NOTES ON FUNGI FROM MATAKANA ISLAND

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The opportunity to joint the Rotorua Botanical Society in a visit to Matakana Island in early winter (June) was too good to miss. While some may prefer to visit sandy beaches in summer, mycologists prefer the cooler months when macrofungi are more likely to be in evidence. Sand dunes are recognised around the world as providing an interesting habitat for fungi, and New Zealand is no exception. I was particularly keen to see whether a 'new' species of basket fungus was present there. Up until recently, two species of basket fungus were recognised in New Zealand, the spectacular and common *Ileodictyon cibarium* (the 'classic' Basket Fungus) and the less common and smaller *Clathrus chysomycelinus* (the Golden Basket Fungus). However, for a few years now, we have recognised that there is a third species of basket fungus present on sand dunes through much of the country. It closely resembles *Ileodictyon cibarium*, but differs morphologically in its turbinate (top-shaped) rather than globose 'egg' stage and somewhat elongated, rather than globose, 'basket'. It also differs ecologically in being restricted to active sand dunes, whereas *I. cibarium* is not found in this habitat but occurs widely in forests and shrublands as well as gardens and wood-chip mulches. Having briefly described the target, our group soon found some of the distinctive eggs of the sand-dune basket fungus (*Ileodictyon* sp.) Interestingly, the first colony was associated with the native sand-binding grass *Spinifex sericeus*, whereas many of the previous collections have been associated with the introduced marram grass (*Ammophila arenaria*). We did however find it associated with marram at another site. The 'eggs' of both species of *Ileodictyon* develop on stout white root-like mycelial strands (rhizomorphs) that permeate and gather nutrients from the substrate. The basket fungi are usually regarded as saprophytes, aquiring nutrient from decaying plant matter. In the case of the sand-dune basket, I've traced the rhizomorphs into the sand without coming across any obvious decaying plant material or close linkage to the nearby sand-dune plants. However, close examination of some decaying *Spinifex* stems did show

fruiting bodies of one of the bird's nest fungi, *Cyathus stercoreus*. This species is common throughout New Zealand and much of the world often, but not always, on herbivore dung. It is characterised by a lead-gray inner surface to the 'nest'.

Moving away from the foredunes, much of Matakana is planted in exotic pines. Pines host a suite of interesting mycorrhizal species on their roots, and indeed these fungi are critical to nutrient aquistion by the trees. Fruit bodies of *Suillus*, superficially mushroom-like but with pores rather than gills, were common at the time of our visit. My particular interest however, was in the genus *Rhizopogon* a group of truffle-like fungi related to *Suillus*. They are called truffle-like because the fruit body is enclosed and the spores are not dispersed by the wind as in gilled and pore-bearing 'mushrooms'. The pine *Rhizopogon* produce globose whitish-brown fruit bodies up to about 3 cm across both on and under the soil (in this case sand) surface. Both of the species traditionally associated with pines in New Zealand were present, *R. roseolus* (= *R. rubescens),* which blushes pink when damaged, and *R. luteolus*, with conspicuous mycelial strands over the fruit body surface. *R. roseolus* is considered an edible species in Japan, where it is known as shoro, but it does not command the high prices that the true truffles can.