

## Introduction

# New Zealand seeds — their morphology, ecology, and use as indicators

This issue contains 11 papers presented at a symposium on “New Zealand seeds—their morphology, ecology and use as indicators” held to celebrate the launch of *Seeds of New Zealand gymnosperms and dicotyledons* by Colin J. Webb and Margaret J. A. Simpson on 28 November 2001. The symposium venue was Lincoln University, Lincoln, Canterbury, on 29 November 2001. The symposium was jointly organised by Landcare Research and the New Zealand Botanical Society.

The scope of the symposium was deliberately broad to encompass a wide range of research relevant to seeds of indigenous New Zealand plants. Colin Webb presented the keynote address and provided an overview of *Seeds of New Zealand gymnosperms and dicotyledons*, including a critique of the major types of seeds, methods of dispersal, and variation in form and structure. This was followed by a number of papers specifically on seeds, including aspects of their storage and germination, formation, and quality. The second major theme was seeds and their ecology, with papers on dispersal, seed size, annual production, establishment in natural ecosystems, the macrofossil record, and seed capsule characteristics.

We particularly thank those who prepared papers for presentation at the symposium, and we would like to thank all participants for their contributions to the discussions. We also thank Dr Fran Kell, Editor, *New Zealand Journal of Botany*, for facilitating the publication of the seed symposium papers published in this issue.

### Papers presented at the symposium

Webb, C. J.: Seeds of New Zealand gymnosperms and dicotyledons.

McGill, C. R.; McIntosh, J. C.; Outred, H. A.; Fountain, D. W.: Composition of seed storage reserves in Chatham Island forget-me-not (*Mysotidium hortensia* (Decne.) Baillon) and their effect on storage.

Heenan, P. B.; Dawson, M. I.: Apomictic seed development in *Coprosma waima* (Rubiaceae).

Hampton, J. G.; Hill, M. J.: Seed quality and New Zealand's native plants: an unexplored relationship?

Rolston, P.: Endophytes in New Zealand grass seeds: occurrence and implications for conservation of grass species.

MacKay, A. C.; Fountain, D. W.; Clemens, J.; Outred, H. A.; McGill, C. R.; Southward, R. C.: Seed dormancy and germination of a panel of New Zealand plants selected for revegetation studies.

Fountain, D. W.; McGill, C. R.; Southward, R. C.; Sproul, R. V.; MacKay, A. C.; Outred, H. A.: Assessment of germination and vigour status of 25 year old seeds of *Sophora microphylla*.

Norton, D. A.; Heenan, P. B.; Ladley, J.; Godley, E. J.: Germination of *Sophora* seeds after prolonged storage.

Molloy, B. P. J.; Godley, E. J.: Dispersal of kowhai seed (*Sophora* spp.) to the Chatham Islands.

Williams, P. A.; Standish, R. J.: Large seeds are best to overcome weeds.

Burrows, C. J.: Seed trapping in Ahuriri Valley Bush, western Banks Peninsula, 1986–1990.

Garnock-Jones, P. J.; Woods, M.; Malcolm, B.; Sneddon, B.: Hygrochastic capsules and seed dispersal in New Zealand cushion plants.

Martin, T.; Ogden, J.: The seed ecology of *Ascarina lucida*: a rare native tree species adapted to disturbed environments.

Berry, C.; Stewart, G.; Duncan, R.: Post-dispersal seed predation in podocarp-hardwood forests: Who, where, when and does it really matter?

Harris, W.: Seedling and seed capsule splitting variation of New Zealand and Tasmanian populations of *Leptospermum scoparium*.

McGlone, M.; Wilmshurst, J.; Moar, N.: The Quaternary bridesmaids: Seeds and other macrofossils in the recent New Zealand plant historical record.

Lee, W. G.; Lloyd, K.: Seed ecology and distribution of species – a few stories from New Zealand.

**Posters presented at the symposium**

Schmidt-Adam, G.; Murray, B. G.; Gould, K. S.:  
Seed biology of *Metrosideros excelsa*.

Southward, R. C.; Fountain, D. W.; Gao, R.; McGill,  
C. R.; Outred, H. A.: Biology of seeds of puriri (*Vitex  
lucens*).

McGill, C. R.; Kharb, R.; McKay, A. C.; Castenada,  
M.; Schmidt-Adam, G.; Outred, H. A.; Fountain, D.  
W.: A method for the assessment of recalcitrance in  
seeds of New Zealand native plants.

McGill, C. R.: Use of a temperature gradient plate  
for germination studies of *Pachystegia insignis*  
seeds.

Outred, H. A.: Seed dispersal in New Zealand native  
plants.

Fountain, D. W.; Outred, H. A.; Dixon, L.; McGill,  
C. R.: Dormancy and germination of seeds of  
indigenous New Zealand plants: a review of  
literature to date.

P. B. HEENAN

I. BREITWIESER

Seed Symposium Organisers

Landcare Research

P.O. Box 69

Lincoln 8152, New Zealand