

Conservation efforts

Some New Zealand mosses may be under threat from harvest. Many are believed to grow very slowly.

Sphagnum moss harvesters on the lush West Coast, where growing conditions are best for the species, tend to leave a boggy area at least three years before coming back for more.

Recently, species other than sphagnum have been sighted in flower shops. Moss expert Jessica Beever warns that moss used in flower decorations has probably been taken from a natural area, rather than cultivated. There's a danger in this, she says: taking any element from a natural ecosystem can result in imbalances and loss of habitat or food for other creatures.

Some 60 New Zealand mosses are already considered by the Department of Conservation as 'threatened' or 'believed threatened'.

The biggest conservation problem for mosses (and other small plants and animals) is the comparatively small amount of attention they receive. When we take a close look and realise the extent of the stunning biodiversity within these tiny worlds, it begs the question: are we really committed to protecting all of New Zealand's biodiversity?

Our research and conservation funding focuses on larger animals and plants that we can see easily. Yet 99 percent of plants and animals are smaller than one centimetre and their contribution to ecosystem functions is huge. What changes are going on with these tiny creatures that we

haven't noticed, and how will that affect the whole ecosystem?

Humans the world over are charmed by 'charismatic mega-fauna' sometimes to the neglect of the biodiversity of the whole ecosystem. This rampant size bias may come back to bite us, if important but neglected small species become extinct, and irreplaceable parts of ecosystems are lost. — JO MACKAY *has a particular enthusiasm for mosses.*



Above: Leptostomum macrocarpum moss grows on a nikau trunk.

Below: Some mosses can survive temperatures of more than 50° Celsius, growing on thermal soils. Craters of the Moon, Taupo.



Dr Jessica Beever, Moss Enthusiast



J.E. BRAGGINS

Plant physiologist Jessica Beever was up in the Waitakere Ranges of Auckland one day, with one of the best moss identification books then available, Allison and Child's *The Mosses of New Zealand*. She tried to 'key out' a moss with her grandmother's microscope, by chance picked a distinctive one, and found it a 'piece of cake!'

Two decades later, Jessica's enthusiasm for her little green fuzzy friends continues. As a Landcare associate in Auckland, she studies and describes mosses. She revised Allison and Child's book, creating the ideal moss-lovers' companion, with full-colour photos and quick clues to identification.

By playing sleuth, Jessica has also helped to protect one of New Zealand's rare aquatic mosses, known from only two locations. A herbarium specimen of *Fissidens berteroi* had been collected from the Onehunga Springs a century before. This freshwater spring, now in the depths of urban Auckland, had almost disappeared beneath a pumping station many years ago.

Jessica tracked down the one small outlet where the spring saw the light of day. There, she found the moss — it had been hanging on to life on a patch of wet concrete for decades.

Steps are now being taken to protect the site.