



there is no information about whether they are edible or not.

One common mushroom on wood in beech and broadleaf forest throughout New Zealand is *Armillaria*. It grows in tight clumps with several mushrooms arising from a single point. To the Maori it is known as 'harore' and is one of a small number of fungi eaten by the tangata whenua. The most common species of *Armillaria* has a slimy cap, and when cooked makes a tasty soup. Even if mushroom fruit-bodies of *Armillaria* are not found, its effect in the forest can often be seen in the unusual patterns left in rotted wood. Wood in a late stage of decay by *Armillaria* is black with many oval pockets, a so-called large pocket rot. Surprisingly, the same fungus outside of the beech forest environment becomes a damaging parasite of pine trees, and even of kiwifruit vines. In some parts of New Zealand, conversion of native forest to pine plantations has proved to be uneconomic due to the death of pine

seedlings caused by *Armillaria* spreading from dead stumps and roots of the cleared forest. 'Fungus icles' is the apt nickname for an intriguing looking, rare fungus called *Hericium*. The fruit-body, which forms on wood, is made up of fleshy lobes or branches with coral-like cascades of circular, pointed teeth. The spores are formed on the surface of these teeth. The fungus was known to the Maori as 'pekepekekiore' and was occasionally eaten.

On the floor of a beech forest, there is usually a thick layer of fallen, often brightly coloured leaves. If the upper layers of leaves are swept aside to reveal the older, partly decomposed leaves, fine stands of fungal hyphae may be seen binding the leaves together. Some of these hyphae will belong to mushrooms growing in the litter. Others may be from fungi with smaller, semi-microscopic fruit-bodies. With careful examination of the upper layers of leaves some of these fruit-bodies may be seen. One such fungus is the

cup fungus, *Lanzia*, in which the spores form in a cup and are forcibly shot out like bullets into the wind currents. Another is *Hypoderma* which produces spores within enclosed sac-like fruit-bodies partly embedded in the leaf tissue. The slit-like opening of this fungus is marked by a line of bright red cells, and in wet weather the sides of the opening fold apart, like an opening mouth, to allow the release of the spores.

Fungi Growing Within the Soil

Walk through a beech forest in autumn and you can't fail to be impressed by the colourful array of mushrooms fruiting on the forest floor. Most of these will be fungi that are only able to grow in a close relationship with the roots of beech trees. Such a mutually beneficial ('symbiotic') relationship between plant roots and fungi is very common and is called a 'mycorrhiza'. Hyphae from the fungal partner of the mycorrhiza form a mantle surrounding the root, much like a sock covers