Title: “Bonsai beauty”

Description: Denniston Plateau

Photographer’s name: Noelle Bennett

Where and when: Denniston Plateau, West Coast, July 2021

Sustainability: Throughout our trip across the Denniston Plateau (20 km east of Westport) and then up to the summit of Mount Rochfort, we kept coming across these stunning stands of native trees and plants. At first glance they look similar to native vegetation that you would see elsewhere in New Zealand until you realise that they were all in miniature. The trees would have been shorter than I am (I’m quite short!) and everything looked as though some kind of bonsai artist had been practising and finessing their art. And all the vegetation was nestled so neatly in amongst the sandstone blocks.

Diminutive growth forms are common in in rocky and higher ground, primarily because of harsh weather and shallow soils. These high alpine habitats are generally lees biodiverse than the warmer more fertile sites on lower ground. The same general pattern holds for latitude – the closer to the warm equator, the more biodiverse the ecological community. These ecological gradients drive specialisation and change in the plants and animals found there, in many instances driven by soil characteristics. Fundamentally, it’s the interaction between base geology, climate, and soil set the broad characteristics of the ecological community and ecosystems and the evolutionary and disturbance history (biogeography, glaciation) that determine what thrives there. Conservation biologists often aim to maintain or restore a ‘representative’ ecological community there – a kind of benchmark of what naturally “should” be there, and in the case of invasive species, what shouldn’t live there. Recently the term “Ecological Integrity” has been coined to wrap up all these ideas of ecological goals and management of change.

To aid planning and risk assessment, New Zealand was divided into ‘Ecological Regions’ and ‘Ecological Districts’ to demark theses representative assemblages of species. The Denniston Plateau falls in the North Westland Region and Ngakawau ecological district. The classification system nicely illustrates why we have such ecological variety in a small country - ecology changes with latitude (we are a long thin country running north to south), altitude (ecosystems change rapidly from sea level to mountain tops over a short distance, especially on the West coast) and with geology (geologically speaking, we are a young country being pushed up by the collision of the Australian and Pacific tectonic plates).

Life starts in the ground, and these bonsai forests are just hanging in there. It’s absolute perfection for somebody looking for a photograph that would be just a little bit different.

Photo specs: This image is a composite of three images which have each been taken using different exposure levels in order to maximise the dynamic range of the finished photograph. I wouldn’t normally attempt this technique with

flowers but the undercut meant there was sufficient shelter to stop the foliage moving around too much. Technical specs: The image was taken using a Panasonic DC-G9 camera and a Panasonic Lumix G-Vario 12-35mm f/2.8 lens. Exposure details - 1/30 sec at f10 with an ISO of 100 and a focal length of 31mm (62mm full frame equivalent).

This is one of a series of four in the Ecosystems Photography portfolio captured from the plateau: “Mount Rochfort paradox”, “Tussock haven”, “Coy” and “Bonsai beauty”.

Digital specs:10,000 x 7344 pixels (73.44MP) @ 300dpi

Key words: Mount Rochfort, Denniston Plateau, West Coast, Westport, Buller, mine, mining, vegetation, sandstone, outcrops, tussock, Buller, Ecological Districts, Ecological Integrity, biogeography, geology, Noelle Bennett, Ecosystems Photography, sustainability, conservation.

Price: $300 (incl. GST) for use of the digital image. Visit www.ecosystemsphotography/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 West Coast Branch of the *Royal Forest & Bird Protection Society* https://www.forestandbird.org.nz/branches/west-coast.

We recommend that the donation goes to West Coast branch of *Forest & Bird* to support their work on predator trapping, environmental advocacy and education. They have a Kiwi Conservation Club for younger members. Mobilising conservation action on the West Coast is a formidable logistic challenge – the district is 400 km long and there are about 80 members only – they could do with our support.

Image ref: NB#039 (please use this reference in all orders and correspondence).