THE 20TH NZ FUNGAL FORAY, WESTPORT

Petra White

Introduction

The New Zealand Fungal Foray is an annual event held in May each year at a different site in the country. It is intended for both amateur and professional mycologists. The amateurs range from members of the public with a general interest in natural history, to photographers, to gastronomes, to those with an extensive knowledge on New Zealand's fungi.

Initiated in 1986 with a foray at Kauaeranga Valley, Coromandel Peninsula, the event has since been held in such varying places as Tangihua, the Catlins, Wanganui, Ruatahuna, Haast and Nelson. After last year's foray at Ohakune 438 fungi collections representing 298 taxa were deposited into the PDD national collection. Three collections were of species currently flagged as Nationally Critical in DoC's classification (*Ramaria junquilleovertex*, *Squamanita squarrulosa*, *Russula littoralis*), and 67 collections representing 44 taxa were of records flagged as Data Deficient. The list is published on the FUNNZ website.

The 20th annual NZ Fungal Foray was held this year from 7–13 May at the University of Canterbury Field Station in Westport. There were 66 professional and amateur mycologists staying for various durations during the week. We had visitors from Austria, Australia, Thailand, Sweden, England, Tasmania, Japan and USA.

Each day's foraying involved collecting in the field and then identifying our finds back at the Field Centre, labelling them and displaying them on tables set aside for the purpose. Many of the collections were then dried to take back to the Landcare Research herbarium in Auckland. I worked with Shaun Pennycook to record information on identified species directly onto computer. Additionally, photographs were taken of 425 images of 165 taxa. Many of the taxa had no previous captured image. This process is part of the FUNNZ (Fungal Network of New Zealand) tracking system, instituted for the first time at this Foray.

This was my fourth Foray and the first foray in which I didn't go alone. I had my boyfriend, Malcolm Greenway, with me. Malcolm had no previous experience with fungi but is a keen photographer, so I knew he would fit right in.

On the way to Westport we had an adventure. In Wellington while waiting for our connecting flight to Westport an announcement was made that the plane was too heavy and they needed two volunteers to take a flight to Nelson instead, where a taxi would be waiting for the drive through to Westport. I had seen this part of the country before, but for Malcolm it was all new, and it was a lovely day for a chauffeured drive, so I put my hand up. Our flight left an hour later. The taxi driver entertained us with stories of how frequently this happened, and how frequently he had to drive lost luggage around.

Some highlights from the foray included finding *Agaricus gennadii*, *Resupinatus merulioides* and *Pholiota alnicola*, new recordings for New Zealand; *Plicaturopsis scarlatina*, a bracket with wavy gills, which is unusual; and a rare unnamed species from the Trichocomaceae family on the shell of a giant land snail (*Powelliphanta* sp.).

The 20th NZ Fungal Foray captured information on 682 collections representing 253 taxa. Of these, 57 records had a current 'Data Deficient' status. However, 14 collections had only one

previous collection, of which 4 were new records for NZ and 4 were the second collection after the original Type specimen.

Monday 8 May, Lake Hanlon

Malcolm and I teamed up with Ross and Pauline Muir and Shirley Kerr and after breakfast headed north with them up the coast to Lake Hanlon. On the drive up we saw massed displays of kiokio (*Blechnum novae-zelandiae*) cascading down the steep banks above the road and, in bushy areas, karamu (*Coprosma robusta*) heavily laden with orange berries. It was sad to see that even this area dominated by so much untouched wilderness had its weed problem in the form of gorse (*Ulex europaeus*) and pampas (*Cortaderia* sp.).

Lake Hanlon, formed after an earthquake in 1929, lies on a terrace at the northern foot of the Karamea Bluffs. The track winds up a moderately steep slope through southern beech forests, then down to the shores of the peaceful and placid lake. Along the sides of the track there were plentiful orange peel fungus (*Aleuria aurantia*) peeking out of the soil. In the forested areas we found *Phellodon nothofagi* and *P. sinclairii* scatted about, often growing together. There were also some impressive specimens of *Tylopilus formosus*. The most exciting highlight, however, awaited us on the edge of the track that circled the lake. Here we found three lovely examples of sky blue mushroom (*Entoloma hochstetteri*).

After dinner that evening Don Horne showed slides from last year‘s Foray (the 19th) held at Ohakune.

Tuesday 9 May, northwards again

Once again the five of us headed north looking for fungi. We stopped at the Denniston Walkway and followed a 100-year-old bridle trail up through mixed beech and hardwood forest. It was quite dry so few fungi were found. A highlight was a colony of Hypholoma brunneum growing on dead branches by the side of the track.

So onwards we went and stopped at the Charming Creek walkway. Here we were greeted by groves of wheki (*Dicksonia squarrosa*) and kiekie (*Freycinetia banksii*) cascading down the slopes and hugging trees. Being low-lying and wetter than our previous site, there was enough fungi interest to keep us occupied. Waxgill fungi were common. On a piece of decaying wood I found the puffball *Morganella pyriforme*.

That evening after dinner the first AGM of FUNNZ was held. The Society had been set up at last year‘s Foray in Ohakune. The office bearers for the coming year are David Orlovich, President; Peter Buchanan, Vice President; Petra White, Secretary; Paula Wilkie, Treasurer; and councillors Jerry Cooper, Geoff Ridley and Shirley Kerr.

Afterwards Ross and Pauline Muir gave a PowerPoint presentation of fungi photos they had taken and Baxter Massey showed slides of fungi.

Wednesday 10 May, 5th Mycology Colloquium

The Colloquium, started on the 16th Foray, is a day set aside for talks on various fungal subjects.

Ron Peterson started the day presenting work done with Karen Hughes on how species are

defined. There are three ways species are defined: (a) 97.63% DNA match, (b) they mate together, and (c) they look alike. Defining a species involves various techniques such as morphological analysis, mating experiments, DNA sequences, phylogenies and RFLPs (restriction fragment length polymorphism analysis). RFLPs are a type of DNA fingerprinting allowing a researcher to get a quick idea of the particular strain, isolate or species of a fungus, without going to the extra time and expense of DNA sequencing. It is often used to screen samples first, and those that have different RFLP profiles (fingerprints) will then get sequenced, and those that have identical RFLP profiles are assumed to be the same.

He gave examples of species that have unexpected distributions. *Pleurotus pulmonarius* is found in Malaysia, India, Austria, Russia, New Zealand and Indonesia. *Flammulina velutipes* is a north temperate species found in the USA, Europe and Japan, but also has been collected in Argentina and New Zealand. It migrated to New Zealand from Japan and Europe. *Panellus stypticus* is bioluminescent in the USA but nowhere else. The New Zealand species doesn‘t look like the ones in Europe but is sexually compatible. *Pleurotopsis longinqua* is found in Tasmania, New Zealand, Chili, Alaska and western USA. All the Pacific Rim species are found near the coast and are associated with wood products and wood chip, so this is a fairly recent arrival.

Nic Cummings then talked about his PhD project, entomopathogenic fungi in New Zealand native forests. These are pathogens that kill insects, spiders and mites and are found in most of the fungal groups. There are around 700 species that are true pathogens, not including pathogens that infect but don‘t kill the host. *Cordyceps robertsii* was the first fungal pathogen species recorded (Cunningham, 1921) in New Zealand. Then in 1953 Dingley discovered several more species of *Cordyceps*. In 1983 Samson and Soares recorded *Tolypocladium extinguens*, a species that parasitises glowworms.

Entomopathogenic fungi have low species diversity in agricultural habitats but a high species diversity in natural forests. Nic‘s aim is to identify fungi attacking arthropods to develop biocontrol agents. In his view these fungi are an obvious choice for insect biocontrol and an alternative to chemical control.

The next two speakers gave talks on aspects of two types of mycorrhizal fungi. Mycorrhizal fungi form symbiotic relationships with the host plant. This symbiotic association provides the fungus with a renewable source of food through access to fixed carbon (sugars) from plant photosynthate. These are translocated to the root tissues from their source location (usually leaves), and then to the fungal partners. In return, the plant gains the use of the mycelium's tremendous surface area to absorb mineral nutrients from the soil. Trees and plants with thriving mycorrhizal associations are better able to survive and thrive in stressful natural and artificial environments.

Cressida Bywater and Gabrielle Lockett gave a talk on arbuscular mycorrhizal composition in montane grassland species. Cressida studies grass species while Gabrielle non-grass species. These fungi are ancient asexual organisms 600 million years old. There are about 150 described species. Arbuscular mycorrhizal fungi are endomycorrhizal, i.e. the hyphae grow between and penetrate the cell wall of the host plant. Associations are formed with 80% of terrestrial plants and this association can be beneficial or detrimental depending on the fungal species and host plant. There is evidence of host specificity. Little research has been undertaken on New Zealand species.

Tegan Garland then talked about her PGDipSci project, a comparison of ectomycorrhizal basidiomocete fungal diversity associated with *Nothofagus menziesii*, *Leptospermum scoparium* and *Kunzea ericoides*. The hyphae of ectomycorrhizal fungi penetrate the plant roots but do not penetrate the cell wall. It has been suggested (Baylis, 1980) that maycorrhizal fungi might help the spread of beech trees. Beech trees spread poorly into grassland, whereas the reverse is the case with Kunzea. Tegan collects soil samples from several sites sin the South Island and is looking at which species are shared between *Nothofagus* and *Leptospermum/Kunzea*. This work has implications for forest management and in conservation, and may promote greater understanding in New Zealand rainforest restoration.

After morning tea Michael Noordeloos, Natural Herbarium of the Netherlands, gave a talk on the phylogeny of *Entoloma* species. These fungi belong to the family Entolomataceae, which has an estimated 2,000 described species. *Entoloma* have pink, angular spores with a wide variety of shapes. Some are truffle-like (e.g. *Richoniella*). Michael asks whether *Entoloma* is monophyletic, i.e. one genus, as there is considerable variability in pileus structure in these species. About 60 *Entoloma* species have been reported in New Zealand.

Greg Meuller then presented his preliminary studies on Australasian genus *Laccaria*, a genus he has been working on for almost 30 years. He has done fieldwork in Queensland, Tasmania, Victoria and the Eastern Highlands of Papua New Guinea. *Laccaria* belongs to the family Hydnangiaceae. There are two other genera in this family, *Hydnangium* and *Podohydnangium*, the three together comprising 89 taxa. The false truffle genus *Hydnangium* is restricted to Eucalyptus.

Laccaria are found in north temperate and south temperate rainforests and southern Asia. They are not known in Africa. There are 50-60 species recognised worldwide and 7 are known from New Zealand. *Laccaria* are easy to identify as a genus but difficult for species delimitation and identification. *Laccaria* species form ectomycorrhizas with a wide diversity of plant hosts but individual species show varying degrees of host specificity. There is a distinct separation between northern and southern hemisphere species. Evidence suggests a Gondwanan origin of this group. The *Laccaria/Hydnangium* genera are proving to be an excellent model for understanding the evolution, distribution and ecology of macrofungi.

Andrea Roberts followed with a talk on the connection between arbuscular mycorrhizal fungi (AMF) and invasion of tussock hawkweed (*Hieracium lepidulum*) in New Zealand. Exotic plant invasion is implicated in the decline of 57% of New Zealand‘s endangered plant species. Tussock hawkweed is long-lived and invading southern tussock grasslands. AMF‘s occur in greater than 80% of terrestrial plants. AMF associations have been shown to increase *H. lepidulum* growth when fertiliser is added and it is possible that AMF‘s have a role in the invasion process.

Toni Atkinson finished off the morning with a talk entitled —“The Story of my Family”. The fungal family she studies is Lasiospaeriaceae, the type genus for which is Lasiosphaeria. This family belongs to the Ascomycetes class. There are three described types of ascocarps (fruiting b odies) based upon shape: cleistothecium (spherical), apothecium (cup-shaped), and perithecium (flask-shaped). Lasiospaeriaceae are flask-shaped and, like the spherical-shaped ascomycetes, are microscopic in size.

After lunch Karl Soop started the afternoon with a talk on *Cortinarius* phylogeny. He was followed

by Genevieve Gates who spoke about her work on macrofungal biodiversity as a tool for the sustainable management of coarse woody debris in the forest landscape. She has been looking at the stages of decay in forestry plantations. She has found quite a number of *Russula* and *Amanita* species growing on moss-covered logs.

Next came Katrin Walbert with observations of serial changes in ectomycorrhizal fungi associated with a Pinus radiata plantation in New Zealand. She has been using three methodologies in the work: sporocarp survey, soil cores survey and molecular methods. Where these fungi are lacking there is a soil deficiency in nitrogen, potassium. She has found that species diversity increases with the age of the plantation. There is a change in species composition over time and an increase in species number.
David Orlovich, University of Otago, then spoke about his work with ectomycorrhizal fungal diversity on Nothofagus roots using molecular methods. There are greater than 226 ectomycorrhizal fungal species described in association with Nothofagus in New Zealand.

Barbara Paulus, Landcare Research, followed with a presentation on her work in the Urewera forests owned by Tuhoe Tuawhenua Trust. These forests have been selectively logged since the 1970's. The Trust is concerned at the effects of this selective logging and whether there is any difference in fungal diversity between old growth and selectively logged forests. She works on fine woody debris, which she defines as between 2–5cm in diameter.

Landcare records show 448 fungal species from the area, a lot of which were recorded from the 2001 Fungal Foray. A total of 136 species were found, 48% of which were corticioid, and 10% of which were new records for New Zealand. Xylariaceae formed 11% and discomycetes 7% of the recorded species. Others included Agaricales, Heterobasidiomycetes and Hypocreales. She found a greater diversity in unlogged sites. 49.3% of species occurred in unlogged sites, 28.7% in logged sites and 21.9% of species were found in both.

A break for afternoon tea and then Egon Horak took the podium with a talk on the comparisons of Agaric and Bolete species in New Zealand versus Argentina and Chile. He has looked at Nothofagus forests in New Guinea, New Zealand, Tasmania, the southern tip of South America, and New Caledonia. One hundred million years ago these places were all part of Gondwanaland.

To finish off the day, Phil Knightbridge, Department of Conservation (DoC), gave an overview of the West Coast Conservancy biodiversity programme. The West Coast Conservancy covers an area of 2.3 million hectares, 83% of which is public conservation land. Most habitats are well represented in the public estate, exceptions being fertile well drained valley floors, coastal dunes and fertile swamps. DoC allocates 4 million dollars annually for biodiversity work in the West Coast Conservancy, which works out at $2.10 per hectare per year. Some of the bigger projects this money goes to include possum, goat and weed control. Giant land snails (Powelliphanta) and some species of birds are intensively managed.

There are 49 species of fungi listed as nationally critical (excluding micro-fungi), sixteen species are in lower threat categories, and c.1200 species are data deficient. Phil listed some possible threats to fungi: loss of habitat (which is not such an issue on the West Coast), loss of host species, predation, over collecting and threat of exotic species. The question was asked what should DOC be doing to conserve fungi on the West Coast?

Peter Johnston noted that the common fly agaric (*Amanita muscaria*) associated with exotic pine has now naturalised in native beech forests. However at this point in time little is known about what effect this will have on this ecosystem and how this threat could be managed. In general it was agreed that habitat protection was a very good start for fungal conservation. Protection of threatened host species was also something that could be done at present e.g. scarlet mistletoe is the host for Diaporthe sp. Facilitating collections such as those undertaken on the Foray was seen as the best way to increase our knowledge of species currently listed as nationally critical or data deficient.

After dinner Egon Horak showed slides demonstrating aspects of his talk in the Colloquium that day. Afterwards a birthday cake was brought out and ceremoniously cut to mark twenty years of fungal forays. Peter Buchanan also remarked that it was the first anniversary of the formation of FUNNZ. Then to finish off the day Don Horne showed more slides.

Thursday 11 May, Inland Pack Track

After breakfast we headed out foraying again, this time southwards. Just before Punakaiki, we turned into Bullock Creek Rd, a dirt road leading to the Inland Pack Track. From the carpark we walked uphill into forests of kanuka (*Kunzea ericoides*), towering rimu (*Dacrydium cupressinum*) and taurepo (*Rhabdothamnus solandri*). The track forked, and we took the track to the right.

The track to the left was the Cave Creek Track. I had been there once before, a decade previously, that time riding a mountain bike. I still remember the sense of horror looking down the chasm into Cave Creek and seeing the place where they built the platform on crumbling limestone.

There were lots of wax gills scattered about and also the fruiting bodies of *Phellodon nothofagi* and *P. sinclairii*. At one point a tree had fallen over the track. Pauline and I headed uphill to find a way round the obstacle, while the others scrambled through underneath it. A short distance uphill at the base of a tree I discovered the most exciting find of the day, an impressive colony of fruiting bodies of a yellow-brown mushroom glistening with moisture. We paused to take photographs and collect specimens for identification. It turned out to be *Pholiota alnicola*, which had not previously been recorded for New Zealand.

The rain began so we headed back to the car and down Bullock Creek Rd. On the way we met a campervan coming the other way. In attempting to pass us, it got stuck against the bank. Ross attempted to tow it out but without success. We continued onwards, promising to get help. Only a short distance down the road we encountered reinforcements in the form of a huge grader. We told the driver what had happened and he said he saw the campervan coming in and knew there would be a problem. There is a sign at the entrance to the road warning campervans against entry.

We had lunch at Punakaiki and then drove north again, stopping at Cape Foulwind to see the seal colony on the way.

After dinner that evening Genevieve Gates gave a PowerPoint presentation of fungi photos taken in Borneo. Afterwards a DVD was shown from last year‘s foray at Ohakune put together by the Levin Nature History Club.

Friday 12 May, Niles River Walk
For our final day of foraying we headed south again to the beech/broadleaf forests of the Niles River Walk. We followed the path of a scenic railway. A track crisscrossed over it. The Nile River to our left was backed by a stunning karst escarpment clothed in native vegetation. The banks of the river were covered in large areas of granite stones and, in places, river sand.

Tutu (*Coriaria arborea*) was common, as was wheki (*Dicksonia squarrosa*) and wheki-ponga (*D. fibrosa*). The understory was dominated by bush rice grass (*Microlaena avenacea*), tupari maunga (*Gahnia xanthocarpa*) and piupiu (*Blechnum discolor*).

Just off the track we discovered a single fruiting body of *Entoloma hochstetteri*. Nearby, growing from the ground were *Amanita nothofagi* and *Hygrocybe firma*. Near the river bank there was a fallen tree covered in the bracket fungus *Fomes hemitephra*.

Beyond the end of the railway we crossed a suspension bridge and here in the ground tier we found a lot of Corybas orchids in flower. Just uphill and a little off the track I discovered a large colony of pagoda fungus (*Podoserpula pusio* var. *pusio*), always a stunning find as it makes such a fantastic display.

We had lunch and walked back to the car, hitching a ride on the small train on the way.

After dinner that night Pauline Muir showed photos taken at the foray.

Acknowledgements
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References
Baylis, G T S 1980: —Mycorrhizas and the spread of beech“, New Zealand Journal of Ecology 3: 151-153

Web Sites

- http://www.funnz.org.nz
- http://nzfungi.landcareresearch.co.nz
- http://www.hiddenforest.co.nz

Species List

Species	Sites Recorded
Ascomycetes	
Aleuria aurantia	LH, OA
Allophylaria sp.	PR
Arachnopezizaceae (unidentified cup fungus)	DT
Ascocoryne sp.	CC
Ascocoryne sarcoides	BC, NR
Biscogniauxia sp.	CC
Coccomyces limitatus	DT
Crocicreas sp.	DT
Delortia sp.	PR
Hypomyces chrysospermus (=Sepedonium chrysospermum)	PR
Lachnellula rhopalostylidis	PR
Lambertella tubulosa	OA
Hispidula rubra	DT
Hypomyces chrysospermus	NR
Hypocrea sp.	BT, PR
Hypocrea sulfurella	PR
Neobarya (=Barya) fungicola	MC
Paurocotylis pila	CC, FT
Propolomyces versicolor	DT
Pseudaegerita viridis	OA
Scutellinia sp.	FT, PR
Trichocomaceae	CC, FT, MG
Xylaria sp.	Pororari River Track
Xylaria tuberiformis	OA

Hyphomycetes	
Candelabrum sp.	OA
Endophragmia boewei	OA
Helicodendron websteri	OA
Helminthosporium velutinum	NR
Helicoon sp.	OA
Helicoon aff. maiorcense	OA
Isaria tenuipes	CC
Selenosporella curvispora	OA
Spirosphaera caricis-graminis	OA
Stachylidium bicolor	PR
Subulispora britannica	OA
Trichoderma sp.	Lake Daniells Track, Springs Junction
Oomycetes	
*Pythium insidiosum**	Westport Beach
Basidiomycetes	
Aeruginospora cf. furfuracea	CT
Agaricus sp.	CC
Agaricus gennadii	HT
Amanita australis	BT
Amanita muscaria	MC
Amanita nehuta	BT, CC
Amanita nothofagi	DT, LD, MG, NR, TC
Amanita pareparina	OA
Amanita pekeoides	GF, NR, TC,
Amanita taiepa	BW, LH
Armillaria hinnulea	BW, CC, FT
Armillaria limonea	FT, LD, PR,
Armillaria novaezelandiae	CC, LH, MG
Artomyces sp.	CC
Artomyces turgidus	CC
Astrosporina sp.	CC
Auricularia cornea	OR, PR
Austroboletus lacunosus	CC, CT, IP, KR, LH, MC, TC
Austroboletus niveus	LH
Austropaxillus macnabbii	LD
Bisporella sp.	LH
Bisporella citrina	MC, NR
Boletus sp.	CC
Callistosporium sp.	TF
Calocera sp.	CC, HT, OA
Calostoma rodwayi	BC, BCr, IP, Perseverance Rd
Calvatia cyathiformis	CB
Camarophyllus aurantiopallens	PR
Camarophyllus sp.	CC

Campanella sp.	PR
Campanella olivaceonigra	CC
Cantharellula sp.	PR
Cantharellus wellingtonensis	CC, FT
Chamonixia pachydermis	BCr, CT, IP, LD, LH, MC, OA, Perseverence Rd, WT
Chlorociboria sp.	CC, MT
Clathrus archeri	HT
Clavaria amoena	Chasm Creek Walkway, PR
Clavaria sp.	CC, NR
Clavaria (Clavulinopsis) sp.	PR
Clavaria sulcata	DT
Clavulina sp.	CC, MC, DT, IP, Perseverence Rd, Punakaiki
Clavulina geoglossoides	MC
Clavulina hispidulosa	NR
Clavulina leveillei var. atricha	NR
Clavulina samuelsii	IP
?Clitocybe sp.	PR
Clitocybula sp.	LP
Collopus epipterygius	DT, OA
Collopus subviscosus	CC
Collybia sp.	OA
Collybia incarnata	Perseverence Road
Collybia rimutaka	OA
Coltricia cinnamomea	OG
Conchomyces bursiformis	BCr, CC, NR
Coprinus spp.	NR, PR
Coprinus comatus	Caltex service station, Westport
Coprinus disseminatus	MC
Cortinarius spp.	CC, DT, FT, KR, LD, LP, MC, OA, TC, TF, Waimangaroa
Cortinarius achrous	LD
Cortinarius alboaggregatus	MC
Cortinarius alboroseus	FT, LD
Cortinarius anomalus	TC
Cortinarius aurantioferreus	FT
Cortinarius austrocyanites	LW
Cortinarius cardinalis	CC
Cortinarius caryotis	TC
Cortinarius castoreus	CC, KR
Cortinarius chalybeus	MC, OA
Cortinarius collybianus	LH
Cortinarius cucumeris	GF
Cortinarius cupreonatus	FT
Cortinarius cycneus	BC, MC, MG, OA
Cortinarius dulciolens	CC, TC
Cortinarius ignellus	FT
Cortinarius ionomataius	LD

Cortinarius laquellus	FT, KR
Cortinarius mariae	GF
Cortinarius meleagris	KR, LW
Cortinarius paraoniti	FT
Cortinarius peraurantiacus	TC
Cortinarius peraureus	FT, LD, MC
Cortinarius perelegans	MC
Cortinarius pholiotellus	LD
Cortinarius porphyroideus	CC, LD, LW, MG, NR, track to Crazy Paving Cave Karamea
Cortinarius rhipiduranus	MC, TC
Cortinarius rotundisporus	BCr, IP, LH, TC
Cortinarius singularis	Waimangaroa
Cortinarius subgemmeus	MC
Cortinarius suecicolor	BC, KR
Cortinarius veronicae	BC, TC
Cortinarius violaceus	TT
Cortinarius cf. violaceus	TF
Cortinarius xenosma	TC
Cortinarius cf. xenosma	LD
Crepidotus sp.	CC, NR, OA, Perseverence Rd, PR
Crepidotus mollis	HT
Crinipellis procera	LW
Crucibulum laeve	CC, FT, PR
Cuphocybe cf. phaeomyxa	TF
Cyclomyces tabacinus	BC
Cystoderma clastotrichum	CC
Cystolepiota sp.	FT, OA
Dacrymyces tortus	OA
Daldinia eschscholzii	NR
Dermocybe spp.	OA, OG, TF
Dermocybe alienata	BC, LD
Dermocybe canaria	MC, OA
Dermocybe cardinalis	DT
Dermocybe castaneodisca	MC
Dermocybe indotata	FT, Waimangaroa
Dermocybe vinacaecolor	LH
Dermocybe vinicolor	CC, TC
Descolea sp.	IP, LD
Descolea gunnii	BT, Perseverence Road
Descolea majestatica	IP
Descolea phlebophora	BC, OA
Discinella terrestris	BT, IP, LH
Entoloma spp.	CC, OA, PR
Entoloma atrellum	CC, PR
Entoloma canoconicum	TW
Entoloma chloroxanthum	LH
Entoloma convexum	BCr

Entoloma farinolens	DT, LH
Entoloma hochstetteri	CC, LH, Lake Kaniere, NR, OA, PR, TT, TW
Entoloma perzonatum	LH, NL
Entoloma procerum	CC, DT
Entoloma translucidum	DT
Entoloma viridomarginatum	BC, CC, OA
Farysporium endotrichum	DW, TC
*Favolaschia calocera**	CC, FT
Favolaschia sp. (on Cyathia medullaris)	PR
Flagelloscypha sp.	PR
Fomes hemitephrus	BCr, CC, DT, KR, IP, NR
Fusarium tumidum	road to Denniston
Galerina ?austrocalyptrata	OA
Galerina patagonica	CC, HT, LH, PR, RT
Gallacea violacea	Andrews Track, near Arthurs Pass
Ganoderma sp.	FT, LH, IP
Ganoderma australe	FT
Ganoderma cf. applanata	NR
Geoglossum cookeanum	CC
Gliophorus sp.	TF
Gliophorus chromolimoneus	BT, CC, MC
Gliophorus graminicolor	CC, CT
Gliophorus lilacipes	CC, CT, LH, OA
Gliophorus pallidus	BT
Gliophorus viridis	BT, OA
Gloeoporus phlebophorus	BCr, MG
Gloiocephala nothofagi	LH, Perseverence Road
Grifola sp.	CC
Gymnopilus sp.	FT
Gymnopilus crociphyllus	NR
Gymnopilus ferruginosus	BCr, BT, TC
Gymnopilus junonius	Westport Beach
Hebeloma sp.	NR
Hebeloma mediorufum	CC
Hemimycena sp.	Perseverence Road
Hohenbuehelia sp.	CT
Hohenbuehelia petalodes	LD
Humidicutis pura	DT, MG
Hydnum crocidens	TC
Hydnum crocidens var. crocidens	CC
Hydropus sp.	CC
Hygrocybe spp.	BC, OA, OG, PR
Hygrocybe blanda	CC, DT
Hygrocybe cantharellus	CC, CT, DT
Hygrocybe cerinolutea	FT, OA
Hygrocybe firma	CC, CT, DT, IP, LH, NR, OA, PR, RT, TW, Waimangaroa
Hygrocybe julietae	BCr, CC, NR

Hygrocybe miniata	TW
Hygrocybe rubrocarnosa	RT
Hygrophorus sp.	CT, PR
Hygrophorus involutus	PR, RT
Hygrophorus salmonipes	PR
Hypholoma brunneum	CC, FT, HT, NR
Hypholoma fasciculare	CC, NR, RT
Ileodictyon cibarium	CB
Inocybe sp.	BT, OA
Inocybe destruens	BCr
Inocybe luteobulbosa var. luteobulbosa	NR
Inocybe rimosa*	NR
Inocybe cf. scabriuscula	CC
Inocybe strobilomyces	TF
Insiticia roseoflava (=Mycena roseoflava)	OA
Laccaria fibrillosa	CT, IP, LD
Laccaria glabripes	LD, Perseverence Road, PR
Laccaria lilacina	CT
Laccaria masoniae var. brevispinosa	LD
Laccaria proxima*	NR
Laccaria violaceonigra	Perseverence Road
Lacrymaria lacrymabunda*	NR
Lactarius sp.	IP
Lactarius clarkeae var. clarkeae	BCr, IP, LH
Lactarius sepiaceus	LD
Lactarius umerensis	NR, PR
Leotia lubrica	CT, LH, MC, NR, Perseverence Road, PR, TC
Lepiota sp.	BC, CC, NR, OA
Lepiota purpurata	OA
Leucoagaricus sp.	OA
Lichenomphalia sp.	CC
Lycoperdon perlatum	CC, FT
Macowanites carmineus	BCr, BT, CC, DT, IP, TC
Marasmiellus sp.	NR, PR, TF
Marasmiellus violaceogriseus	NR
Marasmius spp.	NR, PR
Marasmius gelatinosipes	NR, OA
Marasmius rhopalostylidis	PR
Melanophyllum sp.	OA
Melanophyllum echinatum	Perseverence Road
Moellerodiscus microcoprosmae	DT
Morganella compacta	HT, LH
Morganella pyriformis	CC
Mycena spp.	CC, Denniston, MC, NR, OA, Perseverence Road, PR, TF
Mycena austrororida	Chasm Creek Walkway, CC
Mycena carmeliana	OA
Mycena cystidiosa	Perseverence Road

Mycena epipterygia	MC, OA
Mycena interrupta	BCr, CT, FT, LH, LW, MC
Mycena mariae	NR, OA
Mycena mamaku	LH
Mycena minirubra	BCr, NR
Mycena podocarpi	PR
Mycena pura	BT
Mycena sanguinolenta	CC, OA
Mycena ura	BT, CC, LH, MC, NR
Nidula niveotomentosa	BT, MC, OG, TC, track beyond Denniston Mine
Nivatogastrium sp.	PR
Octaviania tasmanica	BCr, CC, LD, OA, NR
Omphalina foetida	OA, PR
Oudemansiella sp.	BC, NR
Panellus stypticus	FT
Panus sp.	Perseverence Road
Phaeocollybia sp.	TC
Phaeomarasmius lanatulus	BCr
Phaeosolenia densa	PR
Phellodon nothofagi	BCr, IP, LH, MC, NR, OA, TC
Phellodon sinclairii	FT, IP, LH, NR
Pholiota sp.	CC, Upper Waimangaroa River Valley
Pholiota alnicola	BCr
Pholiota squarrosipes	RT
Phylloporus sp.	Chasm Creek Walkway
Phylloporus novaezelandiae	FT
Pleurocollybia sp.	CC
Pleurocollybia cremea	PR
Pleuroflammula praestans	CC
Pleurotopsis sp.	NR
Pleurotopsis longinqua	CT, OA. OG
Pleurotopsis subgrisea	OA
Pleurotus djamor	CC, near Little Wanganui, Karamea
Plicaturopsis scarlatina	near Mirror Tarn, Karamea
Pluteus sp.	CC
Podoserpula pusio var. pusio	NR
Polyporus arcularius	TC
Psathyloma sp.	BC
Psathyrella sp.	LH, OG, PR
Psathyrella asperospora	RT
Psilocybe sp.	BCr
Pycnoporus coccineus	DT, NR, Westport Beach
Ramaria lorithamnus	MC
Ramaria samuelsii	BCr, FT
Ramariopsis sp.	CC
Ramariopsis ramarioides	LH, PR
Ramariopsis simplex	CC

KR	Karamea River Walk
LD	Lake Daniells Track, Springs Junction
LH	Lake Hanlon
LP	Lewis Pass
LW	Lyell Walkway
MC	Murray Creek Track, Reefton
MG	Moria Gate Track, Karamea
NL	Nikau Loop Track, Karamea
NR	Nile River Walkway
OA	Oparara Arch Walk, Karamea
OG	Oparara Gorge, Karamea
OR	Okari River, Westport
PR	Pororari River Track
RT	Rimu Track, Karamea
TC	Tiropahi Creek Track, Charleston
TF	Tawhai Forest, Reefton
TT	Tiropahi Tramway, Charleston
TW	Truman Walk, Punakaiki
WT	Waterfall Track, Lewis Pass
*	exotic
BC	Box Canyon, Karamea
BCr	Bullock Creek Track, Punakaiki
BT	Bridle Track, Denniston
BW	Britannia Walk, Waimangaroa
CB	Carters Beach, Westport
CC	Charming Creek Walkway
CT	Croesus Track, Blackball
DT	Denniston Track
FT	Fenian Track, Karamea
GF	Golden Fleece Battery, Reefton
HT	Heaphy Track
IP	Inland Pack Track, Punakaiki

Resinomycena sp.	OA
Resupinatus applicatus	NR
Resupinatus merulioides	PR
Rhizopogon sp.	CB
Richoniella pumila	CC, RT
Rozites sp.	LD
Russula sp.	IP, Karamea, LD, MCr, Punakaiki
Russula albonigra	BT
?Russula novae-zelandiae	IP
Russula roseostipitata	LP
Russula tawai	BCr, CT, TC
Russula umerensis	LP
Sarcodon thwaitesii	BT
*Schizophyllum commune**	HT
Sebacina sp.	PR
Simocybe sp.	PR
Sirobasidium brefeldianum	BC, BT
Stereum vellereum	BT, CC
*Stropharia aurantiaca**	Westport Beach Camping Area
*Suillus brevipes**	CB, NR
*Suillus granulatus**	HT
Thaxterogaster viola	BCr
Thelephora sp.	CC
Trametes versicolor	CC
Tremella fuciformis	NR
Tremella mesenterica	NR, Westport Beach
Tremellodendropsis sp.	PR
Tremellodendropsis ?flagelliformis	PR
Tricholoma sp.	MCr, LD, NR
Tricholoma elegans	LD
?Trogia sp.	NR
Tylopilus formosus	CC, IP, KR, LH, Maruia, NR, TC
Vuilleminia comedens	BT
Weraroa erythrocephala	NL, PR
Weraroa virescens	BT, CT, MG, NR, OA, TT
Xerocomus nothofagi	CC, IP
Xerocomus ?scabripes	LW
Xeromphalina sp.	PR
Xeromphalina leonina	CC
Myxomycete	
Craterium minutum	PR
?Trichia crateriformis	BCr