# Fungal Network of New Zealand

New Zealand Mycological Society

# Report: Fungal Foray Havelock 2024

This report was compiled by Adrienne Stanton, Mahajabeen Padamsee, Peter Buchanan, Petra Gloyn and Michael Bartlett.

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Disclaimer	This Report has been provided in good faith and on the basis that reasonable endeavours have been made to be accurate and not misleading and to exercise reasonable care, skill and judgment in providing such information and opinions.
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	Collection of specimens by FUNNZ members made during the foray is conducted in areas where FUNNZ has appropriate permissions and permits from DOC, Councils, private landowners and mana whenua.
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## Introduction

The Fungal Network of New Zealand (FUNNZ) is an independent non-profit incorporated mycological society open to anybody; more information can be found at https://www.funnz.org.nz/. The objectives of the society are to share knowledge about and publicise the fungi of Aotearoa New Zealand, educate about fungi at primary to tertiary levels, stimulate and attract funding for mycological research, provide a cohesive group of amateur to professional people that share an interest in fungi, and to assist in cataloguing New Zealand's fungi and promote their conservation.

To advance these objectives the society organises an annual national fungal foray, where a different part of New Zealand is visited each year and surveyed for about a week. Sites proposed for surveys are selected to encompass a range of environments and vegetation types to maximise the likelihood of finding a wide range of fungi. Fungi are essential for ecosystem functioning, but very few of the estimated number of fungal species worldwide have been described. Investigating and cataloguing fungal diversity can help us to identify which fungi are present in New Zealand and understand their roles in different ecosystems.

The 1<sup>st</sup> NZ Fungal Foray was held in 1986, and FUNNZ maintains an archive of photos and documents collected since this first event (<u>https://www.funnz.org.nz/forays</u>). The 35 NZ Fungal Forays prior to 2024 have contributed greatly to the known diversity of fungi in New Zealand.

To identify fungi, foray participants need to collect specimens and use a variety of methods to aid identification, including microscopy, DNA sequencing and culturing. To protect collected specimens into the future and place them where they can be of most value to scientific research, foray participants will deposit collections in one of the following:

- The New Zealand Fungarium and International Collection of Microorganisms from Plants (Manaaki Whenua Landcare Research, Auckland)
- The Otago Regional Herbarium (University of Otago, Dunedin)
- The National Forestry Herbarium (Scion, Rotorua)

These collections are the foundation of research on fungal diversity in New Zealand. Occasionally, collections may be lent temporarily to other institutions, some overseas, to add to our knowledge about these specimens and find out how they are special.

FUNNZ endeavours to have minimal impact on the environment and fungal populations in each area. When fungal fruiting bodies are collected, only a reproductive portion of the fungus is removed from the environment while the feeding and growing stage of the fungus remains underground or in the host substrate.

## The 36<sup>th</sup> NZ Fungal Foray

This report presents the findings of the 36<sup>th</sup> NZ Fungal Foray held 13-18 May 2024 in Havelock, Marlborough. The 64 participants met at the Havelock Town Hall on the morning of Monday 13<sup>th</sup> May where they were welcomed with a whakatau to the area by Ruihana Lewis Smith (Ngāti Kuia) and a karakia to open the event. Ruihana gave an overview of the history, connection and importance of the area to Ngāti Kuia.

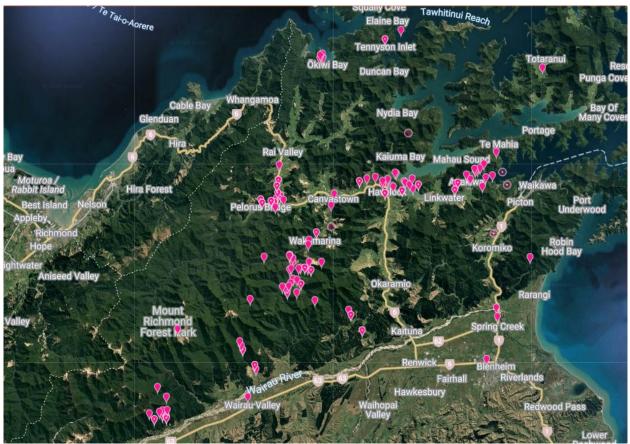
After receiving information about the areas available for surveying and collecting fungi, health and safety requirements and some housekeeping, participants were free to either begin surveying or attend a workshop for beginners held by David Whyte.

This year FUNNZ organised permits and permission to survey in the region around Havelock from 12 areas on Public Conservation Land in addition to some areas of privately owned land and all parks and reserves managed by the Marlborough District Council.

Overall, 330 specimens were collected and deposited into scientific collections: 209 specimens were added to the NZ Fungarium (PDD) and 39 cultures to the NZ culture collection (ICMP) and are fully searchable online (<u>https://scd.landcareresearch.co.nz/</u>), 13 specimens were added to Scion's Forestry Herbarium (NZFRIM), and 69 to the Otago Regional Herbarium (OTA). A full list of all specimens collected is provided in Appendix 1.

Alongside collection of specimens, participants were encouraged to record observations using iNaturalist NZ. A total of 1229 observations were recorded in the Havelock area (Figure 1), and these are fully searchable online (<u>https://inaturalist.nz/projects/nz-fungal-foray</u>). We note an increase in the uptake of iNaturalist by Foray participants during recent events, with 729 observations recorded in the previous year (Rotorua), 203 observations in 2022 (online), 219 in 2021 (Stewart Island), and 108 being the highest number of observations made during a foray prior to this (Apiti, 2015).

A separate report on Marlborough District Council reserves, with species list and fungi of special interest, was compiled by David Whyte. It is available for viewing or downloading here: <u>https://www.funnz.org.nz/sites/default/files/Fungi-Foray-Havelock-2024-MDC.pdf</u>. The report includes links to the iNaturalist observation for each species listed.



**Figure 1:** Map showing observations of fungi uploaded to iNaturalist as part of the NZ Fungal Foray project between 12-18<sup>th</sup> May 2024 in the Havelock area, showing 1229 observations made by 50 users.

#### Interesting fungi

Two specimens collected from Pelorus Bridge represented a small, wood-inhabiting cup fungus that has never been seen before. DNA sequences from these specimens showed that this species is ancestral to the large family *Helotiaceae*, a family common all around the world. The ancestral position of this local fungus allows a much better understanding of the limits of *Helotiaceae* globally. Truly one of the special fungi of Aotearoa, even though it has, as yet, no formal name (Figure 2).

Being able to place New Zealand species into a global phylogeny can be very useful. It allows us to predict likely lifestyles for local fungi known from very few specimens, the lack of specimens making it impossible to predict lifestyle based on field observations. A global context can also help in recognising origins of our fungi - perhaps geologically recent introductions from across the Tasman Sea, perhaps recent introductions by humans, perhaps truly unique ancient endemic organisms known from nowhere else in the world.



**Figure 2:** Fresh specimen of unnamed cup fungus in the *Helotiaceae* family; PDD 124469. Scale = 1 mm. © Landcare Research (CC BY-NC 4.0). https://scd.landcareresearch.co.nz/Specimen/PDD%20124469

A collection of *Jimgerdemannia* sp. 'Murchison (PDD 106677)' was made by Anna Chinn (Figure 3). This fungus seems to be common, but Anna is only the second person to collect it in NZ. The fungus was found in a waterfall associated with liverworts, which aligns with NZ environmental sequence data showing it to be a species symbiotic with liverworts - *Treubia lacunosa* & *Haplomitrium gibbsiae* (Bidartondo, et al. (2011). The dawn of symbiosis between plants and fungi. *Biology Letters*, 7(4), 574–577. https://doi.org/10.1098/rsbl.2010.1203).





**Figure 3:** *Jimgerdemannia* sp. 'Murchison (PDD 106677)' collected by ©Anna Chinn some rights reserved (CC BY-NC) <u>https://inaturalist.nz/observations/215650497</u>

The bracket fungus *Trametes hirsuta* was collected by Petra Gloyn from the Mt Richmond area on the Wakamarina track. This is the first specimen from New Zealand that has been confirmed with DNA sequencing as *T. hirsuta*, confirming the presence of this species in New Zealand. A related fungus collected as *T. velutina*, due to its small size and light colouration, turned out from sequencing to be *T. versicolor*, indicating that this species has a vast morphological range and throws in doubt some existing records for *T. velutina* (https://inaturalist.nz/observations/21625121).



**Figure 4:** *Trametes hirsuta* collected by ©Petra Gloyn, some rights reserved (CC BY-NC) <u>https://inaturalist.nz/observations/215864837</u>

Another interesting fungus collected by Petra Gloyn and also photographed by Ian Dickie was a white resupinate species with large pores on the underside of a log. It sequenced out at *Tyromyces* sp., closely related to *T. chioneus* (Figure 5). This genus has all but disappeared from the New Zealand database with revisions of *Tyromyces* and related genera (e.g. *Postia*, *Oligoporus*) in recent years.



Figure 5: Tyromyces sp. Collected by Petra Gloyn and Ian Dickie. Photo ©lan Dickie some rights reserved (CC-BY) <u>https://inaturalist.nz/observations/215647724</u>

# 22<sup>nd</sup> Mycology Colloquium

The 22<sup>nd</sup> Mycology Colloquium was held on Wednesday 15<sup>th</sup> May 2024 at the Havelock Pavilion. There were 14 presentations, and the session was chaired by FUNNZ President David Orlovich. The programme with abstracts is provided in Appendix 2.



Figure 6: Attendees at the Mycology Colloquium and Fungal Foray outside the Havelock Pavilion.

### School visit and outreach

Working with teacher Emma Parnwell at Havelock School, FUNNZ hosted a very engaged class of senior primary school students at our Town Hall base on Tuesday 14<sup>th</sup> May 2024. Several forayers spoke with the students, showing specimens collected and answering their many questions. Peter Buchanan was invited to address their student-led school assembly the next day. His presentation, including some of the larger specimens collected, was preceded by a student introduction to the foray based on their Town Hall visit.

### **Appendix 1: Foray List**

The table is sorted alphabetically by Location. Accession codes for collections: Manaaki Whenua Landcare Research - The New Zealand Fungarium (PDD) and International Collection of Microorganisms from Plants (ICMP); University of Otago - The Otago Regional Herbarium (OTA); Scion - The National Forestry Herbarium (NZFRIM). All names provided are provisional identifications and subject to change on the basis of additional evidence or taxonomic revision. The FUNNZ foray lists should not be taken as evidence for the presence of a taxon in New Zealand, please refer to <a href="https://biotanz.landcareresearch.co.nz/">https://biotanz.landcareresearch.co.nz/</a> for the most up to date information.

Accession								Collection
Number	FUNNZ ID	Fungus Name	Determiner	Substrate	Host	Location	Collector	Date
		Strophariaceae Singer & A.H.	C.			Anakiwa, Queen	C.	
PDD 124455	2024/277	Sm.	Domnauer			Charlotte Track	Domnauer	17/05/2024
		Strophariaceae Singer & A.H.	C.			Anakiwa, Queen	C.	
PDD 124446	2024/412	Sm.	Domnauer			Charlotte Track	Domnauer	17/05/2024
			C.			Anakiwa, Queen	C.	
PDD 124397	2024/23	Xerocomus Quél.	Domnauer			Charlotte Track	Domnauer	13/05/2024
			L. Allison-			Anakiwa, Queen	L. Allison-	
PDD 122785	2024/1856	Xylaria Hill ex Schrank	Cooper	log	Nothofagaceae	Charlotte Track	Cooper	13/05/2024
		Clavaria roseoviolacea R.H.	L. Allison-			Anakiwa, Queen	L. Allison-	
PDD 124423	2024/292	Petersen	Cooper	clay	Nothofagaceae	Charlotte Track	Cooper	13/05/2024
			C.			Anakiwa, Queen		
PDD 124396	2024/11	Xerocomus nothofagi McNabb	Domnauer			Charlotte Track	A. Bradshaw	13/05/2024
		Strophariaceae Singer & A.H.	C.			Anakiwa, Queen	C.	
PDD 122780	2024/1820	Sm.	Domnauer			Charlotte Track	Domnauer	17/05/2024
			P.R.			Anakiwa, Queen	P.R.	
PDD 124467	2024/407	Sepedonium Link 1809	Johnston	soil		Charlotte Track	Johnston	13/05/2024
		Chalciporus aurantiacus	C.			Anakiwa, Queen		
PDD 124398	2024/29	(McNabb) Pegler & T.W.K. Young	Domnauer			Charlotte Track	B. Dentinger	13/05/2024
			C.			Anakiwa, Queen	C.	
PDD 124399	2024/35	Phylloporus Quél. 1888	Domnauer			Charlotte Track	Domnauer	13/05/2024
			P.R.			Anakiwa, Queen	P.R.	
PDD 124465	2024/389	Pyrenopeziza Fuckel	Johnston	fallen leaf	Pseudopanax	Charlotte Track	Johnston	13/05/2024
			C.			Anakiwa, Queen	C.	
PDD 124400	2024/39	Phylloporus Quél. 1888	Domnauer			Charlotte Track	Domnauer	13/05/2024
		Austroboletus novae-zelandiae				Anakiwa, Queen		
PDD 124401	2024/51	(McNabb) Wolfe	A. Bradshaw			Charlotte Track	A. Bradshaw	13/05/2024

		Entoloma subgen. Nolanea (Fr.)				Anakiwa, Queen	C.	
PDD 123624	2024/937	Noordel.	J.A. Cooper			Charlotte Track	Domnauer	13/05/2024
			•			Anakiwa, Queen		
PDD 124395	2024/5	Xerocomus Quél.	J.A. Cooper			Charlotte Track	B. Dentinger	13/05/2024
				fallen		Anakiwa, Queen		
PDD 123684	2024/1660	Trichoderma Pers.	A. Chinn	branch	Nothofagaceae	Charlotte Track	A. Chinn	13/05/2024
						Anakiwa, Queen		
PDD 123669	2024/1257	Beauveria Vuill.	G. Cox	cicada	Cicadidae	Charlotte Track	G. Cox	13/05/2024
		Hypoderma obtectum P.R.	P.R.	fallen	Fuscospora	Anakiwa, Queen	P.R.	
PDD 124458	2024/371	Johnst. 1990	Johnston	leaves	truncata	Charlotte Track	Johnston	13/05/2024
		Austroboletus novae-zelandiae				Anakiwa, Queen		
PDD 123625	2024/949	(McNabb) Wolfe	B. Dentinger	soil	Nothofagus	Charlotte Track	B. Dentinger	13/05/2024
		Hypomyces (Fr.) Tul. & C. Tul.			Xerocomus	Anakiwa, Queen		
PDD 124404	2024/65	1860	B. Dentinger	mushroom	Quél.	Charlotte Track	B. Dentinger	13/05/2024
						Anakiwa, Queen		
PDD 124405	2024/69	Phylloporus Quél. 1888	B. Dentinger	soil	Nothofagus	Charlotte Track	B. Dentinger	13/05/2024
		Moellerodiscus microcoprosmae	P.R.		Coprosma	Anakiwa, Queen	P.R.	
PDD 124464	2024/383	P.R. Johnst. 2002	Johnston	fallen leaf	robusta Raoul	Charlotte Track	Johnston	13/05/2024
		Amoenoboletus mcrobbii						
		(McNabb) G. Wu, E. Horak & Zhu				Anakiwa, Queen		
PDD 123621	2024/886	L. Yang	B. Dentinger	soil	Nothofagus	Charlotte Track	B. Dentinger	13/05/2024
					Coprosma			
	0004/005	Moellerodiscus coprosmae P.R.	P.R.	falls a last	grandifolia	Anakiwa, Queen	P.R.	40/05/0004
PDD 124466	2024/395	Johnst. 2009	Johnston	fallen leaf	Hook.f.	Charlotte Track	Johnston	13/05/2024
	0004/000	Consider inter Link 4000		<sup>1</sup>		Anakiwa, Queen	P.R.	40/05/0004
PDD 124461	2024/338	Sepedonium Link 1809	J.A. Cooper	soil		Charlotte Track	Johnston	13/05/2024
	2024/50	Clay willing I. Cabrät		aail		Anakiwa, Queen	D. Dentinger	12/05/2024
PDD 124402	2024/59	Clavulina J. Schröt.	J.A. Cooper P.R.	soil		Charlotte Track	B. Dentinger	13/05/2024
PDD 124470	2024/1699	Helotiaceae Rehm 1892 [1896]	Johnston	follon twigo		Anakiwa, Queen Charlotte Track	A. Chinn	13/05/2024
PDD 124470	2024/1699		Johnston	fallen twigs	Fuegeenere		A. Chinn	13/03/2024
PDD 123686	2024/1666	Podoserpula pusio (Berk.) D.A. Reid	J.A. Cooper	soil	Fuscospora solandri	Anakiwa, Queen Charlotte Track	A. Chinn	13/05/2024
PDD 123000	2024/1000	Keiu	J.A. Cooper	5011	SUIAITUIT	Anakiwa, Queen	A. Chinn	13/03/2024
OTA 75881	2024/1678	Cortinarius sp.		Soil	Tea tree	Charlotte Track	A. Chinn	13/05/2024
01873001	2024/10/0		C.	3011		Anakiwa, Queen	C.	13/03/2024
OTA 75882	2024/0033	Cortinarius sp.	Domnauer			Charlotte Track	Domnauer	13/05/2024
	2027/0000		Dominauer		- Nothofagus	Anakiwa, Queen	Dominauer	13/03/2024
OTA 75883	2024/1881	Cortinarius sp.	D. Orlovich	Soil	solandri	Charlotte Track	P. Gloyn	13/05/2024
UTA 19003	2024/1001	oorananus sp.		301	Sulanun		F. Giuyn	13/03/2024

					Mixed	Anakiwa, Queen		
OTA 75953	2024/1948	Cortinarius sp.		Soil	Nothofagus	Charlotte Track	T. Davies	17/05/2024
		Beauveria pseudobassiana S.A.				Anakiwa, Queen	М.	
ICMP 25474	2024/1257	Rehner & Humber	D. Lee		Cicadidae	Charlotte Track	Padamsee	13/05/2024
					Kunzea			
					ericoides			
					(A.Rich.) Joy			
PDD 122789	2024/1970	Entoloma aromaticum E. Horak	K. Jacobsen	soil	Thomps.	Havelock, Cullen Point	K. Jacobsen	17/05/2024
		Hygrophoropsis coacta McNabb						/ /
PDD 122729	2024/1991	1969	J.A. Cooper	soil	Nothofagaceae	Havelock, Cullen Point	K. Jacobsen	17/05/2024
					Kunzea			
					ericoides			
PDD 122728	2024/1992	Clavulina J. Schröt.	K. Jacobsen	soil	(A.Rich.) Joy Thomps.	Havelock, Cullen Point	K. Jacobsen	17/05/2024
FDD 122720	2024/1992	Clavullila J. Schlot.	K. Jacobsen	Under	momps.	Havelock, Cullen Follit Havelock, Kaiuma Bay	R. Jacobsen	17/03/2024
ICMP 25523	(b)	Absidia Tiegh.	D. Lee	native trees		Rd, Te Hoiere	A. Chinn	16/05/2024
101011 20020	(6)		D. 200	Insect in		Havelock, Mahakipawa		10/00/2024
ICMP 25457	2024/1202	Cordyceps sinclairii Berk. 1855	D. Lee	soil		Arm	P. Kinney	16/05/2024
		Jimgerdemannia Trappe, Desirò,			n spray beside	Havelock, Mt Takorika		
PDD 124480	2024/708	M.E. Sm., Bonito & Bidartondo	J.A. Cooper	waterfall	1 2	Track	A. Chinn	14/05/2024
		Beauveria bassiana (BalsCriv.)				Havelock, Mt Takorika		
PDD 124409	2024/125	Vuill.	G. Harrison	cicada	Cicadidae	Track	G. Harrison	14/05/2024
					Leptospermum			
					scoparium			
					J.R.Forst. &	Havelock, Mt Takorika		
PDD 124410	2024/143	Cordyceps sinclairii Berk. 1855	G. Harrison		G.Forst.	Track	G. Harrison	14/05/2024
		Suillus pungens Thiers & A.H.				Havelock, Mt Takorika		
PDD 124426	2024/316	Sm.	H.S. Chan	soil		Track	H.S. Chan	14/05/2024
	0004/700	Cordyceps tenuipes (Peck)		moth	Landalantana	Havelock, Mt Takorika		44/05/0004
PDD 124484	2024/730	Kepler, B. Shrestha & Spatafora	J.A. Cooper	coccoon	Lepidoptera	Track	A. Chinn	14/05/2024
PDD 123683	2024/1656	Akanthomyces Lebert	A. Chinn	Moth	Lonidontoro	Havelock, Mt Takorika Track	A. Chinn	14/05/2024
PDD 123003	2024/1030	Akanthomyces Leben	A. Chinh	MOUT	Lepidoptera	Havelock, Mt Takorika	A. Chinh	14/03/2024
PDD 124439	2024/381	Stropharia (Fr.) Quél.	J.A. Cooper	soil and		Track	D. Whyte	17/05/2024
1 DD 124433	2024/301		P.K.	3011 2110		Havelock, Mt Takorika	P.K.	17/03/2024
PDD 123614	2024/854	Tremella fuciformis Berk.	Buchanan	fallen wood		Track	Buchanan	14/05/2024
1 00 120014	202 1/00 4		Duonanan			Havelock, Mt Takorika	Zaonanan	
PDD 124450	2024/432	Coltricia Gray	J.A. Cooper	soil		Track	M. Bartlett	17/05/2024

						Havelock, Mt Takorika	P.K.	
PDD 123616	2024/860	Oudemansiella Speg. 1881	J.A. Cooper	on ground		Track	Buchanan	14/05/2024
			•		•	Havelock, Mt Takorika		
NZFRIM6098	2024/0466	Galerina patagonica Singer 1954	M.J. Bartlett	Wood, decay	ing stick	Track	M.J. Bartlett	17/05/2024
		Cerrena zonata (Berk.) H.S. Yuan		Wood fallen		Havelock, Mt Takorika		
NZFRIM6099	2024/0474	2013	M.J. Bartlett	tree		Track	M.J. Bartlett	17/05/2024
				Decaying		Havelock, Mt Takorika		
NZFRIM6106	2024/0426	Tremella sp. "fuciformis"	M.J. Bartlett	wood		Track	M.J. Bartlett	17/05/2024
				Tree fern				
				branch,	Dicksonia	Havelock, Mt Takorika		
NZFRIM6109	2024/0429	Crepidotus sp.	M.J. Bartlett	detached	squarrosa	Track	M.J. Bartlett	17/05/2024
		Cordyceps tenuipes (Peck)						
		Kepler, B. Shrestha & Spatafora		_		Havelock, Mt Takorika		
ICMP 25461	2024/730	2017	D. Lee	Coccoon	Lepidoptera	Track	A. Chinn	14/05/2024
						Havelock, Mt Takorika		
ICMP 25466	2024/143	Cordyceps sinclairii Berk. 1855	G. Harrison		Leptospermum	Track	B.S. Weir	14/05/2024
		Sepedonium chalcipori Helfer				Havelock, Mt Takorika		
ICMP 25514	2024/1010	1991	D. Lee	Inside deadw	ood stump	Track	B.S. Weir	17/05/2024
						Iwituaroa Scenic		
PDD 124524	2024/1797	Beauveria Vuill.	D. Lee	Insect		Reserve	B.S. Weir	13/05/2024
						Iwituaroa Scenic		
PDD 124519	2024/1785	Russula Pers.	B.S. Weir	Soil		Reserve	B.S. Weir	13/05/2024
						Iwituaroa Scenic		
PDD 124378	2024/1708	Beauveria Vuill.	D. Lee	Soil		Reserve	B.S. Weir	13/05/2024
		<b>2</b> <i>i</i>				Iwituaroa Scenic		
PDD 123649	2024/1128	Beauveria Vuill.	A.J. Stanton	Insect	Cicadidae	Reserve	A.J. Stanton	13/05/2024
	0004/4704	Dibaeis absoluta (Tuck.) Kalb &	<b>DO 11</b>			Iwituaroa Scenic		40/05/0004
PDD 124522	2024/1791	Gierl	B.S. Weir	Soil/ Rock		Reserve	B.S. Weir	13/05/2024
	0004/004		DIA	lasset	Oʻra di da s	Iwituaroa Scenic	B.S. Weir,	40/05/0004
PDD 123629	2024/981	Beauveria Vuill.	D. Lee	Insect	Cicadidae	Reserve	D. Park	13/05/2024
	0004/004	Verruciconidia unguis L.W. Hou,	DIA	lasset		Iwituaroa Scenic	B.S. Weir,	40/05/0004
ICMP 25455	2024/981	L. Cai & Crous	D. Lee	Insect		Reserve	D. Park	13/05/2024
	0004/4400	Deconica vorax (E. Horak) J.A.	Dies		Ciacalidae	Iwituaroa Scenic	A. J.	40/05/0004
ICMP 25464	2024/1128	Cooper	D. Lee		Cicadidae	Reserve	Stanton	13/05/2024
	2024/4420	Classostastastas 1920	Dies	Stiple Due		Iwituaroa Scenic	M. Dedemage	12/05/2024
ICMP 25468	2024/1139	Clonostachys Corda 1839	D. Lee	Stink Bug		Reserve Iwituaroa Scenic	Padamsee	13/05/2024
ICMP 25473	2024/1709	Cardyaana Er 1919	Dies	Soil			B.S. Weir	12/05/2024
101VIP 254/3	2024/1708	Cordyceps Fr. 1818	D. Lee	3011		Reserve	D.S. Well	13/05/2024

						Iwituaroa Scenic		
ICMP 25479	2024/1797	Cordyceps sinclairii Berk. 1855	D. Lee	Insect		Reserve	B.S. Weir	13/05/2024
		· ·				Iwituaroa Scenic		
			М.	on soil under	tree fern, red	Reserve, Queen	М.	
PDD 123662	2024/1193	Cortinarius (Pers.) Gray 1821	Padamsee	beech, other	beech	Charlotte Walkway	Padamsee	13/05/2024
				well		Iwituaroa Scenic		
		Psathyrella bipellis (Quél.) A.H.	М.	decayed		Reserve, Queen	М.	
PDD 123663	2024/1199	Sm.	Padamsee	wood		Charlotte Walkway	Padamsee	13/05/2024
						Iwituaroa Scenic		
			М.	well rotted		Reserve, Queen	M.	
PDD 123666	2024/1205	Hypholoma (Fr.) P. Kumm.	Padamsee	wood		Charlotte Walkway	Padamsee	13/05/2024
						Iwituaroa Scenic		
			М.			Reserve, Queen	M.	
PDD 123652	2024/1139	Beauveria Vuill.	Padamsee	stink bug	Pentatomidae	Charlotte Walkway	Padamsee	13/05/2024
						Iwituaroa Scenic		
			M.	well rotted		Reserve, Queen	М.	
PDD 123654	2024/1145	Entoloma (Fr.) P. Kumm. 1871	Padamsee	wood		Charlotte Walkway	Padamsee	13/05/2024
						Iwituaroa Scenic		
		-	M			Reserve, Queen	М.	
PDD 123659	2024/1163	Stereum Pers.	Padamsee	fallen twig		Charlotte Walkway	Padamsee	13/05/2024
						Iwituaroa Scenic		
	0004/00	Pholiota subflammans (Speg.)				Reserve, Queen		
PDD 124403	2024/63	Sacc.	J.A. Cooper	wood		Charlotte Walkway	A. Bradshaw	13/05/2024
	0004/000		L. Allison-			Linkwater, Smith's Farm	L. Allison-	40/05/0004
PDD 124425	2024/298	Entoloma chloroxanthum G. Stev.	Cooper	Soil, mixed b	road leaf	Hoiday Park trail	Cooper	13/05/2024
	0004/700	Maria		old dead		Linkwater, Smith's Farm		47/05/0004
PDD 123601	2024/738	Mycena clarkeana Grgur.	J.A. Cooper	wood	Eucalyptus	Hoiday Park trail	A. Chinn	17/05/2024
				flying branch of				
				dead		Linkwater, Smith's Farm		
PDD 123688	2024/1690	Heimiemusee Singer		barberry	Berberidaceae	Hoiday Park trail	A. Chinn	13/05/2024
PDD 123000	2024/1090	Heimiomyces Singer	J.A. Cooper	Darberry	Derbenuaceae		A. Chinn	13/03/2024
PDD 123665	2024/1202	Cordyceps Fr. 1818	B.S. Weir	insect in soil		Mahakipawa Hill Scenic Reserve	P. Kinney	16/05/2024
C00621 00 123003	2024/1202	Leucoagaricus (Peck) Singer				Mahakipawa Hill Scenic		10/05/2024
PDD 124444	2024/399	1948	D. Whyte	soil/duff		Reserve	D. Whyte	17/05/2024
1 00 124444	2024/339			301/0011		Mahakipawa Hill Scenic		17/03/2024
PDD 123674	2024/1558	Cortinarius (Pers.) Gray 1821	D. Whyte	soil	Eucalyptus	Reserve	D. Whyte	17/05/2024
1 00 120014	2027/1000		D. Whyte		Leptospermum		D. Whyte	17,00/2024
PDD 123653	2024/1141	Laccaria Berk. & Broome 1883	K. Jacobsen	soil	scoparium	Moenui Reserve	K. Jacobsen	14/05/2024
1 00 120000			11.000000001	501	soopanam		11.000000011	17/00/2024

					J.R.Forst. &			
					G.Forst.			
		Polyporus nigrocristatus E. Horak						
PDD 123655	2024/1147	& Ryvarden	P. Gloyn	wood	Nothofagaceae	Moenui Track	K. Jacobsen	14/05/2024
		Rimaconus coronatus Huhndorf &	P.R.			Momorangi Bay Scenic	P.R.	
PDD 124459	2024/401	A.N. Mill.	Johnston	rotten wood		Reserve	Johnston	13/05/2024
		Leucoagaricus serenus (Fr.) Bon				Momorangi Bay Scenic		
PDD 124523	2024/1796	& Boiffard	J.A. Cooper	Soil		Reserve	B.S. Weir	13/05/2024
			М.		<b>.</b> .	Momorangi Bay Scenic	M.	
PDD 123656	2024/1151	Hydnangium Wallr. 1839	Padamsee	on soil under	Cyathea	Reserve	Padamsee	13/05/2024
						Momorangi Bay Scenic		
PDD 123651	2024/1134	Cordyceps Fr. 1818	B.S. Weir	Insect		Reserve	A.J. Stanton	13/05/2024
		Lacrymaria asperospora				Momorangi Bay Scenic		
PDD 123668	2024/1228	(Cleland) Watling 1979	D. Hera	Soil		Reserve	D. Hera	13/05/2024
			V.	soil under		Momorangi Bay Scenic		
PDD 123632	2024/1020	Russula Pers.	Kholostiakov	trunk	Kunzea	Reserve		13/05/2024
						Momorangi Bay Scenic		
PDD 123664	2024/1113	Beauveria Vuill.	D. Lee	Insect		Reserve	A.J. Stanton	13/05/2024
						Momorangi Bay Scenic		
PDD 122774	2024/1773	Corticiaceae Herter 1910	D. Lee	Bark		Reserve	B.S. Weir	13/05/2024
					Dicksonia			
			P.R.		squarrosa	Momorangi Bay Scenic	P.R.	
PDD 124457	2024/359	Helotiales Nannf. 1932	Johnston	dead frond	(G.Forst.) Sw.	Reserve	Johnston	13/05/2024
					Dicksonia			
		Lachnopsis sp. "shaggy white"	P.R.	dead	squarrosa	Momorangi Bay Scenic	P.R.	
PDD 124462	2024/365	P.R. Johnst.	Johnston	pinnae	(G.Forst.) Sw.	Reserve	Johnston	13/05/2024
		Pholiota subflammans (Speg.)	M.	on decaying		Momorangi Bay Scenic	М.	
PDD 123657	2024/1157	Sacc.	Padamsee	wood		Reserve	Padamsee	13/05/2024
					Melicytus			
					ramiflorus		M.	
		Cyclocybe parasitica (G. Stev.)	P.R.		J.R.Forst. &	Momorangi Bay Scenic	Padamsee,	
PDD 123639	2024/1169	Vizzini	Johnston		G.Forst.	Reserve	D. Lee	13/05/2024
			P.R.		Piper excelsum	Momorangi Bay Scenic	P.R.	
PDD 124463	2024/377	Hysterostomella Speg. 1885	Johnston	living leaves	Forst.f.	Reserve	Johnston	13/05/2024
		Umbelopsis ramanniana (Möller)				Momorangi Bay Scenic	A. J.	
ICMP 25463	2024/1113	W. Gams 2003	D. Lee	Insect		Reserve	Stanton	13/05/2024
		Samsoniella Mongkols., Noisrip.,						
		Thanakitp., Spatafora & Luangsa-				Momorangi Bay Scenic	A. J.	
ICMP 25467	2024/1134	ard	D. Lee	Insect		Reserve	Stanton	13/05/2024

						Momorangi Bay Scenic		
ICMP 25470	2024/1228	Trichoderma spirale contam.	D. Lee	Soil		Reserve	D. Hera	13/05/2024
		Deconica vorax (E. Horak) J.A.			Cyathea	Momorangi Bay Scenic		
ICMP 25476	2024/1264	Cooper	D. Lee		dealbata	Reserve	D. Hera	13/05/2024
						Momorangi Bay Scenic		
ICMP 25481	2024/1773	Fusarium sp.	D. Lee	Bark		Reserve	B.S. Weir	13/05/2024
						Mt Richmond Forest		
PDD 122786	2024/1878	Laccaria violaceonigra G. Stev.	H.S. Chan		Nothofagaceae	Park	H.S. Chan	13/05/2024
		Phaeohelotium undulatum Baral,	P.R.			Mt Richmond Forest		
PDD 124456	2024/100	R. Galan & R. Tena	Johnston	soil	Kunzea	Park	I. La Bianca	14/05/2024
			V.			Mt Richmond Forest	V.	
PDD 124411	2024/144	Clavulina J. Schröt.	Kholostiakov	soil	Fuscospora	Park	Kholostiakov	14/05/2024
	0004/005			1		Mt Richmond Forest		4.4/05/0004
PDD 123617	2024/865	Cortinarius (Pers.) Gray 1821	I. La Bianca	soil		Park	I. La Bianca	14/05/2024
	2024/4652	Carduaana ainalairii Bark 1955	L Cooper	soil	Cicadidae	Mt Richmond, Brook	V. Moffat	17/05/2024
ICMP 25517	2024/1652	Cordyceps sinclairii Berk. 1855	J. Cooper	SOII	Cicadidae	Sanctuary Mt Richmond, Brook	v. Monat	17/05/2024
ICMP 25518	2024/1646	Cordyceps sinclairii Berk. 1855	J. Cooper	soil	Cicadidae	Sanctuary	V. Moffat	17/05/2024
10IVIF 20010	2024/1040	Cordyceps sincialin berk. 1855	J. Cooper	5011	Cicauluae	Mt Richmond, Brook	v. Monat	17/05/2024
ICMP 25519	2024/1652	Cordyceps sinclairii Berk. 1855	J. Cooper	soil	Cicadidae	Sanctuary	V. Moffat	17/05/2024
	202 1/1002		0.000p01	0011	Cicadiado	Mt Richmond, Mount	V. Monat	11/00/2021
PDD 122730	2024/1983	Clavulina J. Schröt.	K. Jacobsen	soil	Pinaceae	Riley Road	K. Jacobsen	15/05/2024
		Tricholomopsis ornaticeps (G.	P. Gloyn,			Mt Richmond, Mount		
PDD 122790	2024/1971	Stev.) E. Horak	J.A. Cooper	soil	Pinaceae	Riley Road	P. Kinney	13/05/2024
			•		Pseudotsuga		Í	
	2024/		M.		menziesii	Mt Richmond, Pine	M.	
PDD 124518	(1)1784	Sistotrema Fr. 1821	Padamsee	cone	(Mirb.) Franco	Valley	Padamsee	17/05/2024
						Mt Richmond, Pine		
PDD 123623	2024/902	Calostoma rodwayi (Lloyd) Lloyd	B. Dentinger	soil	Nothofagus	Valley	B. Dentinger	14/05/2024
		Chalciporus piperatus (Bull.)				Mt Richmond, Pine		
PDD 123609	2024/791	Bataille	J.A. Cooper	soil	Nothofagus	Valley	B. Dentinger	14/05/2024
						Mt Richmond, Pine		
PDD 123673	2024/1553	Macrotyphula R.H. Petersen	A.J. Stanton	fallen leaves,		Valley	A.J. Stanton	17/05/2024
					Dicksonia	M(D) I was I D'		
	2024/444	Lieleticles Nerrat 1022	P.R.		squarrosa	Mt Richmond, Pine	P.R.	47/05/0004
PDD 124445	2024/411	Helotiales Nannf. 1932	Johnston P.R.	dead frond	(G.Forst.) Sw.	Valley Mt Richmond, Pine	Johnston P.R.	17/05/2024
PDD 124448	2024/417	Crocicreas multicuspidatum		dead frond	Cyathea smithii Hook.f.	,	P.R. Johnston	17/05/2024
124448	2024/417	(Rodway) S.E. Carp.	Johnston		HUUK.I.	Valley	JUNINSION	17/05/2024

					Dicksonia			
		Hamatocanthoscyphaceae	P.R.		squarrosa	Mt Richmond, Pine	P.R.	
PDD 124452	2024/476	Ekanayaka & K.D. Hyde	Johnston	dead frond	(G.Forst.) Sw.	Valley	Johnston	17/05/2024
		Crocicreas multicuspidatum	P.R.		Cyathea smithii	Mt Richmond, Pine	P.R.	
PDD 124388	2024/1764	(Rodway) S.E. Carp.	Johnston	dead frond	Hook.f.	Valley	Johnston	17/05/2024
		Cortinarius porphyroideus	M.			Mt Richmond, Pine	M.	
PDD 122775	2024/1778	Peintner & M.M. Moser	Padamsee		Nothofagaceae	Valley	Padamsee	17/05/2024
			М.	On well		Mt Richmond, Pine	М.	
PDD 124521	2024/1790	Stereum Pers.	Padamsee	rotted log		Valley	Padamsee	17/05/2024
				Soil under		Mt Richmond, Pine		
PDD 124525	2024/1801	Clavulina rugosa (Bull.) J. Schröt.	J.A. Cooper	pine		Valley	B.S. Weir	17/05/2024
						Mt Richmond, Pine	P.R.	
PDD 124528	2024/1807	Cordyceps sinclairii Berk. 1855	B.S. Weir	insect in soil	Insecta	Valley	Johnston	17/05/2024
		Austroboletus novae-zelandiae				Mt Richmond, Pine		
PDD 123622	2024/890	(McNabb) Wolfe	A. Bradshaw			Valley	A. Bradshaw	14/05/2024
		Erioscyphella abnormis (Mont.)	P.R.		Ulex europaeus	Mt Richmond, Pine	P.R.	
PDD 124468	2024/423a	Baral, Šandová & Perić 2014	Johnston	Dead wood	L.	Valley	Johnston	17/05/2024
		Cortinarius epiphaeus (E. Horak)				Mt Richmond, Pine		
PDD 122784	2024/1852	Peintner & M.M. Moser	J.A. Cooper	mossy soil	Nothofagaceae	Valley	J. Davies	13/05/2024
						Mt Richmond, Pine	E. Van	
PDD 123682	2024/1651	Laccaria violaceonigra G. Stev.	J.A. Cooper	soil		Valley	Zuylen	16/05/2024
			M.			Mt Richmond, Pine		
PDD 122788	2024/1923	Russulaceae Lotsy 1907	Padamsee	loose on mos	sy ground	Valley	R. Johansen	17/05/2024
		Clavulina subrugosa (Cleland)	M.			Mt Richmond, Pine	М.	
PDD 123638	2024/1096	Corner	Padamsee	soil	Pinaceae	Valley	Padamsee	17/05/2024
		Tricholoma terreum (Schaeff.) P.	М.			Mt Richmond, Pine	M.	
PDD 122776	2024/1812	Kumm.	Padamsee	soil		Valley	Padamsee	17/05/2024
		Hypoderma rubi (Pers.) DC. ex	P.R.			Mt Richmond, Pine	P.R.	
PDD 122773	2024/1770	Chevall. 1822	Johnston	dead leaf	Pseudopanax	Valley	Johnston	17/05/2024
		Octaviania tasmanica (Kalchbr.	C.			Mt Richmond, Pine	C.	
PDD 123612	2024/824	ex Massee) Lloyd	Domnauer			Valley	Domnauer	14/05/2024
				pine		Mt Richmond, Pine		
PDD 122777	2024/1813	Sistotrema Fr. 1821	B.S. Weir	needles	Pinus	Valley	B.S. Weir	17/05/2024
					Rossbeevera T.			
	0004/000	Hypomyces (Fr.) Tul. & C. Tul.	C.		Lebel & Orihara	Mt Richmond, Pine	C.	44/05/000 1
PDD 124443	2024/398	1860	Domnauer		2012	Valley	Domnauer	14/05/2024
	0004/0547	O artis arises to man a set		0.51	Nethefe	Mt Richmond, Pine		47/05/0004
OTA 75951	2024/0517	Cortinarius turcopes	D. Orlovich	Soil	Nothofagus	Valley	D. Orlovich	17/05/2024

						Mt Richmond, Pine		
OTA 75954	2024/0487	Cortinarius sp.		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
		· ·				Mt Richmond, Pine		
OTA 75955	2024/0499	Thaxterogaster artosoides		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
						Mt Richmond, Pine		
OTA 75956	2024/0493	Cortinarius sp.		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
						Mt Richmond, Pine		
OTA 75957	2024/0505	Thaxterogaster epiphaeus		Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
						Mt Richmond, Pine		
OTA 75958	2024/0481	Austropaxillus squarrosus	D. Orlovich	Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
						Mt Richmond, Pine		
OTA 75959	2024/1917	Thaxterogaster epiphaeus	D. Orlovich	Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
074 75000	0004/0504			0.11		Mt Richmond, Pine		47/05/0004
OTA 75960	2024/0531	Cortinarius sp.		Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
OT 4 75004	0004/0500	Cartingative an		O e il	Nothefamile	Mt Richmond, Pine	A NULS are	47/05/0004
OTA 75961	2024/0529	Cortinarius sp.		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
	0004/0505	Cartinarius an		Coll	Nathafaau	Mt Richmond, Pine	D. Orlay data	47/05/0004
OTA 75962	2024/0525	Cortinarius sp.		Soil	Nothofagus	Valley Mt Richmond, Pine	D. Orlovich	17/05/2024
OTA 75963	2024/0524	Cortinarius sp.		Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
017 75905	2024/0324	Columanus sp.		3011	Notholagus	Mt Richmond, Pine	D. OHOVICH	17/05/2024
OTA 75964	2024/0518	Cortinarius sp.		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
01773304	2024/0310			5011	Notholagus	Mt Richmond, Pine	A. MISER	17/03/2024
OTA 75965	2024/0523	Thaxterogaster chalybeus		Soil	Nothofagus	Valley	A. Nilsen	17/05/2024
01/(10000	2024/0020				Notholagas	Mt Richmond, Pine		11/00/2024
OTA 75966	2024/0530	Cortinarius sp.		Soil	Nothofagus	Valley	D. Orlovich	17/05/2024
	202 1/0000				Cyathea		Diononi	11/00/2021
					medullaris	Mt Richmond, Pine	A. J.	
ICMP 25459	2024/1090	Corticiaceae Herter 1910	A. J. Stanton		(G.Forst.) Sw.	Valley	Stanton	17/05/2024
		Clonostachys compactiuscula						
		(Sacc.) D. Hawksw. & W. Gams			Pseudotsuga	Mt Richmond, Pine		
ICMP 25471	2024/1784	1975 ´	D. Lee	Cone	taxifolia	Valley	D. Hera	17/05/2024
					Cyathea	Mt Richmond, Pine		
ICMP 25472	2024/1789	Trametes sp.	D. Lee		medullaris	Valley	B.S. Weir	17/05/2024
				Well rotted		Mt Richmond, Pine	М.	
ICMP 25482	2024/1790	Cerrena zonata (Berk.) H.S. Yuan	D. Lee	log		Valley	Padamsee	17/05/2024
						Mt Richmond, Pine	P.R.	
ICMP 25483	2024/1807	Cordyceps sinclairii Berk. 1855	B.S. Weir	insect		Valley	Johnston	17/05/2024

				Dung with		Mt Richmond, Pine	A. J.	
ICMP 25484	2024/1490	Mucor flavus Bainier 1903	D. Lee	Fruit		Valley	Stanton	17/05/2024
						Mt Richmond, Pine		
ICMP 25490	2024/1813	Strasseria geniculata	B.S. Weir	Needles	Pinus	Valley	B.S. Weir	17/05/2024
					Cyathea	Mt Richmond, Pine		
ICMP 25542	2024/1789	Waltergamsia parva			medullaris	Valley	B.S. Weir	17/05/2024
		Calycina fungorum (Sacc.) W.P.				Mt Richmond, Pine		
ICMP 25567	2024/1813	Wu	D. Lee			Valley	B.S. Weir	17/05/2024
		Kockovaella Nakase, I. Banno &			Cyathea	Mt Richmond, Pine		
ICMP 25612	2024/1789	Y. Yamada	D. Lee		medullaris	Valley	B.S. Weir	17/05/2024
						Mt Richmond,		
DDD 400070	0004/4507	Podoserpula pusio (Berk.) D.A.				Wakamarina, Butchers		40/05/0004
PDD 123676	2024/1587	Reid	J.A. Cooper	moss	Nothofagaceae	Flat	D. Whyte	16/05/2024
					Lophozonia			
					menziesii (Hook.f.)	Mt Richmond,		
					Heenan &	Wakamarina, Butchers		
PDD 123606	2024/765	Inocybe (Fr.) Fr.	J.A. Cooper	soil	Smissen	Flat	M. Bartlett	14/05/2024
FDD 123000	2024/703			5011	JIIISSEIT	Mt Richmond,	W. Dartiett	14/03/2024
		Octaviania tasmanica (Kalchbr.			Nearby Silver	Wakamarina, Butchers		
NZFRIM6097	2024/1142	ex Massee) Lloyd 1922	M.J. Bartlett	Soil	beech	Flat	M.J. Bartlett	14/05/2024
	2021/1112		inio: Dartiott		near	Mt Richmond,	inition Bartiott	1 1/00/2021
		Cyathus novae-zeelandiae Tul. &		Wood,	Lophozonia	Wakamarina, Butchers		
NZFRIM6104	2024/1161	C. Tul. 1844	M.J. Bartlett	decying	menziesii	Flat	M.J. Bartlett	14/05/2024
				, , ,		Mt Richmond,		
						Wakamarina,		
PDD 124433	2024/361	Cortinarius (Pers.) Gray 1821	S. Davis	soil/duff		Wakamarina Track	S. Davis	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 124435	2024/364	Ramaria anziana R.H. Petersen	I. Dickie	soil		Wakamarina Track	I. Dickie	14/05/2024
						Mt Richmond,		
		Ramaria avellaneovertex R.H.		soil and		Wakamarina,		
PDD 124477	2024/693	Petersen	J.A. Cooper	moss	Nothofagaceae	Wakamarina Track	J. Davies	14/05/2024
						Mt Richmond,		
	0004/001				Pinus radiata	Wakamarina,		4.4/05/0000 1
PDD 124441	2024/384	Amphinema P. Karst.	I.A. Dickie	litter	D.Don	Wakamarina Track	I. Dickie	14/05/2024
						Mt Richmond,		
	2024/750	Fistulinella violaceipora (G. Stev.)				Wakamarina,		14/05/2024
PDD 123605	2024/759	Pegler & T.W.K. Young	M. Howard	soil		Wakamarina Track	M. Howard	14/05/2024

						Mt Richmond,		
		Urnula campylospora (Berk.)				Wakamarina,		
PDD 124476	2024/690	Cooke 1892	A. Kubrock	wood		Wakamarina Track	A. Kubrock	14/05/2024
						Mt Richmond,		
			L. Allison-			Wakamarina,	L. Allison-	
PDD 124424	2024/293	Xylaria Hill ex Schrank	Cooper	rotten log		Wakamarina Track	Cooper	14/05/2024
			1	Ŭ		Mt Richmond,		
			L. Allison-			Wakamarina,	L. Allison-	
PDD 124418	2024/226	Physaraceae Chevall.	Cooper	rotten log		Wakamarina Track	Cooper	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 123613	2024/835	Cortinarius (Pers.) Gray 1821	D. Hera	soil	Nothofagaceae	Wakamarina Track	D. Hera	14/05/2024
					garage	Mt Richmond,		
						Wakamarina,		
PDD 123618	2024/867	Cordyceps Fr. 1818	D. Hera	Dead wood		Wakamarina Track	D. Hera	14/05/2024
						Mt Richmond,		
		Entoloma melanocephalum G.	L. Allison-			Wakamarina,	L. Allison-	
PDD 124422	2024/288	Stev.	Cooper	soil	Nothofagaceae	Wakamarina Track	Cooper	14/05/2024
					garage	Mt Richmond,		
		Cortinarius cardinalis (E. Horak)				Wakamarina,		
PDD 123627	2024/966	G. Garnier	D. Whyte	moss	Nothofagaceae	Wakamarina Track	D. Whyte	14/05/2024
			Í Í		5	Mt Richmond,		
		Chalciporus piperatus (Bull.)				Wakamarina	L. Allison-	
PDD 124428	2024/312	Bataille	J.A. Cooper			Wakamarina Track	Cooper	14/05/2024
			•			Mt Richmond,	•	
		Hydnum mcnabbianum J.A.				Wakamarina,	М.	
PDD 123615	2024/855	Cooper	14/05/2024	soil	Nothofagaceae	Wakamarina Track	Padamsee	14/05/2024
		•			Kunzea			
					ericoides	Mt Richmond,		
					(A.Rich.) Joy	Wakamarina,		
PDD 123631	2024/1009	Inocybe (Fr.) Fr.	D. Whyte	soil/duff	Thomps.	Wakamarina Track	D. Whyte	14/05/2024
			, , , , , , , , , , , , , , , , , , ,		•	Mt Richmond,		
						Wakamarina,		
PDD 124437	2024/378	Clavulina rugosa (Bull.) J. Schröt.	L. Dickie	soil	Pinaceae	Wakamarina Track	I. Dickie	14/05/2024
		<b>~</b> , , , ,				Mt Richmond,		
						Wakamarina,		
PDD 124406	2024/97	Ramaria Fr. ex Bonord.	D. Whyte	soil	Nothofagaceae	Wakamarina Track	D. Whyte	14/05/2024
					Ŭ Ŭ	Mt Richmond,		
		Tylopilus brunneus (McNabb)				Wakamarina,		
PDD 124442	2024/390	Wolfe	L. Dickie	soil		Wakamarina Track	L. Dickie	14/05/2024

						Mt Richmond,		
		Bjerkandera adusta (Willd.) P.				Wakamarina,		
PDD 124478	2024/694	Karst.	P. Gloyn		Nothofagus	Wakamarina Track	P. Gloyn	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 124479	2024/700	Trametes hirsuta (Wulfen) Pilát	P. Gloyn	beech	Nothofagus	Wakamarina Track	P. Gloyn	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 122787	2024/1879	Polyporales Gäum.	P. Gloyn	beech	Nothofagaceae	Wakamarina Track	P. Gloyn	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 123670	2024/1260	Polyporales Gäum.	I. Dickie	dead wood		Wakamarina Track	I. Dickie	14/05/2024
						Mt Richmond,		
						Wakamarina,		
PDD 122783	2024/1843	Trametes Fr.	P. Gloyn	wood		Wakamarina Track	P. Gloyn	14/05/2024
			,			Mt Richmond,	, , , , , , , , , , , , , , , , , , ,	
		Cuphophyllus impurus (E. Horak)		Under ferns i	n mixed beech	Wakamarina		
PDD 124407	2024/103	J.A. Cooper 2023	J.A. Cooper	broad leaf		Wakamarina Track	D. Whyte	14/05/2024
						Mt Richmond,		
		Trametes coccinea (Fr.) Hai J. Li				Wakamarina,		
NZFRIM6105	2024/0777	& S.H. He 2014	P. Gloyn	Decaying wo	od. stick	Wakamarina Track	M.J. Bartlett	14/05/2024
					Mixed			
					Nothofagus,	Mt Richmond,		
					Broadleaf,	Wakamarina,		
OTA 75884	2024/0725	Cortinarius sp.		Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
					Mixed			
					Nothofagus,	Mt Richmond,		
					Broadleaf,	Wakamarina,		
OTA 75885	2024/0713	Agaricales sp.		Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
					Mixed			
					Nothofagus,	Mt Richmond,		
					Broadleaf,	Wakamarina,		
OTA 75886	2024/0605	Cortinarius sp.		Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
					Mixed			
					Nothofagus,	Mt Richmond,		
					Broadleaf,	Wakamarina,		
OTA 75887	2024/0617	Cortinarius sp.		Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
						Mt Richmond,		
					Mixed	Wakamarina,		
OTA 75888	2024/0685	Entoloma sp.		Soil		Wakamarina Track	A. Nilsen	14/05/2024
OTA 75888	2024/0685	Entoloma sp.		Soil	Nothofagus,	Wakamarina Track	A. Nilsen	14/05/2024

				Broadleaf,			
				Kunzea			
				Mixed			
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75889	2024/0719	Agaricales sp.	Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
				Mixed			
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75890	2024/0707	Chalciporus piperatus	Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
				Mixed			
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75891	2024/0892	Cortinarius sp.	Soil	Kunzea	Wakamarina Track	A. Nilsen	14/05/2024
				Mixed			
				Nothofagus,	Mt Richmond,		
074 75000	0004/0057			Broadleaf,	Wakamarina,		4.4/05/0004
OTA 75892	2024/0657	Entoloma sp.	Soil	Kunzea	Wakamarina Track	D. Orlovich	14/05/2024
				Mixed			
				Nothofagus,	Mt Richmond,		
OTA 75893	2024/0639	Pholiota sp.	Soil	Broadleaf, Kunzea	Wakamarina, Wakamarina Track	D. Orlovich	14/05/2024
UTA 75695	2024/0039	Pholiota sp.	301	Mixed		D. Onovien	14/05/2024
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75894	2024/0673	Cortinarius sp.	Soil	Kunzea	Wakamarina Track	D. Orlovich	14/05/2024
017/3034	2024/0073		001	Mixed		D. Onovien	14/03/2024
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75895	2024/0651	Cortinarius sp.	Soil	Kunzea	Wakamarina Track	D. Orlovich	14/05/2024
				Mixed			
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75896	2024/0691	Cortinarius sp.	Soil	Kunzea	Wakamarina Track	D. Orlovich	14/05/2024
		•		Mixed			
				Nothofagus,	Mt Richmond,		
				Broadleaf,	Wakamarina,		
OTA 75897	2024/0633	Cortinarius sp.	Soil	Kunzea	Wakamarina Track	D. Orlovich	14/05/2024

				Mixed Nothofagus,	Mt Richmond,		
OTA 75898	2024/0645	Agaricales sp.	Soil	Broadleaf, Kunzea	Wakamarina, Wakamarina Track	D. Orlovich	14/05/2024
OTA 75899	2024/0679	Cuphophyllus sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	A. Nilsen	14/05/2024
OTA 75900	2024/0697	Agaricales sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	A. Nilsen	14/05/2024
OTA 75901	2024/0611	Cortinarius sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	A. Nilsen	14/05/2024
OTA 75902	2024/0663	Agaricales sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	A. Orlovich	14/05/2024
OTA 75904	2024/0355	Cortinarius australianum	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	L. Dickie	14/05/2024
OTA 75905	2024/0085	Cortinarius sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	D. Whyte	14/05/2024
OTA 75906	2024/0119	Aureonarius rubrodactylis	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	D. Whyte	14/05/2024
OTA 75907	2024/0817	Cortinarius sp.	Soil	Mixed Nothofagus, Broadleaf, Kunzea	Mt Richmond, Wakamarina, Wakamarina Track	D. Hera	14/05/2024
OTA 75908	2024/0306	Cortinarius sp.	Soil	Kanuka, torata, five finger	Mt Richmond, Wakamarina, Wakamarina Track	L. Allison- Cooper	14/05/2024

	2024/							
PDD 124408	(1)117	Bresadolia Speg.	P. Gloyn	wood		Okiwi Bay	D. Griffin	14/05/2024
						Onamalutu Scenic		
PDD 124474	2024/610	Entoloma (Fr.) P. Kumm. 1871	R. Johansen	soil		Reserve	R. Johansen	14/05/2024
		Leucoagaricus sp. 'Woodside						
		Glen (PDD 87532)' J.A. Cooper		soil under	Podocarpus	Onamalutu Scenic	P.R.	
PDD 124475	2024/670	ined.	J.A. Cooper	totara	totara D.Don	Reserve	Johnston	14/05/2024
					Mixed			
					Nothofagus,			
074 75000	0004/4744				Broadleaf,	Onamalutu Scenic		4.4/05/0004
OTA 75903	2024/1714	Agaricales sp.			Kunzea	Reserve, Northbank Rd	P. Johnston	14/05/2024
	2024/250	Corynelia tropica (Auersw. &	P.R.	lastanat	Podocarpus	Onamalutu Scenic	P.R.	44/05/0004
PDD 124431	2024/350	Rabenh.) Starbäck 1905	Johnston	leaf spot	totara D.Don	Reserve, Northbank Rd	Johnston L. Allison-	14/05/2024
100610	2024/972	Akanthamyana Labart	L. Allison-	moth on		Pelorus Bridge Scenic Reserve		10/05/2024
PDD 123619	2024/872	Akanthomyces Lebert Descomyces Bougher &	Cooper M.	tawa		Pelorus Bridge Scenic	Cooper	16/05/2024
PDD 123611	2024/823	Castellano	Padamsee	soil	Leptospermum	Reserve	B. Dentinger	14/05/2024
FDD 123011	2024/023	Castellario	Fauamsee	3011	Leptospermum	Pelorus Bridge Scenic	D. Dentinger	14/03/2024
PDD 123608	2024/773	Boletus L.	B. Dentinger	soil	Leptospermum	Reserve	B. Dentinger	14/05/2024
1 00 120000	2024/110		L. Allison-	moth on	Leptosperman	Pelorus Bridge Scenic	L. Allison-	14/00/2024
PDD 124438	2024/380	Akanthomyces Lebert	Cooper	tawa		Reserve	Cooper	16/05/2024
		Rhizocybe Vizzini, G. Moreno, P.				Pelorus Bridge Scenic		
PDD 123677	2024/1588	Alvarado & Consiglio	A. Chinn	wood		Reserve	G. Harrison	16/05/2024
						Pelorus Bridge Scenic		
PDD 123687	2024/1683	Pluteus Fr. 1836	L. Dickie	Dead wood		Reserve	L. Dickie	13/05/2024
						Pelorus Bridge Scenic		
PDD 124482	2024/718	Melanophyllum Velen.	J.A. Cooper	wood		Reserve	A. Bradshaw	14/05/2024
						Pelorus Bridge Scenic		
PDD 123604	2024/751	Beauveria Vuill.	B. Menger	beetle	Coleoptera	Reserve	B. Menger	14/05/2024
						Pelorus Bridge Scenic		
PDD 124472	2024/577	Ductifera Lloyd 1917	J.A. Cooper	Dead wood	Nothofagaceae	Reserve	A. Mehta	17/05/2024
						Pelorus Bridge Scenic		
PDD 124421	2024/285	Flaviporus brownii (Humb.) Donk	I. Dickie	Inside of dea	dwood stump	Reserve	I. Dickie	13/05/2024
	0004/4704	Laetiporus portentosus (Berk.)	L Diskis	Trunk, low		Pelorus Bridge Scenic	L Distric	40/05/0004
PDD 123690	2024/1701	Rajchenb.	I. Dickie	and down	Nothofagus	Reserve	I. Dickie	13/05/2024
		Ramaria sp. 'Speargrass Flat				Delerue Bridge Coorie		
102610	2024/000	(PDD 106964)' J.A. Cooper ined. 2020	J.A. Cooper			Pelorus Bridge Scenic	B Dontinger	14/05/2024
PDD 123610	2024/809	2020	J.A. Cooper			Reserve	B. Dentinger	14/05/2024

		Rossbeevera pachydermis (Zeller				Pelorus Bridge Scenic		
PDD 124427	2024/320	& C.W. Dodge) T. Lebel	I. Dickie	soil		Reserve	I. Dickie	13/05/2024
100124421	2024/020		1. Diottic	dead wood,	Pinus radiata	Pelorus Bridge Scenic	1. Dioitic	10/00/2024
PDD 123681	2024/1641	Amphinema P. Karst.	I.A. Dickie	branch	D.Don	Reserve	I. Dickie	13/05/2024
1 22 120001	202 1/ 10 11			branon	Pinus radiata	Pelorus Bridge Scenic	II Diolaid	10/00/2021
PDD 123685	2024/1661	Cantharellales Gäum.	I. Dickie	dead wood	D.Don	Reserve	I. Dickie	13/05/2024
					2.20.	Pelorus Bridge Scenic		
PDD 122778	2024/1815	Rosellinia De Not.	J.A. Cooper	Bark of faller	dead log	Reserve	B.S. Weir	14/05/2024
		Tubaria rufofulva (Cleland) D.A.		Rotten	Ŭ	Pelorus Bridge Scenic		
PDD 124529	2024/1809	Reid & E. Horak	J.A. Cooper	wood		Reserve	B.S. Weir	14/05/2024
						Pelorus Bridge Scenic		
PDD 123620	2024/885	Tylopilus formosus G. Stev.	P. Gloyn	large stump	(rimu/beech?)	Reserve	P. Kinney	13/05/2024
						Pelorus Bridge Scenic	-	
PDD 124419	2024/270	Geastrum velutinum Morgan	S. Da Silva	Soil		Reserve	S. Da Silva	13/05/2024
		Thaxterogaster mariae (E. Horak)				Pelorus Bridge Scenic		
PDD 123680	2024/1639	Niskanen & Liimat.	J.A. Cooper	Soil	Nothofagus	Reserve	I. Dickie	13/05/2024
					Nothofagus			
					solandri var.			
		Rhizocybe sp. 'Pureora (PDD			solandri x N.	Pelorus Bridge Scenic		
PDD 123628	2024/978	96261)' J.A. Cooper ined.	J.A. Cooper	Wood	truncata	Reserve	D. Hera	13/05/2024
						Pelorus Bridge Scenic		
PDD 123607	2024/767	Cortinarius (Pers.) Gray 1821	J.A. Cooper	soil	Leptospermum	Reserve	B. Dentinger	14/05/2024
						Pelorus Bridge Scenic	C.	
PDD 123603	2024/749	Xerocomus scabripes McNabb	J.A. Cooper		Nothofagus	Reserve	Domnauer	14/05/2024
		Austropaxillus squarrosus						
		(McNabb) Bresinsky & Jarosch				Pelorus Bridge Scenic		
PDD 124481	2024/712	1999	J.A. Cooper			Reserve	A. Bradshaw	14/05/2024
	2024/				Pinus radiata	Pelorus Bridge Scenic		
PDD 123689	(1)1691	Cantharellales Gäum.	I. Dickie	cone	D.Don	Reserve	I. Dickie	13/05/2024
		Austropaxillus squarrosus						
		(McNabb) Bresinsky & Jarosch				Pelorus Bridge Scenic		
PDD 124386	2024/1753	1999	J.A. Cooper	Soil	Nothofagus	Reserve	Z. Marion	13/05/2024
	0004/404					Pelorus Bridge Scenic		40/05/0004
PDD 124415	2024/191	Entoloma (Fr.) P. Kumm. 1871	J. Davies	soil		Reserve	J. Davies	16/05/2024
	0004/407	Neobarya agaricicola (Berk.)	D. Olaum			Pelorus Bridge Scenic		40/05/0004
PDD 124416	2024/197	Samuels & Lowen	P. Gloyn	mushroom		Reserve	D. Griffin	16/05/2024
	0004/040	Chalciporus sp. 'Walker Rd (PDD				Pelorus Bridge Scenic		10/05/0004
PDD 124430	2024/348	113068)' J.A. Cooper ined.	J.A. Cooper	soil		Reserve	G. Harrison	16/05/2024

			P.R.			Pelorus Bridge Scenic		
PDD 124454	2024/490	Chlorencoelia J.R. Dixon	Johnston	wood		Reserve	H.S. Chan	16/05/2024
						Pelorus Bridge Scenic		
PDD 124434	2024/363	Cortinarius (Pers.) Gray 1821	J.A. Cooper	soil	Nothofagaceae	Reserve	H.S. Chan	16/05/2024
			P.K.			Pelorus Bridge Scenic		
PDD 123643	2024/1103	Tylopilus P. Karst.	Buchanan	ground	Nothofagaceae	Reserve	D. McLean	13/05/2024
		Hymenochaete microcycla (Zipp.				Pelorus Bridge Scenic		
NZFRIM6100	2024/1149	ex Lév.) Spirin & Miettinen 2019	P. Gloyn	Wood, large	fallen tree	Reserve	M.J. Bartlett	13/05/2024
		Hypholoma brunneum (Massee)				Pelorus Bridge Scenic		
NZFRIM6101	2024/1143	D.A. Reid 1956	M.J. Bartlett	Wood, large		Reserve	M.J. Bartlett	13/05/2024
				Wood, living		Pelorus Bridge Scenic		
NZFRIM6102	2024/1148	Nidula sp.		on bark	ferruginea	Reserve	M.J. Bartlett	13/05/2024
				Soil, near				
				base of				
				dead	Nearby			
	0004/4400	Melanophyllum haematospermum		standing	Dacrydium	Pelorus Bridge Scenic		40/05/0004
NZFRIM6103	2024/1166	(Bull. ex Pers.) Kreisel 1984	M.J. Bartlett	tree	cupressinum	Reserve	M.J. Bartlett	13/05/2024
					Nearby			
				wood follow	Pectinopitys			
		Postia atrostrigosa (Cooke)		wood, fallen tree	ferruginea & Beilschmiedia	Pelorus Bridge Scenic		
NZFRIM6107	2024/1154	Rajchenb. 1995	M.J. Bartlett	decorticated	tawa	Reserve	M.J. Bartlett	13/05/2024
	2024/1134	Armillaria limonea (G. Stev.)	WI.J. Dartiett	ueconicaleu	Dacrydium	Pelorus Bridge Scenic	M.J. Dartiett	13/03/2024
NZFRIM6108	2024/0706	Boesew. 1977	A. Bradshaw	Wood	cupressinum	Reserve	A. Bradshaw	14/05/2024
	2024/0700		A. Drausnaw	woou	Mixed beech,	Pelorus Bridge Scenic	A. Drausnaw	14/03/2024
OTA 75870	2024/0031	Agaricales sp.		Wood	podocarp	Reserve	D. Lyttle	13/05/2024
	202 1/0001			mood	podocarp	Pelorus Bridge Scenic	D. Lyttio	10/00/2021
ICMP 25462	2024/751	Penicillium lanosum Westling	D. Lee	Coccoon	Coleoptera	Reserve	B. Menger	14/05/2024
				Well				
		Hypomyces aurantius (Pers.) Tul.		decayed		Pelorus Bridge Scenic		
ICMP 25469	2024/1224	& C. Tul. 1860	D. Lee	wood		Reserve	G. Cox	14/05/2024
		Penicillium spathulatum Frisvad &				Pelorus Bridge Scenic	T	
ICMP 25475	2024/1710	Samson - contam.	D. Lee	Dead wood		Reserve	D. Lee	14/05/2024
				Trunk, low		Pelorus Bridge Scenic		
ICMP 25485	2024/1701	Trichoderma contam.	D. Lee	and down	Nothofagus	Reserve	lan Dickie	13/05/2024
						Pelorus Bridge Scenic		
ICMP 25489	2024/1823	Coprinellus sp. 'Mt Lyford'	D. Lee	Dead twig		Reserve	B.S. Weir	14/05/2024
				Rotten		Pelorus Bridge Scenic		
ICMP 25494	2024/1720	Akanthomyces Lebert	D. Lee	wood		Reserve	D. Lee	14/05/2024

		Fusarium babinda Summerell,				Pelorus Bridge Scenic		
ICMP 25495	2024/1831	C.A. Rugg & L.W. Burgess	D. Lee	dead wood		Reserve	B.S. Weir	14/05/2024
						Pelorus Bridge Scenic		
PDD 124413	2024/171	Russula inquinata McNabb	J. Davies	soil	Nothofagaceae	Reserve, Circle Track	J. Davies	17/05/2024
				Beech/		Pelorus Bridge Scenic		
PDD 123675	2024/1568	Amanita Pers. 1797	J. Davies	Podocarp		Reserve, Circle Track	J. Davies	17/05/2024
			М.			Pelorus Bridge Scenic	М.	
PDD 123650	2024/1132	Lepiota (Pers.) Gray	Padamsee	soil		Reserve, Circle Track	Padamsee	14/05/2024
						Pelorus Bridge Scenic		
PDD 123679	2024/1626	Amanita karea G.S. Ridl.	J. Davies		Nothofagaceae	Reserve, Circle Track	J. Davies	17/05/2024
			M			Pelorus Bridge Scenic	M.	
PDD 123648	2024/1126	Psathyrella (Fr.) Quél. 1872	Padamsee	soil		Reserve, Circle Track	Padamsee	14/05/2024
			M.			Pelorus Bridge Scenic	M	
PDD 123640	2024/1078	Russula Pers.	Padamsee		Nothofagaceae	Reserve, Circle Track	Padamsee	14/05/2024
	0004/4000			1	Delever	Pelorus Bridge Scenic		47/05/0004
PDD 123678	2024/1620	Clavulina J. Schröt.	J. Davies	soil	Podocarpaceae	Reserve, Circle Track	J. Davies	17/05/2024
	2024/452	Continentius tessies Seen		o o il	Nothofogoooo	Pelorus Bridge Scenic		47/05/0004
PDD 124451	2024/452	Cortinarius tessiae Soop	H.S. Chan	soil	Nothofagaceae	Reserve, Circle Track	H.S. Chan	17/05/2024
PDD 124449	2024/422	Austroboletus novae-zelandiae (McNabb) Wolfe	H.S. Chan	soil	Nothofagaceae	Pelorus Bridge Scenic Reserve, Circle Track	H.S. Chan	17/05/2024
FDD 124449	2024/422		n.s. chan	5011	Notholayaceae	Pelorus Bridge Scenic	n.s. chan	17/05/2024
PDD 124453	2024/480	Ramaria Fr. ex Bonord.	H.S. Chan	soil	Nothofagaceae	Reserve, Circle Track	H.S. Chan	17/05/2024
100124400	2024/400		TI.S. Onan	3011	Notholagaceae	Pelorus Bridge Scenic	TI.O. OHAH	17/03/2024
PDD 124447	2024/415	Trametes versicolor (L.) Lloyd	P. Gloyn	wood	Nothofagaceae	Reserve, Circle Track	P. Gloyn	15/05/2024
	2021/110			Weed	Holliolagaeeae	Pelorus Bridge Scenic		10/00/2021
PDD 123626	2024/956	Polyporus xerophyllus Berk.	P. Gloyn	wood	Nothofagaceae	Reserve, Circle Track	P. Gloyn	17/05/2024
			P.R.		Jeneral	Pelorus Bridge Scenic		
PDD 124469	2024/646	Helotiaceae Rehm 1892 [1896]	Johnston	rotten wood b	blackened	Reserve, Circle Track	R. Johansen	13/05/2024
-		Pleurella ardesiaca (G. Stev. &				Pelorus Bridge Scenic		
PDD 124420	2024/273	G.M. Taylor) E. Horak	A. Chinn	decayed log		Reserve, Circle Track	J. Plowman	17/05/2024
				soil, leaf		Pelorus Bridge Scenic		
PDD 124473	2024/583	Amanita taiepa G.S. Ridl.	L. Dickie	litter		Reserve, Circle Track	J. Plowman	17/05/2024
			М.			Pelorus Bridge Scenic	М.	
PDD 124526	2024/1802	Cortinarius (Pers.) Gray 1821	Padamsee		Nothofagaceae	Reserve, Circle Track	Padamsee	14/05/2024
		Tylopilus brunneus (McNabb)				Pelorus Bridge Scenic		
PDD 123647	2024/1127	Wolfe	J.A. Cooper	soil	Nothofagaceae	Reserve, Circle Track	L. Sheppard	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75858	2024/0019	Lacrymaria sp.	D. Orlovich	Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024

					Mixed beech,	Pelorus Bridge Scenic		
OTA 75860	2024/0013	Leucoagaricus sp.		Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75861	2024/0043	Austroboletus novae-zelandiae	A. Nilsen	Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75862	2024/0049	Fistulinella viscida	R. Halling	Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75863	2024/0007	Lacrymaria asperospora	D. Orlovich	Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75864	2024/0066	Cortinarius sp.		Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75866	2024/1093	Lycoperdon sp.		Soil	podocarp	Reserve, Circle Track	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75867	2024/1088	Agaricales sp.		Soil	podocarp	Reserve, Circle Track	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic	E. van	
OTA 75868	2024/1123	Agaricaceae sp.		Soil	podocarp	Reserve, Circle Track	Zuylen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75869	2024/1086	Chalciporus piperatus	A. Nilsen	Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75871	2024/0037	Cortinarius sp.		Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75872	2024/0055	Chalciporus sp.		Soil	podocarp	Reserve, Circle Track	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75873	2024/0061	Trametes coccinea		Wood	podocarp	Reserve, Circle Track	D. Orlovich	13/05/2024
				Wood				
				(fallen	Mixed beech,	Pelorus Bridge Scenic		
OTA 75874	2024/0001	Armillaria limonea		branch)	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75875	2024/1076	Amanita sp.		Soil	podocarp	Reserve, Circle Track	D. Orlovich	13/05/2024
				-	Mixed beech,	Pelorus Bridge Scenic		
OTA 75876	2024/0078	Lepiota sp.		Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75878	2024/0072	Coltricia sp.		Soil	podocarp	Reserve, Circle Track	A. Nilsen	13/05/2024
					Mixed beech,			
074	0004/0005				podocarp, tea	Pelorus Bridge Scenic		40/05/000 (
OTA 75879	2024/0060	Cortinarius sp.		Soil	tree	Reserve, Circle Track	A. Nilsen	13/05/2024
074	0004/1707				Mixed	Pelorus Bridge Scenic	5 14/1	
OTA 75952	2024/1563	Cortinarius sp.		Soil	Nothofagus	Reserve, Circle Track	D. Whyte	17/05/2024

						Pelorus Bridge Scenic		
OTA 75967	2024/0926	Cortinarius dulciolens	D. Orlovich	Soil	Nothofagus	Reserve, Circle Track	P. Gloyn	17/05/2024
		Ramariopsis bicolor R.H.				Pelorus Bridge Scenic	,	
PDD 124440	2024/382	Petersen	J.A. Cooper	Soil in leaf litt	er, beech forest	Reserve, Circle Track	G. Harrison	17/05/2024
						Pelorus Bridge Scenic		
			P.R.			Reserve, Elvy	P.R.	
PDD 124380	2024/1716	Hypocreales Lindau 1897	Johnston	dead wood		Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
			P.R.			Reserve, Elvy	P.R.	
PDD 124387	2024/1762	Mycena roseoflava G. Stev.	Johnston	dead wood		Waterfalls Track	Johnston	14/05/2024
				clay bank		Pelorus Bridge Scenic		
				under		Reserve, Elvy	P.R.	
PDD 124432	2024/356	Agaricus L. 1753		Nothofagus	Nothofagus	Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
		Sclerococcum striatum P.R.	P.R.			Reserve, Elvy		
PDD 124429	2024/344	Johnst.	Johnston	fallen wood		Waterfalls Track	D. Lee	14/05/2024
						Pelorus Bridge Scenic		
		Thaxterogaster castoreus (Soop)				Reserve, Elvy		
PDD 124436	2024/367	Niskanen & Liimat.	D. Whyte	duff/soil	Nothofagaceae	Waterfalls Track	D. Whyte	17/05/2024
						Pelorus Bridge Scenic		
			P.R.			Reserve, Elvy	P.R.	
PDD 124381	2024/1722	Helotiaceae Rehm 1892 [1896]	Johnston	dead wood		Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
		Chlorociboria duriligna P.R.	P.R.			Reserve, Elvy	P.R.	
PDD 124383	2024/1734	Johnst. 2005	Johnston	Dead wood		Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
		Annulohypoxylon Y.M. Ju, J.D.	P.R.			Reserve, Elvy	P.R.	
PDD 124385	2024/1750	Rogers & H.M. Hsieh	Johnston	dead branch,	not Nothofagus	Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
		Tubaria rufofulva (Cleland) D.A.				Reserve, Elvy	P.R.	
PDD 124390	2024/1768	Reid & E. Horak	J.A. Cooper	dead wood		Waterfalls Track	Johnston	14/05/2024
						Pelorus Bridge Scenic		
						Reserve, Elvy		
PDD 124379	2024/1710	Ramariopsis (Donk) Corner	B.S. Weir	Dead wood		Waterfalls Track	D. Lee	14/05/2024
						Pelorus Bridge Scenic		
						Reserve, Mungatapu		
PDD 124460	2024/423	Trametes versicolor (L.) Lloyd	P. Gloyn	wood	Nothofagaceae	Rd.	P. Gloyn	17/05/2024
						Pelorus Bridge Scenic		
				clay soil bank	c amongst	Reserve, path to Circle		
PDD 123636	2024/1062	Calostoma Desv.	A.J. Stanton	bryophytes		Track	A.J. Stanton	14/05/2024

				stick on				
				ground in	Fuscospora	Pelorus Bridge Scenic		
PDD 124414	2024/177	Basidiomycetes G. Winter		leaf litter	solandri	Reserve, Tawa Walk	Danelle	16/05/2024
						Pelorus Bridge Scenic		
PDD 124417	2024/209	Pluteus Fr. 1836	D. Griffin	rotten wood		Reserve, Tawa Walk	D. Griffin	16/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75857	2024/0025	Leucoagaricus sp.		Soil	podocarp	Reserve, Tawa Walk	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75859	2024/1016	Agaricus sp.	D. Orlovich	Soil	podocarp	Reserve, Tawa Walk	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75877	2024/1110	Cortinarius sp.		Soil	podocarp	Reserve, Tawa Walk	D. Orlovich	13/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75880	2024/1028	Paurocotylis pila	D. Orlovich	Soil	podocarp	Reserve, Tawa Walk	D. Orlovich	13/05/2024
						Pelorus Bridge Scenic	T. Porter-	
PDD 123633	2024/1039	Ramaria Fr. ex Bonord.	P. Gloyn	soil		Reserve, Te Hoiere	Rawiri	13/05/2024
		Clitocybula (Singer) Singer ex	М.	on fallen		Pelorus Bridge Scenic	М.	
PDD 123645	2024/1114	Métrod 1952	Padamsee	twig		Reserve, Totara Track	Padamsee	14/05/2024
						Pelorus Bridge Scenic	М.	
PDD 123641	2024/1084	Fomitiporia Murrill 1907	P. Gloyn	decorticated	downed log	Reserve, Totara Track	Padamsee	14/05/2024
			M.			Pelorus Bridge Scenic	M.	
PDD 123644	2024/1108	Psathyrella (Fr.) Quél. 1872	Padamsee	mossy well ro	otted stump	Reserve, Totara Track	Padamsee	14/05/2024
		Mycena sp. 'Ahuriri Reserve		decorticated		Pelorus Bridge Scenic	М.	
PDD 123646	2024/1119	(PDD 80918)' J.A. Cooper ined.	J.A. Cooper	log		Reserve, Totara Track	Padamsee	14/05/2024
					Mixed beech,	Pelorus Bridge Scenic		
OTA 75865	2024/0071	Descolea sp.		Soil	podocarp	Reserve, Totara Track	A. Nilsen	13/05/2024
			М.			Pelorus Bridge Scenic	Μ.	
PDD 123660	2024/1181	Clitocybe (Fr.) Staude	Padamsee	soil		Reserve, Totara Track	Padamsee	14/05/2024
		Psathyrella echinata (Cleland)			Fuscospora	Pelorus Bridge Scenic		
PDD 123630	2024/990	Grgur.	D. Whyte	rotten wood	solandri	Reserve, Totara Track	D. Whyte	13/05/2024
		Lentinula novae-zelandiae (G.	М.			Pelorus Bridge Scenic		
PDD 123635	2024/1050	Stev.) Pegler	Padamsee	rotting log		Reserve, Totara Track	A.J. Stanton	14/05/2024
			М.	soil under		Pelorus Bridge Scenic	M	
PDD 123642	2024/1102	Leptonia (Fr.) P. Kumm.	Padamsee	beech	Nothofagaceae	Reserve, Totara Track	Padamsee	14/05/2024
						Pelorus Bridge Scenic	M.	
ICMP 25460	2024/1084	Odiodendron contam.	D. Lee	Decorticated	downed log	Reserve, Totara Track	Padamsee	14/05/2024
	0004/4475					Pelorus Bridge Scenic	M.	44/05/0001
ICMP 25487	2024/1175	Rhinocladiella Nannf. 1934	D. Lee	Bare log		Reserve, Totara Track	Padamsee	14/05/2024
	0004/4475					Pelorus Bridge Scenic	M.	44/05/0001
ICMP 25627	2024/1175	Alternaria Nees 1816-17	D. Lee	Bare log		Reserve, Totara Track	Padamsee	14/05/2024

		Postia atrostrigosa (Cooke)				Pelorus Bridge Scenic		
PDD 124382	2024/1729	Rajchenb.	J.A. Cooper	dead wood		Reserve, track to Trig K	L. Dickie	13/05/2024
		Cortinarius purpureocapitatus X.						
		Yue Wang, J.A. Cooper, A.R.				Pelorus Bridge Scenic		
PDD 124384	2024/1735	Nilsen & Orlovich	L. Dickie	soil	Nothofagaceae	Reserve, track to Trig K	L. Dickie	13/05/2024

# **Appendix 2: Mycology** Colloquium programme Wednesday 15 May 2024 22nd Mycology Colloquium

22nd M	ycology	Colloquium Pro	ogram

Time	Speaker <sup>1</sup>	Title	
9:00–9:05	David Orlovich	Welcome and housekeeping	
9:05 – 9:25	David Hera	What makes our native oyster mushrooms unique? An updated multigene phylogeny and morphological observations of <i>Pleurotus</i> in Aotearoa	
9:25 – 9:45	Vladislav Kholostiakov	Can the seed microbiome of <i>Metrosideros excelsa</i> (pōhutukawa) accelerate seedling growth and enable protection from fungal pathogens?	
9:45 – 10:05	George Cox	Elusive and ephemeral: Challenges in studying the ecology of slime moulds in Aotearoa New Zealand.	
10:05 – 10:25	Ilaria La Bianca	Kānuka soil microbiome resistance and resilience to moisture stress	
10:25–11:00 Morning Tea			
11:00–11:20	Tere Porter-Rawiri	Exploring fungal diversity: The Puāwaitanga of restored Wairarapa Wetlands?	
11:20–11:40	Sam Lasham	The psilocybin mushroom entourage effect	
11:40–12:00	Andy Nilsen	Getting blood from a stone: using traditional and modern techniques for sequencing degraded (type) specimens	
12:00 - 12:20	David Orlovich	Type studies of the elegant blue webcap ( <i>Cortinarius rotundisporus</i> ) and relatives	
12:20–1:20	Lunch		
1:20–1:30		Foray photo	
1:30–1:50	David Whyte	iNaturalist basidiomycetes data set: What can it tell us?	
1:50–2:10	David Lyttle	New records of Deconica baylisiana	
2:10–2:30	lan Dickie	Linked plant-fungal invasions and their implications for indigenous ecosystems	
2:30–2:50	Peter Johnston	Here yesterday, gone today - the moveable feast of what is 'Present in New Zealand'	
2:50-3:20	Afternoon Tea		
3:20 - 3:40	Duckchul Park	From trash to taonga — Fungi on Maungatautari	
3:40 - 4:00	Bevan Weir	Global diversity analysis of plant-associated <i>Pseudopithomyces</i> fungi associated with facial eczema in livestock	

What makes our native oyster mushrooms unique? An updated multigene phylogeny and morphological observations of *Pleurotus* in Aotearoa David Hera<sup>1,2</sup>, Manpreet K Dhami<sup>2</sup>, Peter K Buchanan<sup>2</sup>, Ian A Dickie<sup>1</sup>

<sup>1</sup>School of Biological Sciences, University of Canterbury, Christchurch, 8041 New Zealand; <sup>2</sup>Manaaki Whenua – Landcare Research, Lincoln, 7640 New Zealand

Can molecular and morphological data shed more light on the *Pleurotus* species of Aotearoa? Pleurotus is a genus of white rot wood decay fungi with more than 200 species currently described around the world. The five species of this genus in Aotearoa have guite distinct genotypes and phenotypes, which I am exploring here. I am particularly focusing on *P. pulmonarius*, the grey oyster mushroom, testing the hypothesis that native P. pulmonarius strains are genetically distinct from imported international ones. Utilizing both historical and recent collections, I sequenced five rDNA loci to construct a multigene phylogeny that clarifies the taxonomic status of wild versus imported strains of P. australis, P. djamor, P. parsonsiae, P. purpureo-olivaceus and P. pulmonarius. P. pulmonarius is the only species in Aotearoa that is found both in the wild and is imported from overseas for cultivation. Early records suggest its presence in Aotearoa prior to its documented importation for cultivation in the 1990s, so while some imported strains may have escaped cultivation, there are older wild populations here. In this study, both phylogenetic and morphological data support that native *P. pulmonarius* strains form a distinctively separate clade from international strains. I further showcase the unique asexual growth habit of *P. australis*, and the close relatedness of the exotic pink oyster mushroom P. djamor and our native P. parsonsiae, both genetically and in their phenotypic traits. The variation of this genus in Aotearoa is remarkable, both in the wild and cultivation. In terms of native edible mushroom production, *P. australis* is very slow to grow and *P. purpureo-olivaceus* has not been successfully cultivated at all yet. The native *P. pulmonarius* clade shows the biggest promise for larger scale cultivation.

# Can the seed microbiome of *Metrosideros excelsa* (pōhutukawa) accelerate seedling growth and enable protection from fungal pathogens? Vladislav Kholostiakov<sup>1,2</sup>, Bruce Burns<sup>1</sup>, Hayley Ridgway<sup>3</sup>, Mahajabeen Padamsee<sup>1,2</sup>

<sup>1</sup>School of Biological Sciences, The University of Auckland; <sup>2</sup>Mycology Systematics, Manaaki Whenua-Landcare Research, Auckland; <sup>3</sup>Plant Protection Systems, The New Zealand Institute for Plant and Food Research, Lincoln

Seeds contain diverse microbial communities, including bacteria and fungi, which are beneficial for plant development and protection against phytopathogens. The fungal pathogen *Austropuccinia psidii* is the causal agent of myrtle rust, which poses a severe threat to New Zealand endemic Myrtaceae such as *Metrosideros excelsa*. We hypothesised that *M. excelsa* seedlings contain seed-derived microbiomes that may contribute to observed variation in susceptibility to *A. psidii*. Sixteen bacterial 3 taxa and 22 species of fungi were isolated on four types of media from the seeds of 30 *M. excelsa* trees. Species assemblies of seedborne microorganisms varied between individual trees, and some trees accumulated putatively beneficial endophytes. Based on literature records, 14 bacterial isolates were identified as potentially beneficial endophytes, which were retained for dual culture assays with seed-borne fungi and

further seed inoculation experiments. A dual culture assay demonstrated that seedborne *Bacillus* spp. and *Priestia* sp. are potent fungal antagonists, including seed-borne pathogens from genera *Alternaria*, *Colletotrichum*, *Cytospora*, and *Neofusicoccum*. Two *Bacillus* isolates effectively suppressed all tested fungi, with average inhibition rates of 71–77%, as well as *Bacillus* sp. isolate U5 was able to inhibit the germination of *A. psidii* urediniospores. In contrast, *Mycolicibacterium* sp. and two isolates of *Methylobacterium* facilitated the growth of *Alternaria* sp. *Methylobacterium* sp. isolate U4 also stimulated the growth of *Cladosporium* sp., *Colletotrichum* sp., and *Pestalotiopsis* sp. The seed inoculation experiments demonstrated that *Kocuria palustris*, *Paenibacillus* sp., and *Penicillium* sp. significantly enhanced the shoot and root development of *M. excelsa* seedlings. These results indicate that species arrival order might shape seed microbial assembly, and final species composition may affect seedling growth and protection against pathogens.

### Elusive and ephemeral: Challenges in studying the ecology of slime moulds in Aotearoa New Zealand.

George Cox, Ian Dickie

#### School of Biological Sciences, University of Canterbury

Slime moulds are important microbial predators with complex life cycles and behaviours, yet they have received little attention from ecologists. As part of my Masters project, I aimed to understand how human induced changes to plant communities impacted slime moulds and other soil microeukaryotes. However, during the course of this project I encountered difficulties in finding, culturing, sequencing, and identifying slime moulds. Detecting ecological patterns in the slime mould community proved difficult, although novel slime mould sequence data was generated. I will discuss the challenges facing future slime mould research and why it is still important to understand the ecology of slime moulds and other often forgotten organisms.

#### Kānuka soil microbiome resistance and resilience to moisture stress

Ilaria La Bianca<sup>1</sup>, John Ramana<sup>2</sup>, Kate Orwin<sup>2</sup>, Claudia Meisrimler<sup>1</sup>, Ian Dickie<sup>1</sup>

#### <sup>1</sup>School of Biological Sciences, University of Canterbury; <sup>2</sup>Manaaki Whenua | Landcare Research

Kānuka (*Kunzea ericoides*) is an indigenous tree fundamentally important for reforestation, habitat regeneration, carbon sequestration, and biodiversity. Kānuka is well known for its ability to inhabit infertile terrain and its tolerance of drought and water logging. Kānuka is a pioneer species and establishes well when planted from nursery stock. However, the ability to undertake widespread restoration with kānuka is severely limited by failure of direct sown seeds. As part of my PhD, I study the impact of the soil microbiome on kānuka seedling responses to moisture stress and on seedling establishment. I focus on soil microbial community adaptation to site specific abiotic conditions and whether these adaptations influence soil and plant responses to moisture stress. I consider 30 sites across Horomaka/Banks Peninsula which range in elevation and mean annual precipitation and I test soil and plant responses to drought and flooding. Soil microbiome responses to moisture stress are tested to understand whether specific drought and/or flooding resistant microbial communities could enhance kānuka responses to drought and flooding.

#### Exploring fungal diversity: The Puāwaitanga of restored Wairarapa Wetlands?

Tere Porter-Rawiri<sup>1,2</sup>, Julie Deslippe<sup>2</sup>, Sara Belcher<sup>3,4</sup>, Ocean Mercier<sup>5,6</sup>

<sup>1</sup>Te Ātiawa;
<sup>2</sup>School of Biological Sciences, Victoria University of Wellington;
<sup>3</sup>Te Arawa;
<sup>4</sup>School of Science in Society, Victoria University of Otago,
<sup>5</sup>Ngāti Porou;
<sup>6</sup>Te Kawa a Māui, Victoria University of Wellington

Wairarapa Wetlands, like many worldwide, face degradation, prompting restoration efforts. Despite their vital role in ecosystem health, wetlands and fungi are often overlooked, as insufficient data hinders our understanding of fungi's ecological importance. While tangata whenua connections to repo (wetlands) are well documented, the relationship between Maori with fungi remains limited to traditional uses. In this era of nurturing the evolution of matauranga Maori, there's a chance to expand our understanding of ecological restoration and diverse fungi. By aligning mātauranga Māori with scientific methods, I hope to gain a holistic understanding of how fungal communities in Wairarapa wetland forests respond to restoration efforts, and to identify fungal communities as indicators of restored processes, framed in the context of te ao Māori. I will interview tangata whenua connected to Wairarapa to explore Indigenous ties to place and how fungi fit in with their environmental aspirations for wetlands. I will also sequence and analyse soil samples from different ecosystem states within Wairarapa wetland sites using environmental DNA (eDNA) techniques. Ultimately, this work seeks to contribute to improved wetland restoration outcomes that align with te ao Māori.

#### The psilocybin mushroom entourage effect.

Sam Lasham

#### School of Pharmacy, University of Auckland

Psilocybin mushrooms have been used for spiritual, therapeutic, and recreational purposes for centuries and now, western science is beginning to research their primary active constituent, psilocybin, for use in mental health treatment. Whilst this research grows in popularity globally, it has been questioned by many whether the effects of consuming a singular synthetic chemical (psilocybin) is the same as the traditional method of consuming whole mushrooms, which contain a number of compounds. This talk will give an overview of recently published literature that shows results from in vitro and animal studies suggesting that psilocybin mushrooms may be far more pharmacologically complex than just being vessels for psilocybin.

### Getting blood from a stone: using traditional and modern techniques for sequencing degraded (type) specimens

Andy Nilsen, David Orlovich

#### Department of Botany, University of Otago

Herbaria are an invaluable resource of biodiversity data. Many collections lodged at herbaria were done so in the pre-molecular era and require sequencing of DNA barcodes for unequivocal identification. This is especially true for type collections, which are physical, representative specimens for a species name. The lack of DNA barcodes from type collections can imped future species descriptions because of their uncertain identification. Typically, collections degrade over time making older material harder to obtain DNA barcodes from. Here I discuss the use of traditional and modern methods to sequence DNA barcodes from collections, including types, from the New Zealand Fungarium (PDD) and the State Herbarium of South Australia (AD). We found that collections nearing 60 years old were on the cusp of what traditional methods were capable of resolving. Using modern methods, we were able to elucidate the identity of over 100-year-old collections. We were also able to capture a snapshot of potential epiphytic organisms and contaminants on collections using modern methods.

### **Type studies of the elegant blue webcap (***Cortinarius rotundisporus***) and relatives** David Orlovich<sup>1</sup>, Andy Nilsen<sup>1</sup>, Teresa Lebel<sup>2</sup>

#### <sup>1</sup>Department of Botany, University of Otago; <sup>2</sup>State Herbarium of South Australia, Adelaide, Australia

At the 2009 NZ Fungal Foray, Lucas and Orlovich (Mycology Colloquium 2009) presented an overview of the taxonomic history of the elegant blue webcap, Cortinarius rotundisporus Clel. & Cheel and relatives. At the time, work was hampered by a lack of DNA sequences of nomenclatural type collections, and since then we have been trying to rectify that! Briefly, Cleland and co-authors described three similar species, C. rotundisporus, C. oleaginus Clel. & J. Harris and C. austroevernius Clel. & Cheel. The three species have been considered by some authors (e.g., Horak and Wood 1990) to be synonymous, but others (e.g., Grgurinovic 1997) retained these as separate species. Morphologically similar species related to C. rotundisporus have also been described from Aotearoa/New Zealand (e.g., C. calaisopus Soop and C. tessiae Soop), but the presence of those species in Australia has never been determined. The cryptic nature of all these species, and the lack of Australasian comparative phylogenetic studies, makes it diSicult to apply names with confidence. In 1999, Sawyer et al. studied the genetic variation of *C. rotundisporus* in northern Sydney, NSW and found three phylogenetically distinct internal transcribed spacer (ITS) types (RFLP Types I, II and III), but the relationship of these ITS types to other described species was not determined. We obtained Australian material from JB Cleland's collections (including nomenclatural type specimens) from the State Herbarium of Adelaide (AD), Alec Wood's collections from NSW (collected mostly around Sydney) from the John T. Waterhouse Herbarium (UNSW) and collections made by Nicole Sawyer from Western Sydney University, and collections from Aotearoa/New Zealand from the Otago Regional Herbarium OTA and the New Zealand Fungarium (PDD). Where possible, we sequenced the internal transcribed spacer region, the large ribosomal subunit and other markers as required. Where the specimens were too old to amplify markers for Sanger sequencing, we sequenced the entire genome using methods described by Nilsen and Orlovich in the previous talk and extracted the genes/markers from the genome assemblies. Using this combined approach, we determined the phylogenetic position of many of these cryptic species. We will describe our progress towards clarifying which names to apply to collections of the elegant blue webcap and its relatives in Aotearoa New Zealand and Australia.

#### iNaturalist basidiomycetes data set: What can it tell us?

David S Whyte

#### 38 Ohinewai North Road, RD1 Huntly

iNaturalist is a citizen science site for recording nature observations in New Zealand. It has approximately 220,000 fungal observations, including lichens. So is a large data set. Using everyday software the basidiomycetes dataset was investigated. It was found that the number of observations and number of research grade (RG) observations are growing linearly and a predicted ~45,000 observations will be recorded this calendar year. The quality of the data is also improving with more RG observations being recorded. Research Grade observations are ones that two or more people have stated the same species ID and the observation is well documented (location, date stamp etc.). The number of RG species observed is also growing linearly with a predicted number of 723 species. The number of active members uploading content could be following an S curve with ~4000 unique accounts uploading fungi observations in 2023. The frequency of observation of particular species, unsurprisingly, follows an exponential decay, with a very long tail. The maximum number of RG observations by a single person was  $\sim$ 250, whereas the maximum number of RG species observed was ~85. Using the 2023 data set, the window of fruiting can be observed. The latitude of the observation can be easily obtained and combining with the date, a plot can be produced that shows when species are fruiting at various locations throughout New Zealand. Surprising results were obtained, and future work could be undertaken in this space by someone who can manipulate larger datasets more easily so that multiple years can be plotted on one graph.

#### New records of Deconica baylisiana

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The fungus *Deconica baylisiana* was originally discovered on the Rock and Pillar Range by Professor Geoff Baylis of the Botany Department, University of Otago and named for him by Egon Horak as *Nivatogastrium baylisianum* (Horak, E. (1971) *New Zealand Journal of Botany* **9**: 3). The collection date of the type specimen was April 1969. Subsequently, further specimens were collected by the Dunedin naturalist Kathy Warburton in December 2013. Sequence analysis of the ITS & LSU regions (Cooper, J.A. (2014). *Index Fungorum* **193**: 1) showed it to be a member of the genus *Deconica*. Due to its extreme rarity (known from three records, in three sites over an 83-year period) it was placed on the IUCN Red List for New Zealand fungi as a critically endangered species. At the Stewart Island NZ Fungal Foray in 2021, Lyttle *et al*. reported the finding of *Deconica baylisiana* at a new, alpine location at 1640 m, on the Old Woman Range in Central Otago. In the present talk, we will report further findings in new alpine areas in Central Otago and Rakiura, extending the range of the species. One collection was cultured successfully by Dr Andy Nilsen and is deposited in the International Collection of Microorganisms (ICMP24869). Linked plant-fungal invasions and their implications for indigenous ecosystems Ian A Dickie<sup>1</sup>, Sarah J Sapsford<sup>2</sup>, Lauren P Waller<sup>3</sup>

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More than half the plant species in Aotearoa NZ are now non-native, invasive species and these non-native species increasingly dominate ecosystems. Fungi are playing a key role in plant invasions and their impacts. In particular, co-invading ectomycorrhizal fungi are critical to the establishment and ecological impacts of wilding conifers (e.g., pine, Douglas-fir) and a number of other trees. Pathogenic fungi also occur on invasive plants, but rather than pathogenic fungi necessarily suppressing invasives, spill-over of fungal pathogens from invasive to indigenous plant species may actually further amplify the invasion process. Thus, the long-held concept of "enemy escape" driving invasion may be exactly wrong – it is the accumulation of fungi (both mutualists and pathogens) that may be driving invasive plant dominance of indigenous ecosystems.

### Here yesterday, gone today - the moveable feast of what is 'Present in New Zealand'

Peter Johnston, Jerry Cooper, Diana Lee, Duckchul Park, Natalie Morse

#### Manaanki Whenua – Landcare Research

New Zealand's agriculture-based economy means that the country has always had a strong interest in plant and animal health, including the fungi and bacteria that cause plant diseases. The first published catalogue of New Zealand plant diseases was compiled in 1939 by R.M. Brien, and several supplements were issued in the 1950's as Joan Dingley and others made efforts to better characterise the plant pathogenic fungi of New Zealand. Joan Dingley's 1969 'Records of Plant Diseases in New Zealand' collated all of this earlier data and added many new records. Many of the new records were based on specimens deposited in the fungal herbarium of the Plant Diseases Division of DSIR (PDD - these days known as the New Zealand Fungarium, but with the same official acronym of PDD) and the ICMP culture collection (started by DSIR and these days maintained by Manaaki Whenua alongside the dried specimens in PDD). Twenty years later, Shaun Pennycook updated Dingley 1969 in his compilation 'Plant Diseases Recorded in New Zealand'. The data from Pennycook 1989 was digitised and became the first iteration of the web-based NZFungi database, these days part of the data delivered through the Manaaki Whenua BiotaNZ web pages. BiotaNZ attempts to record all of the fungi reported from New Zealand, their synonymy and current name, host associations, and whether they are exotic or indigenous. These data are essential for managing New Zealand's border biosecurity, for understanding the health of plants of importance to New Zealand's economy, and as basic data to support applied studies such as developing new methods of disease control or interpreting eDNA survey results. Our present-day databases rely heavily on historical data, the names of pathogens and their hosts published in the literature right back to the 1930's, names provided for specimens deposited in PDD and other fungaria over the last 100 years, and increasingly on the names attached to DNA sequence accessions in GenBank. All of these data sources have their issues of reliability. We will discuss results from several recent studies that have tested the accuracy of some of the sources of the historical data delivered through BiotaNZ, through validation of the names attached to cultures in

the ICMP culture collection. The advantage of targeting living cultures is that DNA can be readily extracted, the sequences allowing the specimens to be placed in a modern taxonomic framework.

#### From trash to taonga — Fungi on Maungatautari

Duckchul Park, Andrew Dopheide

#### Manaaki Whenua – Landcare Research, Auckland, New Zealand

Many specimens collected from the Fungal Foray are discarded without proper identification or DNA testing due to time or cost constraints. Hence, we conducted this experiment using nanopore amplicon sequencing to obtain high-accuracy sequences at a low cost and in minimal time using discarded specimens. We took a small amount of tissue from 111 specimens collected from Maungatautari last year and combined them. From this, we performed DNA extraction, ITS/LSU PCR and proceeded with nanopore sequencing using a recently developed flowcell/library kit/basecaller boasting an accuracy of over 99%. This approach yielded approximately 50 OTUs. Upon comparison with the ID information provided by the collector, we discovered that about 70% of the OTUs matched, unveiling numerous new OTUs.

### Global diversity analysis of plant-associated *Pseudopithomyces* fungi associated with facial eczema in livestock

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Facial eczema (FE) in ruminants is associated with the fungal toxin sporidesmin that can cause significant mortality in grazing livestock. Incidences are particularly severe in New Zealand but are reported worldwide. The syndrome has historically been attributed to *Pithomyces chartarum*, a species transferred to *Pseudopithomyces* in 2015, however the classification of many other *Pithomyces* species remains unresolved. In this study we investigate the taxonomy of *Pseudopithomyces* using modern species concepts and clarify which species make sporidesmin. Fungal isolates were spore-purified from grass samples obtained from New Zealand farms in 2022, and from roadside collections in 2014, 2019, 2020 and 2021. International isolates, including all available types, and historic isolates deposited in the International Collection of Microorganisms from Plants (ICMP) were also evaluated. Phylogenetic analyses of the ITS region plus four concatenated protein coding genes distinguished 15 species in the genus, including new species and novel taxonomic combinations. Two species were recovered from pasture grass samples collected from the North and South Islands, with only one predominately associated with toxin production.