Y			1, 2, 3	
KP143	81. <i>Mycena sp. minute white, deep litter</i>	Mycenaceae		MU	S	L	N		1, 2, 3	Y	Y	Y			1, 2, 3	New
KP009	82. <i>Mycena sp. black cap, hairy base, chlorine odour</i>	Mycenaceae		MU	S	DW	N		1, 2, 4	Y	Y		Y		1, 2, 3, 4	

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native/Exotic	Voucher Code	2012 SITES	1	2	3	4	5	ALL YEARS (2009 - 2012)	New in 2012
102	83. <i>Mycena kuurkacea</i>	Tricholomataceae	Bleeding Mycena	MU	S	L	N	BOUGHER 724	2, 4		Y		Y		1, 2, 4	
110	84. <i>Omphalotus nidiformis</i>	Tricholomataceae	Ghost Fungus	SH	S/P	D W/ B	N	E9423	1, 3, 4	Y		Y	Y		1, 3, 4, 5	
219	85. <i>Panaeolus ragbag</i>	Strophariaceae		MU	S	L	N		5					Y	5	
KP151	86. <i>Parasola ragbag on soil</i>	Psathyrellaceae		MU	S	L	N		1	Y					1	New
KP155	87. <i>Peniophora cinerea</i>	Corticiaceae		RE	S	D W	N		1	Y					1	
237	88. <i>Phaeotrametes decipiens</i>	Polyporaceae		BR	S	DT	N	BOUGHER 727	1	Y					1, 2	
120	89. <i>Phellinus sp. extensive resupinate</i>	Hymenochaetaceae		BR	S	D W	N	E9454	2, 4		Y		Y		2, 3, 4	
106	90. <i>Phlebia subceracea</i>	Meruliaceae	Golden Splash Tooth	RE	S	D W	N	BOUGHER 666	1	Y					1, 2, 3, 4	
122	91. <i>Phlebia ragbag</i>	Meruliaceae		RE	S	D W	N	BOUGHER 511	3			Y			1, 2, 3, 4	
KP053	92. <i>Phylloporus clelandii</i>	Boletaceae		MU	M	L	N	BOUGHER 646	2, 5		Y			Y	2, 4, 5	
126	93. <i>Piptoporus australiensis</i>	Coriolaceae	Curry Punk	BR	S	DT	N		2		Y				2, 4	
KP127	94. <i>Pisolithus sp. small globose</i>	Sclerodermataceae		PF	M	L	N	BOUGHER 995	3			Y			3	New
128	95. <i>Pisolithus ragbag</i>	Sclerodermataceae	Dog Poo Fungus	PF	M	L	N		1, 4, 5	Y	Y		Y	Y	1, 2, 4, 5	
KP119	96. <i>Plicaria ragbag sessile, black</i>	Pezizaceae		CD	S	L	N	BOUGHER 910	4				Y		4	
458	97. <i>Pluteus pauperculus</i>	Pluteaceae	Yellow Gilled Pluteus	MU	S	D W	N	E9352, BOUGHER 686	4				Y		1, 4	
KP124	98. <i>Psathyrella sp. smooth brown woodchips</i>	Psathyrellaceae		MU	S	D W	N	BOUGHER 996	5					Y	5	New
140	99. <i>Pycnoporus coccineus</i>	Coriolaceae	Scarlet Bracket Fungus	BR	S	D W	N		1, 2	Y	Y				1, 2, 4, 5	
KP037	100. <i>Ramaria sp. white</i>	Ramariaceae		CO	M	L	N	BOUGHER 745	1	Y					1, 4	
141	101. <i>Ramaria gracilis</i>	Ramariaceae	Slender Coral	CO	M	L	N		1, 4	Y			Y		1, 4	
1	102. <i>Resupinatus subapplicatus</i>	Tricholomataceae	Grey Anenome	SH	S	D W	N	E9379, E9422	1	Y					1, 2, 3, 4, 5	
221	103. <i>Russula erumpens</i>	Russulaceae	Erupting Russula	MU	M	L	N	BOUGHER 614	2, 3		Y	Y			2, 3, 4	
262	104. <i>Schizopora paradoxa</i>	Schizoporaceae		RE	S	D W	N		1, 2, 4	Y	Y		Y		1, 2, 3, 4	
KP103	105. <i>Sistotrema sp. grey paint on leaves</i>	Sistotremataceae		RE	S	D W	N	NLB 1054	1	Y					1, 4	
KP079	106. <i>Skeletocutis amorphia</i>	Polyporaceae		RE	S	D W	N	BOUGHER 691 NLB 1053	1, 2	Y	Y				1, 2, 3	
211	107. <i>Stereum illudens</i>	Stereaceae	Purplish Stereum	BR	S	D W	N	E9362	1	Y					1	
400	108. <i>Suillus granulatus</i>	Suillaceae		MU	M	L	E		5					Y	5	
159	109. <i>Tomentella pilosa</i>	Thelephoraceae		RE	S	D W	N	BOUGHER 690 NLB 1056 NLB 1058	1, 2	Y	Y				1, 2	
KP145	110. <i>Trechispora sp. yellow</i>	Sistotremataceae		RE	S	D W	N	NLB 1049	2		Y				2	New
207	111. <i>Tremella mesenterica group</i>	Tremellaceae	Yellow Brain Fungus	JE	S	D W	N	E9453	1, 3	Y		Y			1, 3, 4, 5	
250	112. <i>Trichia decipiens</i>	Trichiaceae		SL	S	D W	N		3, 4			Y	Y		3, 4	
KP134	113. <i>Tricholoma sp. ring</i>	Tricholomataceae		MU	M	L	N	NLB 1032	5					Y	5	New

Sp. ID	Species	Family	Common Name	Form	Life Mode	Micro Habitat	Native / Exotic	Voucher Code	2012 SITES	1	2	3	4	5	ALL YEARS (2009 - 2012)	New in 2012
KP130	114. <i>Tricholomopsis sp. yellow</i>	Tricholomataceae		MU	S	L	N	NLB 1026	2		Y				2	New
368	115. <i>Tubaria serrulata</i>	Crepidotaceae	Common Tubaria	MU	S	L	N	BOUGHER 521	4				Y		1, 4	
KP059	116. <i>Tylophilus fuscobrunneus</i>	Boletaceae		MU	M	L	N	BOUGHER 616 BOUGHER 645 NLB 1045	all	Y	Y	Y	Y	Y	all	
KP106	117. <i>Undetermined mould ragbag</i>	unknown		MO	S	D W	N		4				Y		4	
KP099	118. <i>Undetermined resupinate kahki, ochre tuberculata</i>	unknown		RE	S	D W	N	BOUGHER 772	1	Y					1, 3	
KP141	119. <i>Undetermined resupinate velvety, yellow-green</i>	unknown		RE	S	D W		NLB1048	3			Y			3	New
KP142	120. <i>Undetermined resupinate grey soft litter</i>	unknown		RE	S	L	N	NLB1050	3			Y			3	New
KP086	121. <i>Undetermined resupinate ragbag</i>	unknown		RE	S	D W	N	NLB 1021 NLB 1027 NLB 1040 NLB1050	1, 2, 3, 4	Y	Y	Y	Y		all	
172	122. <i>Volvopluteus speciosus</i>	Pluteaceae	Common Rosegill	MU	S	L	N		5					Y	4, 5	
471	123. <i>Xerula mundroola</i>	Tricholomataceae		MU	S	L	N	E9451	3			Y			3	

Table 3: Taxonomic rank, life mode, habitat, and sites of fungi in Kings Park in 2012.

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	123 (includes 16 ragbags)	
Genera	77 (+ 5 of unknown genus)	
Families	47 (+ 5 of unknown family)	
Ecology/Lifemode types		
Saprotrophic	85	<i>Crepidotus mollis</i>
Pathogenic	2	<i>Armillaria luteobubalina</i>
Mycorrhizal	35	<i>Inocybe fibrillosibrunnea</i>
Saprotrophic or pathogenic	1	<i>Omphalotus nidiformis</i>
Main habitat types (+ 5 species with two or more habitats)		
B = Bark of living tree	2	<i>Crepidotus eucalyptorum</i>
BG = Burnt ground/litter	1	<i>Anthracobia melaloma</i>
DT = Diseased or dying tree/plant	5	<i>Laetiporus portentosus</i>
DW = Dead wood/logs	58	<i>Campanella gregaria</i>
L = Leaf litter or soil	56	<i>Tubaria serrulata</i>
U = underground	2	<i>Descomyces sp. nov.</i>
Survey Sites		
1	21 exclusive / 32 shared	<i>Lichenomphalia umbellifera</i>
2	15 / 28	<i>Phlebia subceracea</i>
3	15 / 23	<i>Phellinus sp. extensive resupinate</i>
4	17 / 25	<i>Mycena nargan</i>
5	16 / 7	<i>Parasola auricoma</i>
Origin		
Native	12	<i>Pluteus pauperculus</i>
Exotic	1	<i>Suillus granulatus</i>

Discussion

Biodiversity

Unseasonally dry weather in July combined with a series of cold nights may have severely limited the intensity and duration of fruiting of macrofungi at Kings Park during the 2012 survey. Nevertheless the total number of species recorded in the 2012 survey was comparable to annual totals for surveys undertaken in previous years. A total of 123 fungi designated as species or species complexes were recorded in 2012 including 29 of the fungi in the current survey considered as new records for Kings Park – 24% of the fungi recorded in 2012. 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, including those recorded before 2009 (Bougher 2010a, b) together with the undetermined and ‘ragbag group’ names recorded in surveys since 2009 (Bougher 2009a, 2010, 2011b, current report). To date for Kings Park there are 261 records of different fungi including all the undetermined and ‘ragbag group’ names.

After the 2012 survey, a total of **215 different fungi identified and named to species level** (including slime moulds) have been recorded from Kings Park. This total is comprised of:

- 122 named species recorded before 2009 (Bougher 2010a).
- 72 new records that were identified to species level from years 2009 and 2010 (Bougher 2011a).
- 12 of the 27 new records from the 2011 survey that were identified to species level and not recorded from Kings Park before 2011 (Bougher 2011b).
- 9 of the 29 new records from the 2012 survey that were identified to species level and not recorded from Kings Park before 2012 (Current report).

Some notable fungi recorded at Kings Park in 2012

1. *Inocybe fibrillosibrunnea* (Figure 1): Characterized by having a scaly umber brown pileus, pale yellowish-brown lamellae, and pruinose upper stipe, and no strong odour. This species seems to be widespread in south-west Australia including the south coast, the wheatbelt, and the Perth region. Miller and Hilton (1986) originally described and named *I. fibrillosibrunnea* from near Perth at Kalamunda and Julimar State Forest. Only four species of the ectomycorrhizal genus *Inocybe* (the fibre cap fungi) have been collected at Kings Park so far. The other species are *Inocybe violaceocaulis*, *Inocybe* sp. ‘jarrahae’ (see Figure 4, Bougher 2011b), and *Inocybe* sp. nov. (cf. BOU494). The latter species (Figure 2) superficially resembles *I. fibrillosibrunnea* (Figure 1) but differs by having coarser and paler scales on the pileus and a soapy odour. Many more species of *Inocybe* may be expected at Kings Park. There are two records of other *Inocybe* species at Kings Park, but no voucher specimens or notes were kept - *Inocybe* sp. ‘brown’ 13/06/1999 N.L. Bougher et al. (unpubl. foray data), and *Inocybe* sp. ‘small fibrillose’ 13/06/1999 N.L. Bougher et al. (unpubl. foray data).

2. *Descomyces* sp. nov. (Figure 3): This truffle-like fungus was found in the organic soil layer immediately below the surface leaf litter. It was found under a large *Eucalyptus gomphocephala* tree. *Descomyces* is an ectomycorrhizal genus, and at Kings Park eucalypts such as tuart are likely to be the partner plant. *D.* sp. nov. does not match the three species of *Descomyces* currently recorded in Western Australia (Francis & Bougher 2004). The collection at Kings Park superficially resembles the ubiquitous species *Descomyces albus*. Both have a smooth white peridium with some yellow stains, a brown loculate gleba (interior), and no columella or sterile base. However they differ microscopically: *D. albus* has basidia bearing two amygdaliform spores and a strongly cellular

peridium, whereas *D. sp. nov.* has 4-spored basidia bearing ellipsoid spores and a predominantly hyphal peridium.

3. *Mycena carmeliana* (Figure 4): From a distance this species appears similar to many of the other pale grey species of *Mycena* that fruit in clusters on the sides of trees and shrubs. However the base of the stipe of *M. carmeliana* is distinctive as it has a flat or shallow-cupped bright orange disc topped with white striations. The buttons are very dark (almost black) and emerge from a bright orange base. *M. carmeliana* occurs throughout southern Australia. It has been collected from several locations in Western Australia, including Bold Park in 2009.

4. *Tylopilus fuscobrunneus* (Figure 8, Bougher 2010c): In 2012 this species was observed at all of the survey sites. As discussed in the 2010 survey report (Bougher 2010c) this species has : (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. Colours observed in 2012 varied from very dark leather brown or almost black (old exposed fruit bodies) to conspicuously vinaceous (particularly the stipe). The brown spore print of this fungus suggests that it may be a species of *Porphyrellus*. The species at Kings Park currently referred to as *Tylopilus fuscobrunneus* may be identical to, or closely related to, *Porphyrellus brunneus* McNabb = *Tylopilus brunneus* (McNabb) Wolfe from New Zealand (McNabb 1968, R.E. Halling personal communication).

Conclusion and recommendations

A total of 215 fungi identified and named to species level now have been recorded from Kings Park, but many more species occur there, as indicated by the numerous unidentified and 'ragbag' records. In similarity with the previous surveys (2009 to 2011), this year's survey captured many new records for the Park (24% of records in 2012).

Recommendations include:

- **Surveys:** Surveys of fungi should be continued annually in order to document the diversity of fungi at Kings Park, including with continuing support from staff and volunteers. 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.
- **Taxonomic work:** Like at Bold Park, resolution of the identity of fungi at Kings Park will continue as a developmental process, with the identity of more species gradually resolved each year. Continued 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. However to accelerate resolution of the identity of fungi at Kings Park, financial support targeted specifically for taxonomic studies needs to be provided.
- **Training:** Further education, training, and awareness of volunteers and staff is needed in order to recognize a greater array of fungi, particularly the less conspicuous types of fungi. This will help provide a more accurate assessment of the numbers of fungi species present at Kings Park.
- **Book:** Some of the fungi recorded so far in Kings Park are depicted in the on-line field book for fungi of the Perth region (Bougher 2009b). However it is recommended that an account of the fungi in Kings Park (and Bold Park) be produced, such as a colourful field book and/or pamphlets and posters.

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Appendix 1

The subset of fungi that were processed, described, & lodged as herbarium vouchers from Kings Park and Botanic Garden 2012: Western Australian Herbarium (PERTH), Kensington. PERTH numbers to be assigned.

Genus	Species	Code	Descriptive Notes	Plants	Date
<i>Aleurina</i>	<i>ferruginea</i>	NLB 01052	(i) Thick-fleshy shallow cups; (ii) Dark scales/spots along rim.	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Amanita</i>	<i>conicobulbosa</i>	BOUGHER 01000	(i) Stark turnip-shaped base; (ii) Short upper section; (iii) Pungent odour. Cap: Diameter 4 cm; Round and slightly undulating; Slightly concave one end; White, darkening to cream in centre. Margin: Smooth, slightly ragged, straight. Gills: Crowded white with pink tinge; Gill attachment free. Stem: Creamy white, deeper cream partial veil at top of stem; Rough surface. E90 Width 1.3 cm, Length 6 cm; Top section (1.5 cm) straight then acutely bulbous and tapering; Bulbous section deep cream. Cross section: Stem solid and slightly fibrous at tapering end; Colour slightly darker cream at top of specimen.	On grass near <i>Eucalyptus gomphocephala</i> and planted eucalypts	12/06/2012
<i>Amanita</i>	<i>fibrilloses</i>	BOUGHER 00990	Cap: smooth, warty, plane shape, incurved and smooth / slightly appendiculate, white with pink tinge, 5 cm across	<i>Banksia</i> , <i>Allocasuarina fraseriana</i>	12/06/2012
<i>Amanita</i>	<i>persicina</i>	BOUGHER 00989	Juvenile - possibly the same as BOUGHER 00993 (collected about 15 m away); (i) Pinkish cap with warts; (ii) Bulbous base to stipe. Cap: 6.5 cm x 3 cm. Pale salmon. Rough texture - warty scales- dry - Convex. Stem: Slightly hollow, darker towards base when cut, ventricose. Gills: adnate, edges entire, spacing close, gills entire, straight. Partial veil - membranous striate	<i>Banksia attenuata</i> , <i>Allocasuarina fraseri</i> , <i>Eucalyptus marginata</i>	12/06/2012
<i>Amanita</i>	<i>persicina</i>	BOUGHER 00993	(i) Pale pinkish warty cap; (ii) Bulbous base on stem; (iii) Mature specimen, likely to be the same as BOUGHER 00989. Cap: 5 cm x 1 cm, plane, pale salmon, warty veil scales, dry. Cap margins smooth and straight. Stem shape: tapering downwards with angular bulbous base and a small sand-covered radicle. Hollow stem at top. Slightly darkening at base after cutting. No annulus. Gills: adnate, margins smooth, entire, gills closely spaced.	<i>Banksia attenuata</i> , <i>Allocasuarina fraseriana</i> , <i>Eucalyptus marginata</i>	12/06/2012
<i>Amanita</i>	<i>sp. "ochre ring"</i>	BOUGHER 00998	(i) Ochre ring; (ii) Large bulbous base; (iii) Volva with saccate (free) margin. A common/widespread species around the Perth Region.	Allocasuarina and banksia woodland	12/06/2012
<i>Amanita</i>	<i>sp. "yellow bulb"</i>	BOUGHER 00999	(i) Bulb globose to tapering, yellow after handling; (ii) Sour odour. Possibly same species as BOUGHER 00251. Cap: 5 - 6 cm diam X 10 - 15 mm, depressed; Colour white, older specimens darker; texture dry and slightly flaky; Edges slightly appendiculate. Stem: Equal but slightly wider at base, 1 cm wide; Annulus flaky; Angular bulbous base - 2 cm wide; Bulb has yellowish tinge after handling (note intensity in images taken on grey card later). Gills: Adnexed and margins fimbriate; Gills close with short and long lamellulae.	On grass near <i>Eucalyptus gomphocephala</i> and planted eucalypts	12/06/2012
<i>Amanita</i>	<i>umbrinella</i>	NLB 01029	(i) Dark grey pileus with pale greyish appressed universal veil patches; (ii) Stipe with wide striate annulus, and volva at base.	Under planted marri and other eucalypts on edge of woodland with sheoak, eucalypts and acacias.	28/06/2012
<i>Armillaria</i>	<i>luteobubalina</i>	NLB 01030	(i) Golden orange-brown caps; (ii) White stem with narrow annulus near apex; (iii) In dense clusters. Note: many of the clusters in this area consist of rather small fruitbodies, e.g. caps only up to 30 mm diameter, and stems only 20 - 60 x 3 - 7 mm. There are so many clusters scattered over a large area of lawn and woodchipped gardens in this location that it is likely that the mycelium of <i>Armillaria</i> is blanketed within the soil over the entire area.	Living <i>Eucalyptus gomphocephala</i> and sheoak and paperbark stumps	28/06/2012
<i>Boletus</i>	<i>prolinus</i>	BOUGHER 00992	(i) Purple-red cap (ii) Thick yellow stem (iii) bright blue when cut. Cap: smooth, irregular shape, purplish-red colour, cap lobed, 7 cm across. Margins: slightly incurved, yellow underneath edge. Stem: thick, bulbous, orange with diffuse red scaling. Solid where cut. Base: thick tapering. Flesh: bright yellow, quickly bluing when cut. Pored.	In sand track by Banksia / Allocasuarina woodland	12/06/2012
<i>Boletus</i>	<i>sp. "brown cap, non-bluing"</i>	BOUGHER 00997	(i) Pileus smooth, dry, dull greenish-brown except some red tinge near margin; (ii) Flesh yellow but not or only very sparsely and reluctantly bluing near stem base; (iii) Tubes and spores straw yellow, not bluing. This is a compact robust species similar in general form to <i>Boletus prolinus</i> (also found nearby today). But it does not blue, and its cap is predominantly dull greenish-brown but some pink tinge near margin. Not sure if this species has been collected before.	Banksia-sheoak woodland, <i>Allocasuarina fraseriana</i>	12/06/2012

<i>Boletus</i>	<i>sp. "red brown cap"</i>	BOUGHER 00988	(i) When young with convex, dry, smooth to very minutely felty, pinkish-rose (near Methuen 9D5 or 9D6, Munsell 7.5YR 4/4 or 4/6) pileus; and bright yellow (near 3A5) tubes and pores; (ii) When older the pileus becomes aerolate and dull pinkish brown; (iii) Flesh white to pale yellow, unchanging except in older specimens which are dark reddish near the base when cut (persistent); (iv) Hymenium slowly dull bluing which eventually turns brownish in old specimens; (v) Stipe variable (clavate to cylindrical), surface smooth or very minutely longitudinally appressed fibrillose, white, duller when older; lower region sand-covered, not bruising; (vi) Old hymenium golden (near 3B6). This is the same species as found previously in other Perth bushlands, e.g. E6045 (Bold Park), E7150 (Bold Park), and E5936 (Wembley Downs Golf Course)	Introduced, planted eucalypts along verge of may Drive. Natural woodland also nearby (Allocasuarina/Banksia/ Eucalypt woodland)	9/06/2012
<i>Ceriporia</i>	<i>tarda</i>	NLB 01023	(i) Same species as BOUGHER 00652 previously from Kings Park. Fruit-body: extensive growth; (Flora of British Fungi, 1969) 44 Coral with white patches; < 1 mm thick; texture spongy and sticky - peels off easily - cells of various sizes with angular walls. Margins irregular with tiny irregular shaped cells. Subiculum - grey gelatinous film.	<i>Eucalyptus cladocalyx</i>	26/06/2012
<i>Conchomyces</i>	<i>bursiformis</i>	NLB 01051	(i) Dull cream, subgelatinous? (consistency like <i>Campanella gregaria</i>), hygrophanous (turning white from centre outwards), fibrous-surfaced initially, shell-shaped pileus with strongly incurved/finfolded? thick margin; (ii) Very short white stipe (eccentric); (iii) Very crowded lamellae. These specimens are small (only up to 4 mm wide) and may be quite immature. Micro: cheilocystidia clavate/cylindric, abundant, hyaline, thin and smooth-walled, some with septum, e.g. 39.5 x 7.6; 43 x 10 microns; sometimes branched (see photos). Spores: globose minutely spinulose, pale yellowish brown (in KOH), hyaline when immature, with prominent peg-like appendix; size e.g. 6.4; 6.3; 6.5 microns and 7.7 x 7.0 microns. Some spores thick-walled (up to 0.5 microns). Clamps on all hyphae. Basidia: cylindroclavate, hyaline, e.g. 23 x 5.4; 27 x 7.5 microns; 4-spored. No or sparse pleurocystidia seen.	Open woodland	5/07/2012
<i>Coprinellus</i>	<i>truncorum</i>	NLB 01057	(i) Conspicuous but easily removed white scales sprinkled on pileus; (ii) White stipe without bulbous base; (iii) Fine white mycelial threads emanating from base. Micro: seems OK for this species.	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Cortinarius</i>	<i>sp. silver cap, lilac stem</i>	NLB 01046	(i) Tall white stipe with belts of rusty remnants and pale lilac colours (only when young); (ii) Silvery hemispherical, dry pileus with strongly incurved margin; (iii) Substantial white cortina; (iv) Flesh white to greyish, unchanging. Micro: Spores verrucose (not coarsely), ellipsoid, e.g. 9.2 x 6.4; 10.2 x 6.7; 9.1 x 6.7; 9.2 x 6.1 microns. (see photos). The spores are not similar to those of <i>C. rotundisporus</i> etc...	Open woodland of <i>Allocasuarina fraseriana</i> . No eucalypts within 10 metres.	5/07/2012
<i>Cortinarius (Phlegmacium)</i>	<i>sp. dull yellow with ring</i>	NLB 01031	(i) Robust form with short stumpy stipe; (ii) Dull yellowish finely silky-fibrillose, shiny pileus; (iii) Strongly developed cortina often leaving a persistent annulus on stipe. Pileus: up to 65 mm diam; at first convex with incurved margin attached to a thick hyaline to whitish persistent cortina, soon flat-convex with undulating margin usually remaining unsplit; dry with fine appressed more or less radially arranged silky fibrils over entire surface; dull yellowish (near 4A3) when young becoming darker and more golden brown (near 6D8) towards centre with age. Lamellae: adnexed to 8 mm deep; closely spaced; barely ventricose; edge smooth entire and concolourous with face, pale tan (near 4B4) in button maturing darker but never rusty or strongly brown (near 5B4/5); lamellules abundant. Stipe: up to 35 x 25 mm (quite short & stumpy for size of fruitbody), cylindric or often tapering towards base; solid; dry; white and finely silky-fibrillose above annular zone, yellowish and rusty patches present below annular zone. Narrow densely fibrillose dull yellowish or paler annulus persisting in many (but not all) specimens. Flesh: white in pileus and stipe; unchanging but old insect damage rusty brown.	Sugar gums planted along roadside, near woodland of <i>Allocasuarina, marri</i> and <i>Dryandra sessilis</i>	28/06/2012
<i>Crepidotus</i>	<i>mollis</i>	NLB 01034	(i) Hygrophanous, soft-textured, shell-shaped fruitbodies; (ii) Sessile, with conspicuous tuft of white mycelium at point of attachment (on both sides)	<i>Eucalyptus gomphocephala, Allocasuarina fraseriana</i> . Woodland of tuart, sheoak, banksia	3/07/2012
<i>Crepidotus</i>	<i>sp. small white</i>	NLB 01047	No notes	Open woodland of sheoak (<i>Allocasuarina fraseriana</i>).	5/07/2012
<i>Dermocybe</i>	<i>sp. "bright orange-brown"</i>	NLB 01036	(i) Orange-brown smooth pileus; (ii) Evanescent hyaline/whitish cortina; (iii) Dull yellowish stipe with minor darker belts of velar tissue; (iv) Ochre lamellae.	<i>Eucalyptus gomphocephala, Allocasuarina fraseriana</i> . Woodland of tuart, sheoak, banksia	3/07/2012
<i>Descomyces</i>	<i>sp. nov.</i>	NLB 01038	(i) White peridium with some scattered yellow stains; (ii) Brown loculate gleba, without any columella or sterile base. Likely to be <i>D.albus</i> or <i>abellus</i> (check micro). Not it is a quadrispore species with perfectly ellipsoid and mucronate (not enveloped), coarsely ornamented (partially reticulate) spores (pegs up to 1.3 microns tall, embedded in perisporium). Spores e.g. 15.9 x 11.1; 16.5 x 10.9; 16.7 x 11.4 microns. This is a sp. nov. It does not have the chestnut gleba or elongated spores of <i>Descomyces angustispora</i> (see Francis & Bougher paper, 2004). Peridium appears to be hyphal entirely (no swollen cells or epithelium observed) including some golden-pigmented hyphae (see photo)	Woodland of tuart (<i>Eucalyptus gomphocephala</i>) regenerating after a fire in 2009.	3/07/2012

<i>Gloeocystidiellum</i> sp.	NLB 01041	(i) Entirely white, smooth, indeterminate growth. Micro: Scattered projecting cystidia; hyaline to glassy, smooth, thin-walled, aculeate-narrow fusiform, or tapering, with basal pedicel, e.g. 124 x 11; 120 x 10; 154 x 11 microns. Clamps present. All structures not pigmented. Not dextrinoid (in Melzers). Spores and basidia granular contents (in KOH), ellipsoid smooth, e.g. 9.5 x 5.4; 9.0 x 5.3; 9.0 x 5.7 microns. Spores smooth-walled (see photo in Trypan Blue). Not conspicuously amyloid (see photo in Melzers) but smooth outline may be bluing after sometime.	<i>Eucalyptus gomphocephala</i> , <i>Allocasuarina fraseriana</i> . Woodland of tuart, sheoak, banksia	3/07/2012
<i>Gymnopilus allantopus</i>	NLB 01044	(i) Typical collection of this species; vouchered because a series of in situ photos were taken to get a decent range of photos for this common species.	Open woodland of <i>Allocasuarina fraseriana</i> , banksia, few eucalypts	5/07/2012
<i>Gymnopilus perplexus</i>	NLB 01059	(i) Small size: pileus up to 15 mm diam, stipe up to 25 x 3 mm.; (ii) Bright yellow-orange gills; (iii) Upper stipe pruinose. Micro: finely verrucose, large, subamygdaliform spores; cheilocystidia with globose apex.		10/07/2012
<i>Hysterangium</i> sp.	NLB 01037	(i) White, non-discolouring peridium; (ii) Dull greenish, gelatinised gleba; (iii) Coarse white mycelium attached to fruit bodies and abundant in the soil forming a loose mat.	Woodland of tuart (<i>Eucalyptus gomphocephala</i>) regenerating after a fire in 2009.	3/07/2012
<i>Inocybe fibrillosibrunea</i>	NLB 01042	(i) Pileus coarsely radially fibrillose-squamose, umber, without prominent umbo, rimose at margin with age; (ii) Yellow brown lamellae with cystidiate (long narrow cystidia - under lens) edge; (iii) Stipe cylindrical (no bulb at base), pruinose in upper region; (iv) No odour. This matches <i>I. fibrillosibrunea</i> proper (clades 1 and 2, e.g. like E5971). Pileus: Up to 28 mm diam.; at first convex to bluntly conic then campanulate and finally expanded with slightly upturned margin and without a pronounced umbo; button matted at first then coarsely radially fibrillose with some fibrils coalescing into appressed woolly squamules and with whitish appressed fibrils adhering and appendiculate on the strongly incurved margin, central part of pileus always felty-matted (the material from which the pileal radial fibrils emanate from), at maturity becoming rimose at extreme margin; entirely umber (near 7.5YR 6/4; near Methuen 6D5) when young, later at maturity somewhat paler due to exposure of pale pileus surface inbetween splitting fibrils. Cortina white, evanescent (no trace on stipe, some on pileal margin). Lamellae: adnexed; to 4 mm deep; ventricose; closely spaced; edge finely cystidiate (under hand lens it seems the cystidia are long and narrow?); edge and face pale cream in young button, soon light yellow brown (10YR 6/4), maturing yellowish-brown (near 10YR 6/6; near Methuen 5C6); lamellulae abundant. Stipe: up to 45 x 3 mm; cylindrical, base unswollen; solid; densely pruinose to about mid-region of stipe, otherwise shiny silky (innately and some surface longitudinally finely fibrillose); white in button, dull yellowish-cream when mature. White mycelium at base. Flesh: whitish, dulling slowly (slightly reddish) in upper stipe after cut, paler in the pileus. Lower stipe with some yellow discolouring. Micro: Spores markedly amygdaliform (but stumper than those of NLB 1043), e.g. 10.7 x 6.2; 8.7 x 5.9; 10.4 x 6.5; 10.1 x 6.3; 9.0 x 6.1; 8.9 x 5.5; 10.8 x 6.8 microns (quite wide range of sizes noted). Hymenial cystidia broader and thicker-walled than those of NLB 1043 (see photos), e.g. 68 x 21; 70 x 24; 88 x 24 microns; Upper stipe has caulocystidioid elements mainly, i.e. same shape and wall as hymenial cystidia but without any apical crystals. Caulocystidioids are also present near the stipe base.	<i>Allocasuarina fraseriana</i> , <i>Corymbia calophylla</i> . Open woodland of sheoak, banksia and a few scattered marri.	5/07/2012
<i>Inocybe</i> sp.nov. (cf. BOU 494)	NLB 01043	(i) Farinaceous odour; (ii) Coarsely squamose dark brown pileus with pale-grey scales then fibrils, forming irreg(?) network. With its amygdaliform spores, long narrow metuloids in hymenium and on upper half of stipe, and caulocystidioid hairs in lower stipe, NLB 1043 is close to <i>I. fibrillosibrunea</i> macroscopically, with its pale top-layer of scales covering the button but later just as a network overlying darker scales, NLB 1042 matches BOU494, but is a sp. nov. A more coarsely squamose and darker brown-capped species than NLB 1043 (which also lacks the farinaceous odour). Pileus: up to 27 mm diam.; sub conic then near-applanate without prominent umbo; young button coarsely squamose due to pale greyish-brown fibrillose scales (colour near 10YR 7/3; Methuen 4B3), remaining coarsely squamose with recurved and recumbent (overlapping) dark brown scales overlain by irregular network of pale greyish-brown fibrils over entire pileus (including centre); button pale greyish brown entirely, later darker brown (near 5YR 3/3; Methuen near 6F7) with paler network (becoming sparser with age). Lamellae: adnexed; to mm deep; not ventricose; closely spaced; edge finely cystidiate; pale cream in young button, soon umber (near 7.5YR 4/4); lamellules abundant. Stipe: up to 32 x 5 mm; cylindrical; solid; longitudinally fibrillose (white soft fibrils) over whole length and pruinose near apex; dull whitish. Dense covering of white fibrils over base. Flesh: white, discolouring in part in stipe, paler and not discolouring in pileus. Micro: Long narrow metuloid cheilo & pleurocystidia, e.g. 109 x 19; 101 x 17 microns. Spores amygdaliform (not as stumpy as NLB 1042 spores), smooth-walled, e.g. 11.6 x 5.6; 10.7 x 5.9; 10.4 x 6.0 microns. Caulocystidioid elements present at base of stipe (see 1 photo, 40X). Long narrow metuloid caulocystidia abundant in clusters in upper half of stipe (see 2 photos, 40X).	Open woodland of sheoak (<i>Allocasuarina fraseriana</i>), banksia, and a few eucalypts - <i>Eucalyptus marginata</i> and <i>Corymbia calophylla</i>	5/07/2012
<i>Lachnum virgineum</i>	NLB 01039	(i) Tiny (less than 1 mm across) stalked white cups with delicate fringes.	Woodland of tuart (<i>Eucalyptus gomphocephala</i>) regenerating after a fire in 2009.	3/07/2012
<i>Limacella pitereka</i>	NLB 01025	(i) Cap 10 mm to 30 mm diameter, shiny, damp looking, slippery, slimy. Cap colour tan (fulvous # 12, Flora of British Fungi) fading to a paler tan on cap margin. Margin incurved when young then straight in older specimen. Gill colour pale cream. Gills free, divergent, close. Lamellae forked near cap margin. Stipe is solid when young with paler centre, developing a hollow centre when older. Stipe length 4.5 cm to 5 cm. Stipe diameter 7 mm to 9 mm wide. Diagram on field sheet.	<i>Eucalyptus gomphocephala</i> . Unburnt area, sheoak / tuart woodland	26/06/2012

<i>Lycoperdon</i>	<i>cf. hiemale</i>	NLB 01033	Peridium white at first with small pyramidal warts, soon smooth and darker, fissuring via apical irregular-torn ostiole; (ii) Gleba white solid (but soft) developing kakhi powdery spore mass; (iii) Basal sterile tissue loculate, broad, and without distinct border and issue. Need micro to determine genus and ID.	<i>Corymbia calophylla</i>	28/06/2012
<i>Mycena</i>	<i>carmeliana</i>	NLB 01035	(i) Flat or shallow cup orange disc (with bluish below and white striations on top) at base of stipe; (ii) Pale grey glutinous, translucent-striate pileus; (iii) Smooth white stipe (no hairs); (iv) Buttons very dark (almost black) with orange	<i>Eucalyptus gomphocephala</i> , <i>Allocasuarina fraseriana</i> . Woodland of tuart, sheoak, banksia	3/07/2012
<i>Mycena</i>	<i>nargan</i>	NLB 01024	(i) Cap: 2 mm to 5 mm diameter, bell shape. Small white spots, scales, margin inrolled. Cap colour dark brown (sepia # 26, Flora of British Fungi), gill colour pale grey. Stipe young 1 cm or less, and up to 4 cm long. Diameter 1 to 2 mm. Stipe is central in cap. Shiny with matted fibrils, white near the base. (see diagram on field sheet). Stipe light grey base, and darker greyish brown near cap. Gills close, various lengths, with the shorter gills extending from the cap margin inwards. Growing in small clusters on underside of rotting banksia bark.	<i>Eucalyptus gomphocephala</i> , <i>Eucalyptus marginata</i> . Recently burnt site, tuart / jarrah woodland.	26/06/2012
<i>Mycena</i>	<i>sp. bluish viscid stem</i>	BOUGHER 00994	(i) Pileus viscid translucent-striate, smooth, dull bluish-grey (entirely at first) with tan central disc; (ii) Stipe viscid, bluish at apex when young grading to paler grey, pruinose at apex (at least when young), base smooth (no hairs); (iii) Gills cream-greyish, adnate to descending, edge smooth. No latex exuded. Lamellae edge not separable. Probably haven't collected this species before. Possibly austrorrida group? (need to check under microscope - it seems not to be) Micro: Spores not dextrinoid or amyloid, elongate ellipsoid-cylindric, smooth. Cystidia fusoid-ventricose, not dextrinoid. Pileipellis a cutis without diverticulate elements or pileocystidia. So not austrorrida group. Stipitipellis with tufts of hairs (seen macro) comprised of narrow, septate, clamped hyaline, hyphae with undifferentiated end-cells. Basidia 4-spored.	In a sheoak needle litter, attached to the needles, in a banksia-sheoak woodland	12/06/2012
<i>Peniophora</i>	<i>sp. velvety yellow green</i>	NLB 01048	(i) Waxy yellow surface without any gaps or thin areas, with dense sprinkling of whitish dots (cystidia?); (ii) In section, with broad dull brownish layer below the hymenium with cystidia present. (iii) Margin paler yellow, cottony, and lacking the cystidia. Note: when mounted in KOH, a bright lemon yellow pigment leaches out rapidly (instantly). Micro: Cystidia projecting from hymenium; with golden cytoplasm (in KOH), cylindrical, sinuous, contorted, thin-walled, smooth, abundant. In Melzers it can be seen that the cystidia have a dense cap of crystals (so those are dissolved in KOH). Also the crystals remain in water (they are quite dark brown in water). Other cystidia present: fusoid, aculeate, probably gloeocystidia, scattered singly, some multi-septate and with crystals, some with yellow cytoplasm; size e.g. 35 x 4.5 microns. Spores: smooth, thin-walled, hyaline, small e.g. Basidia: 4-spored, hyaline, clavate-cylindric. No clamps seen.	Open woodland of <i>Allocasuarina fraseriana</i> , Banksia, eucalypts.	5/07/2012
<i>Pisolithus</i>	<i>sp. "small globose"</i>	BOUGHER 00995	(i) Small globose fruitbody; (ii) Large peridioles	<i>Allocasuarina fraseriana</i> , <i>Eucalyptus marginata</i> , banksia	12/06/2012
<i>Psathyrella</i>	<i>sp. "smooth brown cap"</i>	BOUGHER 00996	(i) Small silvery brown with smooth stem and darker brown gills with lighter edge. Cap: pink-brown (55 at top - 53 at bottom; Fungi Down Under), campanulate. Gills: dark brown with light high points with five lengths of lamellulae, lighter colour around edge, similar? around stem. Stipe: shiny, 0.4 cm wide, 5.5 cm in length, smooth.		12/06/2012
<i>Resupinate</i>	<i>unknown grey soft in litter</i>	NLB 01050	(i) Pale grey arachnoid growth, easily removed, spreading over all in its path; (ii) In parts forming more contiguous, smooth, whiter patches. Micro: Grey arachnoid parts are less fertile than the white patches. All elements hyaline (in KOH). Many hyphae adorned with angular crystals (both in the grey and the white parts). Basidia: slender clavate, hyaline, small, e.g. 14 x 4.3 microns, no clamp. Spores: broad ellipsoid to subglobose, smooth and thin walled, hyaline in KOH, smooth in water, e.g. 3.4 x 2.8; 2.8 x 2.4 microns. No cystidia (only scattered hyphal-like elements projecting). See micro photos.	Open woodland of <i>Allocasuarina fraseriana</i> , Banksia, eucalypts.	5/07/2012
<i>Resupinate</i>	<i>waxy smooth</i>	NLB 01040	(i) Dull yellow waxy growth, smooth. Micro: No cystidia. All hyaline in KOH. Small basidia. Spores hyaline, smooth, very small ellipsoid to subcylindrical, biguttulate (in KOH). Size spores: e.g. 3.2 x 1.9; 3.5 x 1.9 microns. (see photo)	<i>Eucalyptus gomphocephala</i> , <i>Allocasuarina fraseriana</i> . Woodland of tuart, sheoak, banksia	3/07/2012
<i>Resupinate sterile</i>		NLB 01022	(i) Very fine webbed coating on inner surface of bark, unburnt. Patchy growth habit, random diffuse. Very thin (< 1 mm) and variable in thickness. Quite soft. Mycelium deeply penetrating crevices. Easily removed. Copious exudate, water droplets a deep honey colour about OAC 789 (Online Auction Colour Chart), quite orange, stains paper. Fruit-body almost white, paler than OAC 816. Pores absent. Growth habit minute radiating points that eventually merge (see diagram on field sheet). Margin very fine and diffuse. No layering or subiculum. Rhizomorphs present on some samples. Aerial, quite thick and beige in colour covered by finer white fibrils. Longest about 8 mm. Micro: No hymenium, or clamps seen. Note: also present minute globular black ascomycete	<i>Eucalyptus cladocalyx</i>	26/06/2012
<i>Sistotrema</i>	<i>sp. grey</i>	NLB 01054	(i) Smooth, very thin (easily scraped off), pale grey, fully resupinate. Likely to be the same species as from Bold Park in previous years.	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Skeletocutis</i>	<i>amorpha</i>	NLB 01053	(i) Cream small-pored (5 - 6 per mm) firmly attached, fully resupinate; (ii) Thin-felty white margin up to 2 mm wide abruptly differentiated from hymenium; (iii) This fungus tends to form quite small but well defined patches on wood (usually debarked). Micro: Appears to be immature (few or no spores). Cystidia with crystal-encased upper part observed.	Open woodland of jarrah, sheoak, banksia	10/07/2012

<i>Tomentella</i>	<i>cf. pilosa</i>	NLB 01056	(i) Ochre arachnoid near margin, loosely felty elsewhere; (ii) Rhizomorphs absent. Micro: Tomentella spores and cystidia with inflated head (like "Pilosa") confirmed. Hyphal strands of tightly intertwined golden, clamped hyphae also observed.	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Tomentella</i>	<i>cf. pilosa</i>	NLB 01058	(i) Fully resupinate, thin, forming continuous or patchy growths, densely felty; (ii) Ochre regions and darker pinkish-brown regions present; (iii) Rhizomorphs absent. Micro: Tomentelloid spores in abundance, cystidia with swollen head, clamps on hyphae.	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Trechispora</i>	<i>sp. pale yellow</i>	NLB 01049	(i) Thin arachnoid yellow growth on wood and on litter, easily removed; (ii) Abundant yellow hyphal strands/rhizomorphs appressed amid the hymenium. Micro: Hyphal strands of glassy smooth-walled hyphae (see photo). All other elements are hyaline. Spores: hyaline in KOH, globose/subglobose, verrucose-spinulose, e.g. 4.5; 4.7 microns diam. Wall may be amyloid (see photo, in Melzers). No clamps seen.	Open woodland of sheoak (<i>Allocasuarina fraseriana</i>).	5/07/2012
<i>Tricholoma</i>	<i>sp. ring</i>	NLB 01032	(i) Narrow membranous peronate annulus - stipe white above and pinkish-brown below annulus; (ii) Pinkish-brown gills; (iii) Dark pinkish-brown cap. Maybe same species as found at old WA Herbarium bushland? Pileus: 40 - 55 mm diam.; convex with inrolled and densely felty margin when young, margin later deeply split in parts; surface dry radially appressed fibrillose with fibrils near the margin forming some appressed squamules; dark reddish-brown to bronze becoming much darker and sometimes black with old age. Lamellae: broadly adnexed (no notch) to 10 mm deep; closely spaced; edge minutely uneven (maybe cystidiate?) concolorous with face; dark pinkish-brown (near 6C5 and darker) from young age; lamellules present. Stipe: up to 65 x 15 mm; cylindrical or slightly clavate; solid except for narrow central hollow over entire length; white above annulus, dirty pinkish-brown (like pileus) below annulus with belts of appressed membranous brown patches. Annulus peronate, usually placed above mid-region of stipe, narrow, membranous, brownish or hint of yellow in some. Flesh: whitish but staining brown especially in the central hollow of the stipe.	Sugar gums planted along roadside, near woodland of <i>Allocasuarina</i> , marri and <i>Dryandra sessilis</i>	28/06/2012
<i>Tricholomopsis?</i>	<i>sp.</i>	NLB 01026	(i) Robust form with massive bulbous-clavate stipe; (ii) Bright yellow, smooth, dry pileus; (iii) Yellow ochre, thick fleshy gills. Micro: Hyaline, broad ellipsoid spores, long narrow basidia, and cystidia present.	Woodland of jarrah (<i>Eucalyptus marginata</i>) and <i>Allocasuarina fraseriana</i> burnt 2 years ago	26/06/2012
<i>Tylopilus</i>	<i>fuscobrunnesceus</i>	NLB 01045	(i) Hymenium instantly bluing but changes to brown within several minutes; (ii) Vinaceous tinge on the stipe very evident; (iii) Very dark leather brown smooth pileus. This is not a <i>Tylopilus</i> but more likely <i>Porphyrellus</i> close to <i>P. brunneus</i> McNabb, and maybe Watling's <i>P. scabrosus</i> from Kings Park?.	Open woodland of <i>Allocasuarina fraseriana</i> , banksia, <i>Eucalyptus marginata</i>	5/07/2012
<i>Undetermined resupinate (pored)</i>		NLB 01021	(i) Fruit-body: Random shape, ranging from 4 - 11 cm; Thickness - Pores to 1 mm then darker layer (1 mm), spongy layer (4 mm); Consistency - has exudates, spongy body; Attachment - firm; Colour - golden to brownish (exudates no colour), white patches - young stage; Pattern - pores = 4 per mm, not a perfect 'honeycomb' i.e. irregularities in shape (angular); Subiculum - creamy white; Growth margin - well defined, flat; Rhizomorphs - nil. Micro: Spores ellipsoid, smooth, hyaline (in KOH), some thick-walled. No conspicuous cystidia seen.	<i>Eucalyptus marginata</i> , <i>Banksia attenuata</i> , <i>Allocasuarina fraseriana</i> woodland	26/06/2012
<i>Undetermined resupinate pale grey velvety</i>		NLB 01027	(i) Felty ash grey thin resupinate on wood. A quite common fungus often on banksia wood. Subiculum absent. = KP 10. Undetermined resupinate pale grey velvety. Possibly a species of <i>Botryobasidium</i> ? (but basidia of NLB 1027 are utriform more like a <i>Sistotrema</i>). Micro: Spores: broad ovoid/ellipsoid, smooth, hyaline (in KOH), very small, e.g. 3.1 x 2.3; 3.3 x 2.5 microns. Basidia 8-spored, utriform (see photo). Large clamps on hyphae. Cystidia rare cylindrical to tapering, no crystals, thin-walled (see photo). All hyphae and hymenium hyaline in KOH; not detritoid in Melzers.	Woodland of <i>Eucalyptus marginata</i> , <i>Allocasuarina fraseriana</i> and Banksia	26/06/2012
<i>Unknown resupinate</i>		NLB 01055	(i) Very small but abundant patches of fully resupinate, dull pink, minutely felty (under lens) growths. Micro: Inconclusive (possibly a sterile growth; need to examine on a decent microscope)	Open woodland of jarrah, sheoak, banksia	10/07/2012
<i>Xerula</i>	<i>mundroola</i>	BOUGHER 00991	(i) Tall, standing up from mulch; cap dark, glossy with white gills; root-like end to stipe. Cap: Convex, glossy, brown-yellow No 2, 2.8 cm across straight. Stipe: 11 cm to 6.5 cm, root-like end, fawn-blue No 85 ending in white, shiny, smooth, 4 cm in width, powder-like at top near gills. Gills: close with three lengths of lamellulae, margin wavy, white colour, decurrent. Micro: Basidia bisporic. No clamps. Confirmed as <i>X. mundroola</i> .	<i>Banksia</i> woodland, <i>Allocasuarina fraseriana</i>	12/06/2012