

Carex brevifolius
C. punctata
Cyperus congestus
Duchesnea indica
Erica lusitanica
Leycesteria formosa
Ludwigia palustris
Paspalum dilatatum
Phytolacca octandra

Prunella vulgaris
Selaginella kraussiana
Solanum mauritianum
S. chenopodioides
Tradescantia fluminensis
Ulex europaeus
Veronica plebeia

Spragg's Bush Fungi Additions. 18 May 2003

Clive Shirley

On 18 May 2003 I had the opportunity to go to Spragg's Bush Reserve with Peter Buchanan from Landcare Research and Forest and Bird's North Shore Branch of the Kiwi Conservation Club, foraging for fungi. Several species have now been added to the previously published record by Fran Hintz (2002).

Geastrum saccatum (earthstar)
Hygrocybe pura (wax gill)
H. procera (wax gill)
H. lilaceolamellata (wax gill)
Laccaria sp.
Mycena austrororida
M. ura
Podoscypha petalodes (wine glass fungus)
Ramariopsis antillarum (confirmed)
Russula griseoviridis (green russula)
Russula macrocystidiata (purple russula)
Weraroa novaezelandiae

Reference

Hintz, Fran 2002: Sharp's Bush and Spragg's Bush Reserves. *Auckland Botanical Society Journal* 57(2): 97-99.

The 17th NZ Fungal Foray, Kaimai Forest Park, 5 – 10 May 2003

Peter 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 and Haast. The Foray is organised by a loose group of people, the organising group often changing from year to year. It has always been strongly supported by the mycologists at Landcare Research.

The Foray has three main aims:

- to better understand the diversity and distribution of New Zealand's native fungi

- to increase public understanding and appreciation of New Zealand's fungi
- to provide a forum for anyone in New Zealand interested in fungi to meet informally at least once a year.

This year's Foray, the 17th, was held from 5-10 May in the Kaimai Ranges, Bay of Plenty. Accommodation was at the Aongatete Lodge, Kaimai Outdoor Centre, 18km from Katikati. There were between 20-40 people on the Foray, depending on the day and activities.

Day 1: 5 May, The Arrival

For me getting to the Foray meant an early start – 5.30am to catch a 7.15am bus to the 8am boat to Auckland, where Clive Shirley was waiting to pick me up for the drive to Katikati. We arrived at Aongatete Lodge around 3pm after a couple of stops along the way to hunt for fungi. The first stop was Broken Hill on the Tairoa River, where we saw a lovely display of *Dawsonia superba*, in one place densely packed like a

low hedge. After this there was a lunch stop at a dawn redwood (*Metasequoia glyptostroboides*) forest, where we found a groups horse mushrooms (*Agaricus arvensis*).



Aongatete Lodge, Kaimai Outdoor Centre

Clive and I decided to go for a short walk before dinner to see what fungi we could find before the other foragers arrived, so we took a walk round the Short Loop Track. The forest was predominantly tawa (*Blechnum tawa*) with kohekohe (*Dysoxylum spectabile*) and scattered large puriri (*Vitex lucens*). By the track could be seen a sea of miniature tree fern (*Blechnum fraseri*), crown fern (*Blechnum discolor*) and *Coprosma spathulata*. Bushman's mattress (*Lygodium articulatum*) was a frequent climber. By the side of the track there was a 3m ponga with a rimu (*Dacrydium cupressinum*) and a kiekie (*Freycinetia banksii*) growing from halfway up the stem. Common fungi we saw were wood ears (*Auricularia polytricha*), white pore fungus (*Favolaschia pustulosa*) and orange pore fungus (*F. calocera*).

Back at the Lodge people had started to arrive. We placed our few fungi finds, along with their identifying labels, on the display table at the back of the large dining room. This became the daily routine – foraging, collecting, identifying and labelling. Landcare scientists arrived with a string of microscopes for people to use in identifying fungi from spores and other characteristics. Apart from the microscopes there were also a variety of fungi books scattered about the room, brought by various foragers and covering the subject of fungi in New Zealand and other countries, including some specialist areas of study.

Day 2: 6 May, Foraging with the Film Crews

On this, our first day of group foraging, we split up into two groups, half going to Puketoki Reserve and the other half going to the Linderman Pack Track. Clive and I went to Puketoki Reserve with the TV1 crew, where the film crew took film footage of some fungi and interviewed some of us. The TV3 crew met the other group at the Linderman Pack Track later that morning.

Puketoki Reserve consists of tawa forest with a fairly open understorey of wheki (*Dicksonia squarrosa*), ponga (*Cyathea dealbata*), pigeonwood (*Hedycarya arborea*), kanono (*Coprosma grandifolia*) and scattered

crown fern (*Blechnum discolor*). There were fine colonies of perennial bracket fungus (*Ganoderma australe*) on dead and dying tawa trunks, one of which featured in the TV1 news item. One specimen on a fallen tree trunk had continued to grow at right angles to the original 400mm wide fruiting body. A special feature for me was seeing large quantities of shaving brush fungi (*Trichocoma paradoxa*) on the remains of a tawa that had split about 4 metres up the trunk. Wax gills (*Hygrocybe firma*, *H. rubrocarnosa*, *H. cerinolutea*,) also featured on the forest floor that day.

That evening David Orlovich, University of Otago, showed slides of his trip to China, touring the country and visiting mushroom farms and trying various fungal recipes. There are upwards of 200 species of fungi sold on the market in China as a food. Then Angela and Ron Freeston showed a series of slides designed to prompt audience participation in identifying fungal species.

Day 3: 7 May, The Colloquium

The Colloquium is an event started at last year's Foray, a day set aside for talks on various fungal subjects. Three of our number went foraging in Otanewainuku Reserve, the rest stayed for the talks.

First up was David Orlovich who spoke on the subject of molecular diversity and the failure of taxonomy. Of the estimated 20,000 or more species found in New Zealand, only 4,000 have been described. Of the 6,500 species recorded for New Zealand, half have been introduced and many of the known species have only been found once or twice (Peter Johnston *pers. comm.*). Worldwide there are some 1.5 million species of fungi, one of the most diverse kingdoms in nature. David spoke on the pros and cons of using DNA sequencing rather than traditional taxonomic methods for identification of fungi.

Next up was Dan Mahoney, speaking to slides of dung fungi found in Queensland. He was followed by Don Horne, author of *Mushrooms and Other Fungi of New Zealand*, who talked about the survey work he has been doing in Walter Scott Reserve managed by Waikato Forest and Bird. He started going there in 1984, recording and photographing the fungi found there. The reserve is home to the endangered golden basket fungus (*Clathrus chrysomycelinus*), one of the few sites where the species is found. Don has been recording the quantity of the species appearing each year and the months it was seen.

After morning tea Tod Ramsfield, University of British Columbia, talked on the work being done to control lodgepole pine dwarf mistletoe (*Arceuthobium americanum*), a parasite indigenous to the province that affects lodgepole pine (*Pinus contorta*), British Columbia's only native two-needled conifer and widespread throughout the province. *A. americanum* is common wherever lodgepole pine is present. Where



Top left: *Tubifera ferruginosa*

Top right: *Ramariopsis kunzei*

Bottom left: *Humidicutis rosella*

Bottom right: *Entoloma* sp.

the mistletoe appears in plantation forests native fungi (*Colletotrichum gloeosporioides*, *Caliciopsis arceuthobii*) that parasitise the mistletoe are being introduced. These areas are geographically removed from areas where the mistletoe is present in conservation areas (where methods are being looked at to control the fungal parasites).

Next Jerry Cooper gave a critical assessment of the NZ MAF Unwanted Organisms Register of Names. There are 4,642 fungi and 333 bacteria on the list, of which 4 fungi species are classified as notifiable organisms. However, an analysis of these names shows that many of them are not recognisable as fungal species, or are incorrectly spelled or are duplicate entries. Despite the procedures MAF has to gather information many entries are incorrect and many potential pests are not on the list.

Rebekah Fuller, a Masters student at Auckland University, then spoke on her thesis subject, Maori knowledge of fungi. Fungi make up one third of New Zealand's biodiversity. Maori had information on the life cycles of fungi and had a system of taxonomy. The uses they put fungi to included a food source, ink for ta-moko, dyeing, medicine, a remedy for poisoning, a source of income and as a means to carry fire. A lot of this traditional knowledge has been lost. Of the 174 Maori names for fungi and 13 edible species known only 14 Maori names and 7 edible species are known today.

Peter Austwick finished off the morning with a talk on *Lepiota nauscosa* (which he nicknames "noddy caps" due to its peaked cap), a fungus that smells like vomit. It forms large fairy rings in Shakespeare Regional Park. The fungus mostly lives underground as a mass of hyphae forming the mycelium, the mushroom being the fruiting bodies on the edge of the fairy ring producing the spores.

Lunch, and then Pam Catcheside spoke on the fungi of South Australia, followed by Stephen Whitton on the introduced "weed" orange pore fungus (*Favolaschia calocera*). Apart from New Zealand, *F. calocera* has been recorded in Australia, China (Yunnan Province), Italy, Kenya and Madagascar (type locality). It was first recorded in New Zealand in 1969 in the Auckland and Waikato regions, and is most likely at its southern climatic limit in this country. The most southern point in New Zealand where it is found is Haast. It is very adaptable and found in many habitats, primarily native and introduced hardwoods. Every new spore is capable of establishing after a suitable wood host is found and for this reason is very successful and prolific, though it does not appear to be replacing native fungi.

Then came Ian Hood, who spoke on wood decay fungi in Whirinaki. Peter Buchanan, Landcare Research, was next with some statistics on threatened fungi species.

Until 2002 New Zealand fungi were not recognised as threatened. Now 14% (1 in 8) of the list of Nationally Critical Species are fungi. There are 49 nationally critical species, which are limited to large, easily collected and distinctive fruiting bodies, and 16 species are in lower threat categories. There are 1200 species data deficient and 2500 species recorded in the country but known from less than 4 collections, and of these more than 1500 are from a single collection. So there is a lack of material to really get a handle on the degree of threat posed to fungi.

The final two speakers of the Colloquium were Toni Atkinson on wood decay fungi and Geoff Ridley on spots and dots on leaves, and lumps on stems. Geoff described one as yet unnamed species found on beech trees that has a distinctive yeasty smell.

Ten children from Junior College in Auckland with their teacher Chris Deeley arrived that day. Chris gained a Royal Society scholarship to work with Landcare Research in the Herbarium for 2001 and has retained a very strong interest in fungi ever since. After the Colloquium we helped them identify their fungal finds from the early afternoon. They slept that night and left lunchtime on Friday. A reporter from the *Katikati Advertiser* was there to do a story and take photos.

At dinner time there was a chance to taste birch boletus (*Lectium scabrum*), with leftovers for those wanting some for breakfast the following morning. After dinner a talk by Carl Soop on *Cortinarius* species rounded off the day.

Day 4: 8 May, In the Field Again

Most of the foragers went off to Athenree Forest, a pine forest. Clive and I, however, decided to check out a small lifestyle block, whose owners had contacted the Fungal Foray to say they had some colourful mushrooms on their farm. We thought they would be fly agaric (*Amanita muscaria*) – and sure enough we found some there – but went anyway. It was a worthwhile trip. Among the avocado pear orchard lilac puffball (*Calvatia cyathiformis*) was plentiful and growing to about 200mm diameter. *Stropharia aurantiaca* and dung-loving psilocybe (*Psilocybe coprophila*) were common among wood chip mulch. An interesting find was a couple of fruiting bodies of *Melanoleuca arcuata* growing in grassland.

Students from Katikati College spent several hours at the Lodge, foraging along the Short Loop Track and then they used the microscopes for the afternoon. After dinner Shirley Kerr showed slides on wax gills and Don Horne showed various fungi slides.



kiokio (*Blechnum novae-zelandiae*) dominated the ground tier.

Students from Matahui Primary School came for the afternoon to forage, collect and then use the microscopes. That evening was a time for relaxing and planning next year's Foray, which will be held in the Nelson area.

Day 5: 9 May, The Final Field Day

On this last day some of the foragers went off to Waihi Beach to look for fungi among the pohutukawa forest. Clive Shirley went with a *Herald* reporter to take photos of fungi. For me it was a reasonably peaceful day walking through the local forest, crossing the Aongatete Stream and up the hill beyond to the ridge and back. Not much fungi to be seen, but the walk was well worth it, the scenery stunningly beautiful and peaceful. Hard beech, kanuka and broadleaf forest lined the hillside by the stream, and great swathes of



Aongatete Stream

Species List

Legend

- * exotic
- AF Athenree Forest
- Ao Aongatete
- Be Kelston Rd Bethlehem
- BOP Bay of Plenty area, from previous Landcare records
- Ka Katikati area
- LT Linderman Track
- MI Matokana Island, from previous Landcare records
- OR Otanewainuku Reserve
- PR Puketoki Reserve
- RT Ridge Track

Species	Sites Recorded
Ascomycetes	
<i>Aphanoascus</i> sp.	BOP
<i>Ascocoryne</i> sp.	LT
<i>Coccomyces limitatus</i>	LT
<i>C. radiatus</i>	LT
<i>Cookeina colensoi</i> cup fungus	Ao, PR
<i>Crocicreas</i> sp.	LT
<i>Dasyscyphus</i> sp.	LT
<i>Diatrype glomeraria</i>	
<i>Diatrype</i> sp.	LT
<i>Eutypella</i> sp.	BOP
<i>Hymenoscyphus</i> sp.	LT
<i>Hypocrea</i> sp.	Ao
<i>Lachnum pteridophyllum</i>	LT
<i>L. varians</i>	Ao
<i>L.</i> sp.	AF

Species	Sites Recorded
<i>Lophodermium agathidis</i>	LT
<i>Microglossum rufum</i>	Ao
<i>Nectria pseudotrachia</i>	BOP
<i>Orbilina</i> sp.	LT
<i>Plectania</i> sp.	Ao
<i>Sclerotinia sclerotiorum</i>	BOP
<i>Scutellinia colensoi</i> eyelash elf cup	Ao
<i>Torrendiella</i> sp.	LT
<i>Trichocoma paradoxa</i> shaving brush fungus	PR
<i>Trichoglossum</i> sp.	PR
<i>Ustulina zonata</i>	BOP
<i>Xylaria apiculata</i>	BOP
<i>X. psamathos</i>	MI

Species	Sites Recorded
Basidiomycetes	
<i>Agaricus</i> sp.* in eucalyptus plantation	AF, BOP
<i>Aleurodiscus ochraceoflavus</i>	BOP
<i>Amanita muscaria</i> * fly agaric	AF
<i>Anthurus archeri</i> giant stink horn	Ka
<i>Antrodia</i> sp.	Ao
<i>Antrodia malicola</i>	BOP
<i>Antrodiella zonata</i>	Ao
<i>Aseroe rubra</i> flower fungus	PR
<i>Asterostroma persimile</i>	BOP
<i>Athelia scutellaris</i>	BOP
<i>Auricularia polytricha</i> taringa hakeka, ear fungus, wood ears	Ao, PR, LT
<i>Australoporus tasmanicus</i>	BOP
<i>Bjerkandera adusta</i>	BOP
<i>Boletus</i> sp.	AF
<i>Botryobasidium pruinautum</i>	BOP
<i>B. vagum</i>	BOP
<i>Bovista</i> sp.	Be
<i>Callopus</i> (= <i>Mycena subviscosa</i>) <i>subviscosus</i>	Ao
<i>Calocera</i> sp. staghorn	Ao, PR
<i>Calostoma rodwayi</i>	RT
<i>Calvatia cyathiformis</i> lilac puffball	Ao, Be
<i>Camarophyllus aurantiopallens</i>	PR, Ao
<i>C. patinicolor</i>	PR
<i>Cantharellus wellingtonensis</i> NZ chanterelle	RT
<i>Ceratiomyxa fruticulosa</i>	AF
<i>Ceriporiopsis lowei</i>	BOP
<i>Chlorocibaria</i> sp.	AF
<i>Clavaria</i> sp.	PR
<i>C. sulcata</i>	Ao
<i>Clavicornia</i> sp.	AF
<i>Clitocybe fragrans</i>	LT
<i>Clitocybe</i> sp.	Ao
<i>Coltricia cinnamomea</i>	RT
<i>Coprinus atramentarius</i> common ink cap	Be
<i>C. disseminatus</i> sociable ink cap	PR, AF
<i>C. lagopus</i> woolly Inky cap	Be
<i>C. plicatilis</i> Japanese umbrella	Ao, Be
<i>Cortinarius</i> sp.	AF
<i>C. sp.</i>	AF
<i>Crepidotis</i> sp.	Ao
<i>Crinipellis procera</i> horsehair	Ao, PR
<i>Crucibulum laeve</i> birdsnest fungus	AF
<i>Cyclomyces tabacinus</i>	Ao, AF
<i>Cyptotrama asprata</i>	PR
<i>Cystoderma</i> sp.	AF
<i>Daldinia childiae</i> charcoal fungus, King Alfred's cake	BOP
<i>Daldinia grandis</i>	Ao
<i>Datronia scutellata</i>	BOP
<i>Dendrothele</i> sp.	BOP
<i>Entoloma decolorans</i>	PR
<i>E. peralbidum</i>	OR

Species	Sites Recorded
<i>E. hochstetteri</i> sky blue mushroom	PR, Ao
<i>E. peralbidum</i>	Ao
<i>E. sp.</i>	Ao, Ao
<i>E. sp. a green entoloma</i>	PR
<i>Favolaschia calocera</i> * orange pore fungus	Ao, PR, LT, RT
<i>F. pezizaeformis</i>	LT
<i>F. pustulosa</i> white pore fungus	Ao, PR
<i>Flammulina velutipes</i> velvet shank, winter or golden needle mushroom	BOP
<i>Fomes hemitephrus</i>	BOP
<i>Fomes hemitephrus</i>	Ao
<i>Galerina patagonica</i>	LT
<i>Ganoderma australe</i> perennial bracket fungus, artist's conk	Ao, PR
<i>Ganoderma</i> cf. <i>applanatum</i>	LT
<i>Gloeophyllum sepiarium</i>	AF
<i>Gomphus</i> sp.	LT
<i>Grandinia</i> sp.	BOP
<i>Gloeocystidiellum sacratum</i>	BOP
<i>Gymnopilus junonius</i>	Ka, Be
<i>G. sapineus</i>	AF
<i>Hericium coralloides</i> pekepeke kiore, fungus icicles	PR, Ao
<i>Humidicutis pura</i>	PR
<i>H. rosella</i>	PR
<i>Hydnum</i> sp.	PR
<i>Hygrocybe cerinolutea</i> yellow wax gill	PR
<i>H. firma</i> a red wax gill	Ao, PR, OR
<i>H. miniceps</i>	OR
<i>H. procera</i> orange wax gill	LT
<i>H. rubrocarnosa</i> a red wax gill	Ao, PR
<i>Hygrophoropsis aurantiaca</i>	BOP
<i>Hymenochaete cinnamomea</i>	BOP
<i>H. contiformis</i>	BOP
<i>H. cruenta</i>	BOP
<i>H. dissimilis</i>	BOP
<i>H. floridea</i>	BOP
<i>H. rhabarbarina</i>	BOP
<i>H. valiata</i>	BOP
<i>Hyphodontia arguta</i>	BOP
<i>H. crustosa</i>	BOP
<i>Junghuhnia rhinocephalus</i>	BOP
<i>Hypholoma ?acutum</i>	Ao
<i>H. fasciculare</i> sulphur tuft	AF
<i>Ileodictyon cibarium</i> white basket or lattice fungus	Be, AF, MI
<i>Inocybe</i> sp.	LT, AF
<i>Laccaria laccata</i>	AF
<i>Lepiota</i> sp. a turpuous lepiota	PR
<i>Lepiota</i> sp. a small white lepiota	AF
<i>Lycoperdon perlatum</i> puffball, devil's snuffbox	Ao, Be
<i>L. pyriforme</i> puffball	PR
<i>L. sp.</i>	LT
<i>Melampsora larici-populina</i>	BOP
<i>Melanoleuca arcuata</i>	Be
<i>Melanoleuca</i> sp.	MI

Species	Sites Recorded
<i>Mollisia</i> sp.	AF
<i>Morganella compacta</i>	Ao, LT
<i>Mycena austrororida</i>	OR
<i>M. interrupta</i>	PR, OR
<i>M. mariae</i>	LT, Ao
<i>M. aff. pura</i>	BOP
<i>M. sp. a grey mycena on wood</i>	PR
<i>M. sp. on ground</i>	Be
<i>M. sp. on dung</i>	Be
<i>M. sp. among pine needles</i>	AF
<i>M. ura</i> a red mycena	Ao
<i>Odontia stratosa</i>	BOP
<i>Oudemansiella australis</i>	Ao
<i>Panaeolina foeniseeii</i> haymaker's mushroom	Be
<i>Panaeolus papilionaceus</i>	LT
<i>Panus purpuratus</i>	BOP
<i>Paurocotylis pila</i>	BOP
<i>Peniophora coprosmae</i>	BOP
<i>P. lycii</i>	BOP
<i>Perenniporia oviformis</i>	BOP
<i>Phanerochaete monomitica</i>	BOP
<i>Phellinus ferreus</i>	BOP
<i>P. kamahi</i>	BOP
<i>P. punctatus</i>	BOP
<i>Pleurotis</i> sp.	AF
<i>Pluteus</i> sp.	AF
<i>Podoscypha petalodes</i> subsp. floriformis wine glass fungus	OR
<i>Polyporus melanopus</i>	AF
<i>Psilocybe coprophila</i> dung-loving psilocybe	LT
<i>Psilocybe subaeruinosa</i> little blues, magic mushroom	Be
<i>Pycnoporus coccineus</i> orange bracket	BOP
<i>Pycnoporus cinnabarinus</i>	AF
<i>Ramariopsis kunzei</i>	Ao
<i>Ramariopsis ovispera</i>	LT
<i>R</i> sp.	PR
<i>Rectipilus fasciculatus</i>	BOP
<i>Rhizopogon</i> sp.	MI
<i>Rigidoporus aureofulvus</i>	PR
<i>Scleroderma</i> sp.	Be
<i>Stereopsis hiscens</i>	Ao
<i>Stereum aotearoa</i>	BOP
<i>Stereum ostrea</i> (= <i>S. fasciatum</i>)	Ao, PR
<i>S. rugosum</i>	PR

Species	Sites Recorded
<i>Stropharia aurantiaca</i>	Be
<i>Trametes scabrosa</i>	AF
<i>T. versicolor</i> rainbow bracket	Ao, PR
<i>Tremella fuciformis</i> white jelly fungus, silver ear	LT
<i>Tricholomopsis rutilans</i> plums & custard	Ao
<i>Tulostoma simulans</i>	MI
<i>Tylopilus formosus</i> dark velvet bolete	RT
<i>Vararia protrusa</i>	BOP
<i>Volvariella speciosa</i> *	Be
<i>Weraroa virescens</i> pale blue pouch fungus	LT, OR
<i>Xeromphalina tenuipes</i>	PR

Hyphomycetes (Moulds)

<i>Beauveria bassiana</i>	Ao, PR
<i>Chalarodes bisetis</i>	BOP
<i>Coronospora novaezealandiae</i>	BOP
<i>Isaria sinclairii</i> vegetable cicada fungus	Ao
<i>Rhynchosporium orthosporum</i>	BOP
<i>Stachybotrys freycinetiae</i>	BOP
<i>Tompetchia webberi</i>	BOP
<i>Ulocladium</i> sp.	Ka
<i>Verticillium</i> sp.	BOP

Oomycetes (Downy mildews)

<i>Albugo candida</i>	BOP
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Myxomycete (Slime moulds)

<i>Fuligo septica</i>	AF
<i>Hemitrichia calyculata</i>	PR
<i>Hemitrichia clavata</i>	LT
<i>Physarum pusillum</i>	Ao
<i>Physarum</i> sp.	PR
<i>Reticularia lycoperdon</i>	AF
<i>Tubifera ferruginosa</i>	OR