



Title: 'Woolly bird's nest fungi'

Description: Woolly bird's nest fungus (*Nidula niveomentosa*) at Pelorus Bridge

Photographer's name: Noelle Bennett

Where and when: Pelorus Bridge, Marlborough. June, 2020.

Sustainability: With a diameter of between 5 and 7 millimetres, bird's nest fungi are 'saprobes' (decomposers) that grow on wood. Saprobes are the recyclers of the forest – without them dead plant material would be heaped everywhere and their precious nutrients would not be broken down and fed back into the plants and animals coming after them. The body of the fungus is the "mycelium", a mass of branch-like 'hyphae' (minute threads) that spread out inside dead wood or leaves or in the soil to break it down. There were few saprobes alive in the 'carboniferous era', some 300 – 360 million years ago, so the wood piled up and only very slowly rotted or turned into coal. The carboniferous era ended in a mass biodiversity extinction event caused by of climate change and wildfires. Thereafter fungi evolved to be able to break down the lignin in wood and decompose it, recycling all the nutrients back into the soil to feed the trees. It follows that fungi are providing crucial 'regulating' ecosystem services' that are keeping life's wheels turning, not to mention protecting us from wildfires!

The interesting thing about bird's nest fungi is the way they spread their spores. If you look carefully at this image, you will be able to see what appear to be little eggs inside the 'nests' (hence its common name). But each of those 'eggs' is actually a spore packet, known as peridioles, whilst the 'nest' is what's known as a splash bucket. Before the fungi reaches maturity, the splash bucket is covered with a thin membrane. Once maturity is reached, the membrane disintegrates. When it rains, a raindrop will hit the splash bucket and propel the spore packet out of the nest. The force of the raindrop can sometimes shoot the spores as far as three metres away. How's that for a tricky way of launching your propagules into the wider world? Ecologists emphasise the importance of this 'dispersal', a way of spreading your genes into the surrounding landscape and finding new space to exploit well away from the parents.

Often there is a fine thread attached to the spore packet of bird's nest fungi. When this hits some low vegetation,

that thread wraps around a twig or a leaf, suspending the spore packet above the ground. When the spore packet opens up and releases the spores, they have a much greater chance of spreading widely on the wind, making this an even more successful means of dispersal than launching with the help of raindrops.

Photographer's notes: These fungi are tiny and are frequently well hidden in amongst leaf litter and fallen branches, so trying to spot them is a difficult task. But then, I guess that applies to so many of fungi. I don't think I can stress enough the importance of taking time just to look around. So often, the first impression of a patch of bush is that there is nothing there, but take a little time and who knows what you will find. Have a look around the galleries in this website too - this is one of more than 14 photographs of fungi so far and the commentaries for each feature different aspects of the amazing lives and roles of fungi in ecosystems.

Photo specs: This individual image was focus-stacked using 30 images taken at five unit increments to ensure the whole of the structure was in sharp focus. Technical specs: The image was taken using a Panasonic DC-G9 camera and a Panasonic Leica DG Macro-Elmarit 45mm f/2.8 macro lens. Exposure details - 1/30 sec at f3.5 with an ISO of 400 and a focal length of 45mm (90mm full frame equivalent).

Digital specs: 6363 x 5178 pixels (32.95MP) @ 300dpi

Key words: woolly bird's nest fungus, *Nidula niveomentosa*, Pelorus Bridge, Marlborough, dispersal, Noelle Bennett, Ecosystems Photography, sustainability.

Price: \$150 (incl. GST) for use of the digital image. Visit www.ecosystemsp photography/sales for details & to order, or to get a quote if you would like a high-quality print.

Donation: The price includes a \$100 donation to a sustainability organisation or project of your choice, or otherwise to the *Marlborough Branch of the Royal Forest & Bird Protection Society* <https://www.forestandbird.org.nz/branches/marlborough>.

We recommend that the donation goes to *the Marlborough Branch of the Royal Forest & Bird Protection Society* to support their work on environmental monitoring, advocacy and education. Regional offices keep their eyes and ears tuned for local issues and combine with other branches to support a vigorous and effective national body based in Wellington – a good example of thinking nationally and acting locally. The branch members are monitoring bats at Pelorus Bridge where this photograph was taken.

Image ref: NB#021 (please use this reference in all orders and correspondence).

Noelle Bennett

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