

A third type of relationship, illustrated by ergot (*Claviceps purpurea*), was mentioned. Here the infestation is of little importance for its effect on the crop; but the fungus body itself, though poisonous if included in food materials, can yield substances of medicinal value.

Dr I.D. Blair contributed some remarks about the importance of Canadian wheat in the repeal of the Corn Laws and in the subsequent progressive debilitation of agriculture in England. Had plant pathological research been successfully combated the inroads of wheat rust in Canada, Britain might have faced the present war with a different agricultural background.

NEW ZEALAND SPECIES OF METROSIDEROS.

Cheeseman's Manual (1926)		Revised (Oliver, 1928, Trans. N.Z. Inst., Vol. 29)
Florida (Scarlet rata)	W	<i>M. scandens</i>
Lindia (Southern rata)	W	<i>M. umbellata</i>
albiflora		<i>M. albiflora</i>
Parkinsonii		<i>M. Parkinsonii</i>
Hiffusa (Carmine rata)		<i>M. carminea</i>
aspericifolia (All white-)	W	<i>M. diffusa</i>
Colensoi	W	<i>M. Colensoi</i>
scandens	W	<i>M. perforata</i>
robusta (Northern rata)	W	<i>M. robusta</i>
omentosa (Pohutukawa)	P	<i>M. excelsa</i>
villosa (Kermadec Is., Pohutukawa)		<i>P. M. Kermadecensis</i>

- W - Growing naturally about Wellington.  
P - Planted but not occurring naturally about Wellington.

CORIARIA POTTSIANA.

Mr N. Potts, of Ootiki, who has long had *Coriaria pottsiana* in cultivation, states that he has grown it from seed, and that it comes true, as a good species would.

BUSH FUNGI.

One Saturday in 1942 the Society spent an afternoon in the new reserve on the slopes of Mt Johnson, Karori. Stormy weather had made the path slippery, but it was a fine warm day for the trip. Such conditions, warmth following rain, are ideal for the growth of certain of a group of plants which includes not only some of the most destructive, but also some of the most interesting, useful, and beautiful members of the plant kingdom -- namely, the fungi or mushroom family.

The conspicuous, colourful parts of the plant which we see growing in the bush, or on stale cheese, or in the shops at 5/6 per pound, are the fruiting bodies which produce the millions of tiny spores by which the fungi spread. The plant itself is only a tangle of the finest threads which penetrate deeply into whatever substance the particular fungus chooses for its food.

Some of the fungi are edible, others are used in the making of food, e.g. bread. Yet others cause dread destruction of crops, e.g. potato blight and wheat rust, and some cause disease in man, e.g. ringworm. But those we saw that Saturday grow always in the bush, and though their action is destructive, their presence is necessary and useful in the cycle of forest life. It is only when destructive fungi attack young trees or destroy or disfigure valuable timber that they become an economic menace.

No living thing exists in the same state for ever, and much as we admire the stately forest trees which dominate the bush, we know that while their shade is cast seedlings below struggle and do not reach maturity. Therefore it is a useful purpose served by the fungus which invades the wood of an overmature tree, and gradually causes it to fall, allowing healthy young trees to take its place. Such fungi gradually break down the wood of the great trunk, and so undermine its strength that at a time comes when it falls with a strong gust of wind, or when its branches are weighed down with snow or rain. The work of this type of fungus may be only just beginning when the tree is dead. It continues to spread, and many other fungi, some of which can grow only in dead trees, now attack. Tiny spores lodge in a wound or crack in the bark, and if sufficient moisture is present they spread

their threads deep into the wood where complex chemical changes take place; gradually, with the help of insects and bacteria, the whole tree crumbles back into rich humus to serve as food for its successors.

During our expedition a number of fructifications of different kinds of forest fungi were noticed and collected. Among the wood-destroyers on the trunks of dead or dying trees were the bracket-shaped hard shelves of *Polyporus applanatus*, black and furrowed on top and white on the spore-bearing, flat under-surface. These, unlike the fruit of most fungi (which grow and die quickly) are perennial and grow larger and shed millions more spores from year to year. Others in this category were the golden-crown *Honos robustus* and several species of colourful *Corias*, which are perennial, but spread over the surface of wood instead of forming brackets. These may prove to be resiniferous forms of the shelf-type. All these belong to the *Polyporaceae*, characterized by pits or pores on the lower surface, from which the spores escape.

Many other wood-destroyers are not "pored", e.g. spores are formed on a smooth under-surface in species of *Stereum* which spread over the bark, though with a tendency to form thin leathery shelves. Others are spindle or gilled, e.g. *Hydnum* and *Armillaria* respectively.

There are many more fungi in our bush than those that rot the wood of over-mature or dead trees. Some have little brightly-coloured cups and heads, or large vivid "toadstools"; others have blackish inconspicuous fruits. They live on decayed leaves and debris or in the bark, and their fructifications appear under warm moist conditions, especially in autumn. Their beauty is transient. They shed their spores and then die or are eaten by insects, but their presence in our bush makes its study more varied and our expeditions more interesting, besides supplying evidence on one aspect on succession in the life of the forest.

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