

**REVIEW: AN ILLUSTRATED GUIDE TO WEED SEEDS OF NEW ZEALAND**

BY TREVOR JAMES, IAN POPAY, PAUL CHAMPION, NIC GRBAVAC, BIRGIT RHODE

New Zealand Plant Protection Society, Lincoln. 2012. 126pp.

**Bryony Macmillan**

21 Bannister Place, Burnside

This is a delightful picture book for those who enjoy the shapes, colours and appendages of plant propagules. At the same time it is a solid aid to identification for those charged with the protection of crops, wild places, waterways, and our borders from undesirable plants. In a very informative introduction the authors state that there is much variation in shapes and colours of seeds, so that from 2–8 examples (especially in Poaceae) are shown from each species. Also that which we term the seed may include an enclosing structure, e.g. the utricle of *Carex*, and that seeds bear a variety of ornamentation that aids in dispersal, e.g. the pappus of dandelions.

Eighty-five families are treated, arranged alphabetically, with representatives from most habitats. Plants from the National Plant Pest Accord List are well covered. Aquatic plants seem to be less well represented, although none of the five most difficult to control species sets seed in New Zealand, reproducing vegetatively (Popay et al. 2010). Some plants that cause concern locally, for example thyme, periwinkle, pig's ear, species of pine, *Salix cinerea*, *Buddleia davidii*, and Darwin's barberry do not appear. Wandering Jew (*Tradescantia fluminensis*) is not found because it is sterile. An occasional plant is included that is commonly grown in gardens but is not yet naturalised, e.g. *Clematis cirrhosa*. Some indigenous plants that are thought to have weedy characteristics (induced by the activities of man) include mānuka, bidibid (*Acaena anserinifolia*), fireweed (*Senecio glomeratum*), and some grasses that need to be distinguished from naturalised relatives. The seeds of plenty of our common garden friends are illustrated, with remarkable and surprising patterns, for example, chickweed (*Stellaria media*) with a circular pattern of window-like sculpturing on a dark background, and milkweed (*Euphorbia peplus*) oblong, grey, with two long dark pits on one side and round pits on the other sides.

The publishers, New Zealand Plant Protection Society, have maintained a long tradition since they were set up in 1948 of producing volumes that present the work of scientists to the public. This book is a valuable companion to those by Popay et al. (3<sup>rd</sup> edition 2010) and Champion et al. (2012) in which fine details of propagules can seldom be illustrated.

How far can this book be a companion to DSIR's *Seeds of New Zealand: gymnosperms and dicotyledons* (Webb & Simpson 2001), which covers the indigenous seed plants except the monocotyledons? The two volumes should be used together; when identifying a seed we do not necessarily know

whether it is from a naturalised or native plant. A x10 hand lens is needed for both books, and greater magnification as when distinguishing the patterns on the testa, as in *Geranium*. We are able to compare the species of genera common to both volumes, e.g. *Clematis*, where there is a general similarity, but in *C. vitalba* (old man's beard) the long hairs of the style extend to its base. Also when the naturalised species belongs to a different section of the genus as in *Acaena agnipila* (Australian sheep's burr) where the encasement of the seed is strongly ribbed and many-spined in comparison with *A. anserinifolia*. Conversely, the seeds of most naturalised *Lepidium* would be hard to tell apart from the natives, with their gibbous shape and orange-brown testa, so one would need to rely on the habitat notes carefully given by the authors.

The photographic skill of Birgit Rhode goes a long way to introducing the reader to the beauty, complexity, and effectiveness of the seeds falling around us.

## References

- Champion P, James TK, Popay AI, Ford K 2012. An illustrated guide to common grasses, sedges, and rushes of New Zealand. Lincoln, New Zealand Plant Protection Society.
- National Plant Pest Accord (2012). Ministry for Primary Industries.
- Popay I, Champion P, James T 2010. An illustrated guide to common weeds of New Zealand. Lincoln, New Zealand Plant Protection Society.
- Webb CJ, Simpson MJA 2001. Seeds of New Zealand: gymnosperms and dicotyledons. Christchurch, Manuka Whenua Press.