

## A New Zealand Biodiversity Recording Network

Colin Meurk

Landcare Research, 30<sup>th</sup> June, 2005

A number of biologists have identified gaps in the current national recording systems for natural history information in terms of type of data and involvement of the community. There are extremely valuable data that have been accumulated over the life times of professional field workers and amateur natural historians that in the modern world are in danger of being lost to posterity. To address this, an interactive, web-based data storage and retrieval system to accommodate natural history observations by professionals and lay people alike is to be funded by TFBIS. This will provide a means of safe storage of data on plants, fungi, invertebrates and birds and generate distribution maps that are continuously updated. It will also play an important role in engaging the wider community in natural history observation and enhancing understanding of the wider context of those observations.

NZ lags well behind other, older established, cultures in developing a foundation of natural history recording. This is exacerbated by the extremely critical state of our biodiversity. Much historical distributional data could be lost completely if it is not captured in the next decade or so. Europe, for example, has historical biological data going back centuries and this is now collated in the form of information rich species' distribution maps (Fitter 1978: *An Atlas of the Wild Flowers of Britain and Northern Europe*). 10 million natural history records are available though the UK's National Biodiversity Network, itself built on decades of activity by the UK National Federation of Biological Recorders and its member organizations. These data form the basis for much management and planning for biodiversity, including conservation policy/legislation and establishing national/local Biodiversity Action Plans. NZ does not have this tradition and hence much of our planning is *ad hoc* and ill informed. Knowledge of historical and potential species' distributions will be vital to restoring habitats across our now highly fragmented cultural landscape. There is also a need to Document the spread of weeds and pests in order to better prioritise and manage them.

Such a facility is not duplicated by other current or planned systems. Data associated with vouchered specimens in securely maintained collections are the ultimate in authenticity, but they will not be able to cope with the density of information needed to establish detailed spatial depictions. To this extent these data will complement and fill in the gaps. The National Vegetation Survey (NVS) and associated systems (with its existing >60 000 formal plots) are resource-intensive and plot-based and again cannot be replicated at a high density across the entire country. The NZ Plant Conservation Network is specifically focussed on conserving the indigenous flora and focuses on voucher-based rare and endangered species.

Several Botanical Societies have databases of plant records from their field trips. We have already negotiated use of these records and hope that the extensive electronic records of Graeme Jane will be uploaded onto the BRN. John Sawyer (pers.comm.) estimates there are some 3000 such lists in the country. An effort would be made to capture this data to establish quick 'runs on the board'.

## Summary

- We identify the need for a publicly accessible biological observation recording system – that is not being fulfilled by existing institutional facilities.
- We have demonstrated that there is a demand, a desire and willingness to participate in similar web-based networks (both overseas and in NZ), and a low risk of failure.
- We have devised a system that avoids any hint of partisan ‘ownership’ but which has the long-term security of being backed by key institutional players. The BRN would be set up with a GBIF portal. An independent board of stakeholders would operate the network (akin to the British Federation of Biological Recorders). All data would be available for use by participating institutions (e.g. BIOWEB) as well as by members of the public (except for sensitive or designated private records). We would ensure there was a termination clause that provides clear succession in the event the primary host can no longer operate. Danger of this will be far smaller when a public institution is hosting it.
- The beauty of this proposal is that it does not involve reinvention of the wheel, but rather utilises and adapts, for NZ conditions, a public domain product already tried and tested in Sweden (Artportalen) and which in the space of about 5 years has accumulated in the order of 9 million records. It is having phenomenal success and provides most of what we would want for NZ.
- We believe that the proposed NZBRN will fulfil an important role in the suite of biological recording systems in NZ – by providing a framework for storing historic *ad hoc* data collections and future observations by an (increasingly) educated and participatory public.
- Finally, there is a relatively low level of knowledge about our natural history in NZ, but a high level of interest in knowing more (based on surveys in Auckland and Christchurch and experience from pilot web-based recording systems in Christchurch and Waikato), and being involved in the process of collecting this knowledge. This unfulfilled demand exists partly because of the lack of easily accessible information (outside of birds and conspicuous plants) and a means of people becoming involved.
- Being able to record even the simplest observation, knowing that it is contributing to a bigger picture, and being able to see change in records as they participate, will be a very motivating, self-reinforcing and synergistic experience. This is needed to address the threat that our biodiversity faces and the indifference of many of our decision-makers. An informed, motivated and empowered public will be better placed to apply greater pressure on decision-makers to prioritise nature conservation and biosecurity control and thereby improve our biodiversity outcomes.

Fig. *Samolus repens*, common on coastal turf and rocky places in reach of salt spray. Hugh D Wilson, *Stewart Island Plants*, 1982

