Monday 30 January, afternoon, Walter Scott Forest and Bird Park: Barbara White

The forest track was easy, well formed and leaf covered and it took us about two hours to complete the circuit.

Our aim was to find *Thismia rodwayi* under the leaf litter, but we were unsuccessful. The dominant trees were pukatea (*Laurelia novae-zelandiae*) and tawa (*Beilschmiedia tawa*). Crowds of young pukatea bordered the path. Young *Coprosma grandifolia* also lined the way and there were many patches of the beautiful moss *Hypnodendron*.

Near the start of the track we saw *Hymenophyllum rarum*, a beautiful patch of *H. flabellatum* and an extra long *Asplenium flaccidum*. Later we noticed several large kamahi (*Weinmannia racemosa*) growing on tree fern trunks, some very lush nikau (*Rhopalostylis sapida*), a patch of ear fungus and other fungi, supple jack (*Ripogonum scandens*) and a few very attractive examples of *Asplenium oblongifolium*.

The largest tree we came across was a kahikatea (*Dacrycarpus dacrydioides*) standing almost in the stream; we estimated it to be about 1.6 m in diameter. There were a few young kahikatea nearby.

On either side of the bridge and along one bank of the stream were a number of king ferns (*Marattia salicina*). Some of the group wondered if this had been planted or whether it occurrs there naturally.

Birds: Paul Asquith

The opportunity was taken to survey several 10 km squares around the Te Kauri Reserve area as part of the recently started five-year nationwide census of bird distributions. The weather was not the best for seeing and hearing birds but 44 different species were seen and/or heard over the three days. Notably, we saw bellbird, whitehead, greenfinch, fernbird, banded dotterel, bar tailed godwit, pied stilt, black swan, caspian tern and a bittern.

A beach patrol along the length of Kawhia beach also turned up the remains of an antarctic fulmar.

Acknowledgements:
Special thanks to Peter de Lange for providing species lists and some valued expertise, to the Hamilton Junior Naturalist Club for allowing us to use their library and herbarium and to Kay Parry for providing some local knowledge and companionship.

Book review: "Flora of New Zealand. Vol. V (Gramineae)"

by Henry E. Connor and Elizabeth Edgar

(with contributions by W. R. Sykes & M. I. Dawson). Manaaki Whenua Press, Lincoln. 2000 [1999 in cataloguing-in-publication data]; lxxxii, 650 pp., ill., HB, NZD 55.00.

Rhys Gardner

The Flora of NZ Tracheophyta series, initiated by H. H. Allan so long ago, is now completed by this its fifth volume. It is everything one would expect from the two principal authors, a mighty work of scholarship and taxonomic acuity, and if what follows here seems to be mainly fault-finding, this is simply one expression of the mysterious nature of botanical bibliophily. *Sertis karetu decorentur!*

A dedication is made not to Allan, Cheeseman or Hooker but to one of the forgotten men of 19th century NZ science, John Buchanan (1819-1898), collector, grass-devotee, flora-writer and most skilful artist. A biographical note could have been provided and one of Buchanan's native grass lithographs as frontispiece would have been a graceful addition.

Physically we have here a compact volume that (unlike the swollen fourth) should be able to resist any amount of use. But given the size of the page and typefaces, the amount of text for each species often runs overleaf, which I found unappealing. We

might not have wished for a bible-paper version but consideration should have been given to using a smaller principal typeface, especially for the often copious nomenclatural details that accompany, rather unnecessarily in my opinion, many species-headings.

The Preface is variously instructive (Buchanan's grass-Flora), discursive (the hobby of Henry Connor, poisonous plants, is allowed an frisk), witty (Agnes Arber brings down the curtain, at Hilaire Belloc's invitation) and mystic ("SS Thomas More and John Fisher"). Alas, it is also uncharitable in one place: the collecting and revisionary work the late V. D. Zotov did on our grasses is not mentioned, save for lukewarm comment on the sketches he provided for Allan's "Introduction to the Grasses of New Zealand".

In the preliminary matter the structure of the New Zealand grass flora is explained and statistically analysed (so pleasing Rudolf Schmid - see *Taxon 46:* 168). Disclaimers are made with respect to evolution: we ... tired of [the comment] 'Where is the cladogram?' ", and exhortations to the next grass-Flora writers that they must live in monophyly are eschewed in favour of the tautology: "the next grass to become naturalised in New Zealand is not yet established" with wry aside that the arrival of the latest in this line, *Achnatherum caudatum* of South America, has been awaited by H. E. C. for forty years.

In fact a more significant piece of exhortation is made. The section on the reproduction modes of NZ grasses promotes very strongly the need for detailed descriptions of the floral parts and the grain, as was emphasised by the great C. E. Hubbard. In this respect the species descriptions in this book are marvels of completeness, comparability and biological interest.

In the analysis presented of the NZ grass flora we will hardly be surprised to learn that we now have quite a few more aliens than natives. The neoclassical "transient", for an alien found only once or twice, replaces Flora IV's "zeta entry"; loss of this nice term, so reminiscent of Foreign Passport queues at airports, is perhaps not worth much grief.

The usual Taxonomic Annals section gathers only six pre-1960 stragglers. Unfortunately it is not up to date, reaching only to December 1996. Presumably underfunding of the project is to blame for this, and also for the lack of recent revision, by the authors or any student of theirs, of several genera, most significantly *Hierochloe* and *Deschampsia.*

A listing by Murray Dawson of native grass chromosome numbers follows; analysis has been done earlier, in the Preface. Nearly all our grasses are polyploid, the subantarctic *Poa litorosa* having the highest chromosome number so far known for any grass (or, for that matter, any monocot?).

The body of the work begins with a synopsis and key to the major supra-generic groups but there is no general description or illustration of the family so those not familiar with the morphology of grasses have to get help from the sketches dispersed through the book. This is reasonable; after all it is a Flora not a textbook. But an elaborated family description and notated diagrams for the three subfamilies would probably have been welcomed and not just by the rural intelligentsia.

The arrangement of the major groups is not alphabetical, though the arrangement of genera and species within them is, and no page references for these major groups are given in the synopsis and key. Nor is there an index to the genera on the book's inside back cover. To seal this saga of inconvenience the generic headers on each page have been placed by the gutter rather than by the margins. All this means that one might spend some time searching for the desired piece of text. For example, in subfamily Arundinoideae we first reach tribe Arundineae and then Danthonieae, but then, without a key under the latter or even a page reference, subtribe Cortaderiinae follows subtribe Danthoniinae by almost seventy pages.

I cannot comment generally on the workability of the book's keys, but was dismayed at having to choose in the very first couplet between stems being bamboo-like or cane- or reed-like, with no clues as to what genera might fall into the second alternative. In *Chionochloa* I note the reappearance of the major obstacle to my determining specimens for myself, the key's dependence on the mode of leaf disarticulation. This merely repeats the hierachy set out in the adjacent synopsis. Yet in *Rytidosperma,* the key, an old friend, is almost entirely compiled from floral features. Are the two genera really that different?

There is no mention of whether or not the species descriptions are mostly based on living material - in view of the authors' long access to cultivated plants and the frequent mention of colour of anthers etc., I suppose this would be so. Knowing this is essential at least once: the colour of the leaf surfaces in the two introduced pampas grasses is used in the key

but I believe this difference is undetectable in dry specimens.

Returning to matters of presentation: I doubt that Hooker would have thought much of the listing of records for the Kermadecs and Three Kings Islands after those of the South Island and Chatham Islands. Biogeography is a more precise science than this. And the abbreviation Id for island, without a stop, instead of I., seems ugly to me and is not used widely outside the Flora NZ series.

The descriptions of alien species are followed by the phrase "naturalised from country X" which is slightly misleading - why not just say "native to country/region X"? And why omit that very useful piece of information for an alien, the first collection date? Not everyone has ready access to the *NZ Journal of Botany* articles which can (sometimes) provide this.

Occasionally it would have been helpful to have latitude and longitude for the distributions of some species (this has been done only once, for *Microlaena carsei*). For example, the West Coast locality "Maher's Swamp" [Barrytown], the only recent South Island locality for *Amphibromus fluitans* and *Isachne globosa*, is not to be found on the NZMS 260 map. Some Maori names are used to indicate vegetation type, e.g., manuka-kanuka, matagouri. These should have been accompanied by the Latin, for overseas botanists' convenience.

Maori names for grasses are hardly mentioned. A list should have been given; after all, enduring works such as this one will be mined by anthropologists, linguists, etc. for many years to come. And if Banks and Solander collected a particular species, that proof of its being a native plant should have been noted.

Typographical mistakes and other slips are few. Agrostologist B. K. Simon's surname is misspelt in the Preface. The *Dendrocalamus* species epithet should be *latiflorus*. The distribution information given for *Cortaderia jubata*: "south from Lake Taupo ..." appears to have lost its first line. *Narduus stricta* does occur in Westland, e.g. (*ROG 8348*, AK), and in fact Westland is included in the distribution given in the relevant *NZ J. Botany* checklist. *Bothriochloa macra* is said to have "formerly been known as *Dichanthium annulatum*" but only as a mis-identification in this country. On the grounds that we speak English not Afrikaans I prefer "veldt" to "veld" for *Ehrharta* grasses. The publication by Knowles and Ecroyd on *Cortaderia* in New Zealand, with its excellent habit photographs that complement those (both of South Island species) in this Flora is not referred to under the genus, though it is referenced in the Taxonomic Annals section.

Lapsi eruditionis are rare. The type collection of *Cenchrus caliculatus* (a Pacific species here called "large burr grass" but more appropriately "piripiri") was made by the Malaspina Expedition on Vava'u in Tonga, not in the Societies. There is a deficiency in the generic description of *Oplismenus,* where the viscid nature of the spikelet awns, a very unusual feature in grasses, is not mentioned. Kikuyu grass is said to be from North Africa rather than East Africa. Our common coastal grass *Austrostipa stipoides* is described as a plant of rocks and mud flats, but it is a basicole needing good drainage and is found on rocks and shelly sand but never on mud. A slip which I cannot classify as belonging to this or the preceding paragraph is the misspelling of a well-known North island town as its homophone "Taumaranui".

The illustrations are very presentable, with Peter Johnson's colour photographs showing some of the range of grass habit and habitat in this country. Well, at least, for the South Island - the North's reputation as a loathsome waste of weeds, with offshoots of southern genera barely holding on, is confirmed by its two "representative" photos. The sketches (23 by Sabrina Malcolm, one by Pat Brooke) of spikelet dissections are rather definite but being of a generous size avoid the frequent error of making the hairs so dark and abundant that they obscure the nervation and insertion details. There are also two Rembrandtian paintings of *Rytidosperma* florets by Keith West, these objects shown as one would try to view them through a hand lens, light-toned on a black background.

We could wish for much more illustration, but that, as publishers say, would be another book. What we do get is a Glossary of unrivalled precision and terseness - even the temptation to give a Johnsonian definition of "cladism" has been resisted. A few terms have been omitted, e.g. "fatuoid", "leptomorph", "transient". I was sorry to see "prickle-tooth" used rather than "spicule", but "stigma-style" is a welcome and practical novelty. Misleading through hyper-compression is a definition that makes "caryopsis" appear to be a kind of seed rather than fruit. Coumarin is described as the scent of holy grass but this plant-name doesn't otherwise appear. The definitions of "dorsal" and "ventral" are not tied to those of "abaxial" and "adaxial".

Erudition and imagination mark the new epithets that Elizabeth and Henry have published over the

years: *arduanum, cita, oresbia, riguorum, spania, xenica* etc. - we might wish that the meanings of these unfamiliar words had been set out somewhere. How far should we pursue a *celsa* before turning back? What precaution should be taken before rushing over to an *uda?* When hunting for *lautumia* what kind of headgear should we wear?

How then to end this review? One has hardly earnt the right to append a particularly baffling piece of fine writing, as the Preface amusingly does. But a Tolkienian analogy may not be out of place, that is, in this great work we can see a forging of the Fifth Ring of Power - the lineage, from Hooker to our time and beyond, is indeed secure.

Native sow thistle, *Sonchus kirkii*, rediscovered in the Auckland Region

E. K. Cameron

The rediscovery

On a beautiful March day (18 Mar 2000) Auckland Bot Soc gathered at Karioitahi Beach on Auckland's south-west coast for our monthly field trip. Some of the recorded 1901 botany of the area is reproduced by Steve Benham (2000). See Cameron et al. (1997: 258) for a general introduction to the Karioitahi area. We headed south from the surf club and at lunch time rested at the back of the beach by the consolidated dune cliffs where there was a seep down the cliff face. Side by side on the damp cliff were two different sow thistles at the flat, basal rosette stage. One with the strongly dissected leaves was clearly the introduced sow thistle, *Sonchus oleraceus*, the other had undissected leaves (cf. Fig. 1) which were glaucous and quite stiff. Was this the native sow thistle, *Sonchus kirkii*, which was considered extinct in the Auckland region (see de Lange et al. 1999a)? Flowering and fruiting specimens were soon found close by and also at other seeps further along the coast. Knowing that the seeds were diagnostic (see Webb et al. 1988: fig. 37) I collected a fruiting specimen to confirm the identity and as a voucher specimen (AK 245889).

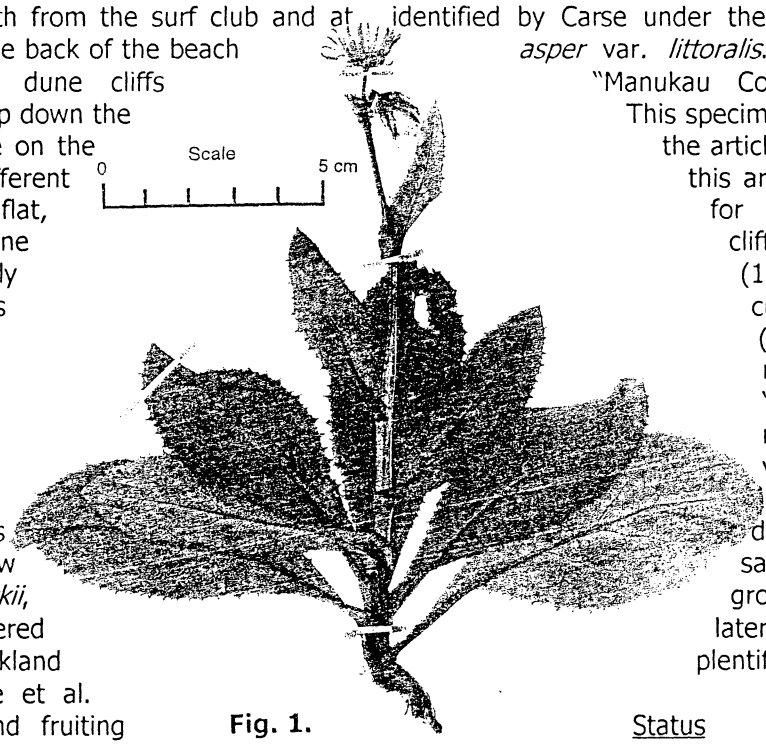

Fig. 1.

Back in the herbarium the identity was soon confirmed and then I looked through the *Sonchus* folders to see what other collections were held. There appeared to be no specimens for the Auckland region until I found a Carse specimen, collected March 1901, wrongly filed in the *S. oleraceus* folder, even though it was correctly identified by Carse under the earlier name of *S. asper* var. *littoralis*. The location was: "Manukau County, west coast." This specimen tied in nicely with the article by Carse (1901) of this area and his comment for this species, "Sea cliffs; plentiful." Carse (1901: 371) when discussing the Kariotahi (sic) sand cliffs mentioned also that "Where water drips I noted *Sonchus asper* var. *littoralis* [= *S. kirkii*] in great abundance, .." Exactly the same habitat it was growing in 99 years later , but not as plentiful.

Status

Sonchus kirkii is a nationally threatened species ranked as Declining (de Lange et al. 1999b). Both Wardle (1995) and de Lange (1996) point out that it is uncommon throughout New Zealand and that it is currently undergoing a decline. Wardle (op. cit.)

Fig. 1. Young *Sonchus kirkii* from Western Chickens, Jan 1982 (part of AK 159701).