

### Stilbaceae

\**Nuxia floribunda* Benth. [syn. *Lachnopylis floribunda* (Benth.) A. C. Smith] forest elder

### Theaceae

\**Camellia* hybrid 'Gay Baby' camellia  
\**Camellia japonica* L. sasanqua  
\**Camellia sasanqua* Thunb. sasanqua  
\**Camellia taliensis* (W.W. Smith) Melchior [syn. *Gordonia yunnanensis* (Hu) H.L. Li] gordonia  
\**Polyspora axillaris* (Roxburgh) Sweet gordonia

### Thymelaeaceae

*Pimelea arenaria* A. Cunn. sand daphne

### Ulmaceae

\**Ulmus glabra* Hudson 'Camperdown' weeping wych elm  
\**Ulmus x hollandica* Mill Dutch elm  
\**Ulmus procera* Salisb. English elm  
\**Ulmus x vegeta* (Loudon) Lindl. Huntingdon elm  
\**Zelkova serrata* (Thunberg) Makino ju shu (China), keyaki (Japan)

### Urticaceae

*Elatostema rugosum* A. Cunn. parataniwha

### Violaceae

*Melicytus novae-zelandiae* (A. Cunn.) P. S. Green mahoe, whiteywood  
*Melicytus ramiflorus* J. R. & G. Forst.

### Vitaceae

\**Parthenocissus tricuspidata* (Siebold & Zucc.) Planch. Boston ivy

### Winteraceae

*Pseudowintera colorata* (Raoul) Dandy mountain horopito

## Field Trip: A Spring-time visit to Eastwoodhill Arboretum, Ngatapa, Gisborne. 26-30/08/05

Mike Wilcox

Eleven of us from Auckland Bot Soc had an enjoyable stay at Eastwoodhill Arboretum from 26 to 30 September 2005. Our group was Chris Boucher, Colleen Crampton, Elizabeth Bowie, Helen Cogle, Jan Butcher, Joan Kember, Kay Haslett, Maureen Young, Mike Rowledge, Mike Wilcox and Pam Carmont.

### Location and facilities

The 135ha Eastwoodhill Arboretum is at Ngatapa in the hills 35km west of Gisborne and has New Zealand's finest collection of mature, mostly northern hemisphere trees. There are c. 3700 species of plant there - a delightful place for botanists! We stayed at the Douglas Cook Centre for Education which has very comfortable accommodation, a kitchen-dining area, and a lecture room-library. Curator Paul Wynen was on hand to introduce us to the arboretum and lead us on our first exploratory walk. Sally Willis looks after the

herbarium, and accompanied us on several of our walks. The weather was perfect.



## Brief history

Founder of Eastwoodhill, Douglas Cook, started farming Eastwoodhill in 1910. Injured in WWI he recuperated in Britain and was inspired by the beautiful gardens and parks there. On his return to New Zealand he aspired to model a park on those found in Britain. By the time of his death in 1967 he had spent £55 000 on sourcing and planting trees and shrubs from many of New Zealand's and England's nurseries.

In 1965, H.B. (Bill) Williams purchased Eastwoodhill from Douglas Cook. He began the process of establishing a self-governing body to develop a public arboretum at Eastwoodhill. In 1975 a Private Member's Bill was passed to establish the Eastwoodhill Trust Board. Much has been achieved since the 1970s with the collection expanded and enhanced. Eastwoodhill is supported by entry fees, donations and fundraising by the Friends of Eastwoodhill. A QEII National Trust Covenant is registered over the property.

## Conifers

We spent our first full day getting to know the conifers. There is a wonderful collection there, covering all the families. It is clear that the climate and soil of Eastwoodhill is ideal for growing many conifers from the cool climates of the northern hemisphere or from the southern hemisphere.

In the Pinaceae *Abies*, *Cedrus*, *Keteleeria*, *Larix*, *Picea*, *Pinus*, *Pseudotsuga* and *Tsuga* were well represented, with splendid examples of Douglas-fir (*Pseudotsuga menziesii*), Atlas cedar (*Cedrus atlantica*), Mexican weeping pine (*Pinus patula*), radiata pine (*Pinus radiata*), Himalayan pine (*Pinus wallichiana*), Serbian spruce (*Picea omorika*), Himalayan spruce (*Picea smithiana*), and Caucasian spruce (*Picea orientalis*). If we had to nominate one conifer that seems to grow to complete perfection at Eastwoodhill it would be Atlas cedar. This species comes from the Atlas Mountains of Morocco, where the soils are rocky and calcareous and the climate is of the strict Mediterranean type with a hot dry summer and cool, moist winter. Although only young, plantings of Japanese larch (*Larix kaempferi*) promise to be a feature for the future. The cones of Pinaceae can be a thing of beauty and we thought those of *Picea smithiana* were particularly perfect. The more recently - established Pinetum has a diverse collection of pines – from China, Mexico, the USA, and Europe. Some of these were most spectacular – like *Pinus montezumae* and *Pinus pseudostrobus* var. *apulcensis*.

Of the Cupressaceae we were especially impressed by the beautiful specimens of *Taiwania cryptomerioides*, a very fine dawn redwood (*Metasequoia glyptostroboides*) near the Visitor Centre, a specimen of the *Austrocedrus chilensis*, well-grown stands of *Cryptomeria japonica*, numerous *Cunninghamia lanceolata*, some young trees of the graceful *Fokienia*

*hodgsinii*, and in *Cupressus* itself, some huge *C. macrocarpa*, well-grown *C. torulosa*, and a soil conservation planting of beautifully-formed *C. lusitanica* at the back of the property



*Cupressus lusitanica*

Other conifers of note were *Afrocarpus falcatus*, *Podocarpus henkelii* and *P. parlatorei* (Podocarpaceae); *Sciadopitys verticillata* (Sciadopityaceae); *Araucaria angustifolia* (Araucariaceae); *Cephalotaxus harringtonii* (Cephalotaxaceae); and *Taxus baccata* (Taxaceae).

## Broadleaved trees

Eastwoodhill is very famous for its northern hemisphere deciduous trees, the most prominent genera being *Acer*, *Aesculus*, *Alnus*, *Betula*, *Crataegus*, *Fagus*, *Fraxinus*, *Ilex*, *Malus*, *Magnolia*, *Populus*, *Prunus*, *Pyrus*, *Quercus* and *Tilia*. There are 162 species here alone of maple (*Acer*). Many of the deciduous trees were still leafless, but here is just a selection of some to catch the eye:

- ◆ *Quercus xludoviciana* (*Quercus phellos* x *Q. falcata*). St Landry oak, a natural hybrid originating in Louisiana, USA. The tree was planted in 1951 and has a spread of 35m and a diameter of 1.25 m. It is evergreen here, which is surprising as both the parents are deciduous in the USA. Truly, a magnificent tree.
- ◆ *Quercus variabilis*. Chinese cork oak. There are two fine old specimens of this deciduous tree, and younger specimens coming on. The acorn cups are bristly with protuberances, the leaves elongate with bristles, and the bark markedly corky.
- ◆ *Quercus lanata* (syn. *Q. leucotrichophora*). A huge tree. Evergreen, with long leaves which are creamish pubescent below.
- ◆ *Acer paxii*. An evergreen maple from China. The leaves are firm and coriaceous, and glaucous beneath. It has a dense crown.
- ◆ *Alnus acuminata* 'Glabrata'. A magnificent evergreen alder from the Andes, and one of the most impressive trees in the whole collection.
- ◆ *Laurus azorica*. A great tree at Cooks Corner.



- ◆ *Populus szechuanica*. A large specimen of good form.
- ◆ *Prunus cerasoides*. Spectacular bark.
- ◆ *Amomyrtus luma*. Spectacular smooth, pinkish bark.
- ◆ *Eucalyptus regnans*. Some giant trees in the "cathedral".

Paul Wynen pointed out some interesting plants tucked away in odd places, for instance *Zanthoxylum oxyphyllum* (Rutaceae) from the Himalayas - a stout vine with fearsome stem thorns on swollen bases (a plant not to be tangled with); and *Choerospondias axillaris* (Anacardiaceae) with whitish, juicy fruit.



*Choerospondias axillaris* fruit

#### Other plants

Let us mention some of the other plants that we particularly noticed because they were in flower, or otherwise grabbed our attention. A delicate scrambling vine at the Visitor Centre caused a lot of interest. It was *Tropaeolum tricolorum*, one of the climbing nasturtiums from Chile. English blue bell (*Hyacinthoides non-scripta*) and onion weed (*Allium triquetrum*) were abundant in grassy glades or under trees. There was also a fine patch of wake robin *Trillium grandiflorum* (Melanthiaceae). Hellebores (*Helleborus*), anemones (*Anemone*) and barrenworts (*Epimedium*) were flowering in the beautiful garden area, carefully nurtured by a team of volunteers.

Thale cress or wall cress (*Arabidopsis thaliana*) was common beside some of the tracks, and horehound (*Marrubium vulgare*) and flannel leaf (*Verbascum thapsus*) were prominent on the grassy slopes and ridges in the newer parts of the arboretum, such as the Pinetum, and are shunned by sheep. The main grass over the drier hillsides is danthonia (*Rytidosperma racemosum*). The strong-smelling hedge woundwort (*Stachys sylvatica*) was just about everywhere in the arboretum. *Arabidopsis thaliana* is one of the most famous of all plants in the world. It is a model laboratory plant equivalent to the fruitfly (*Drosophila melanogaster*). Its entire genome has been sequenced - a first for plants, all of its 5

chromosomes have been mapped, it has a lifecycle of just six weeks from germination to mature seed.

Our group did not pay too much attention to the non-vascular plants, but we should mention the great green displays of a hornwort (*Phaeoceros carolinianus*) which clothed the bank along the Hollywood track.



Pinetum, Eastwoodhill

#### Naturalised woody exotic plants

A good many of the woody plants originally planted as specimens have matured and have regenerated freely in the arboretum. Perhaps most abundant in this regard are Taiwan cherry (*Prunus campanulata*) - flowering in spring - and its close relative, the Burmese cherry (*Prunus cerasoides*) - flowering in autumn - which both form thickets, and red oak (*Quercus rubra*). Also regenerating and spreading are barberry (*Berberis glaucocarpa*), evergreen clematis (*Clematis armandii*), silver wattle (*Acacia dealbata*), cedar wattle (*Acacia elata*), black wattle (*Acacia mearnsii*), *Aristolochia sempervirens*, *Celastrus orbiculatum*, *Cotoneaster franchetii*, *Crataegus monogyna*, *Maytenus boaria*, *Dendrobenthamia capitata*, *Euonymus lucidus*, and *Elaeagnus macrophylla* (or possibly *Elaeagnus xebbingei*). Various conifers are also springing up.



*Clematis armandii*



## Native plants

There is a planted native bush area (Gondwana Bush) in the arboretum, originally established in 1979 under the guidance of G.C.R. Chavasse of the former Forest Research Institute, Rotorua. The plantings here have done well and formed a good example of artificial native bush. The original plantings had kauri (*Agathis australis*), rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*), pink pine (*Halocarpus biformis*), miro (*Prumnopitys ferruginea*), tanekaha (*Phyllocladus trichomanoides*), mountain toatoa (*Phyllocladus alpinus*), Hall's totara (*Podocarpus hallii*), totara (*Podocarpus totara*), kawaka (*Libocedrus plumosa*), narrow-leaved mahoe (*Melicactus lanceolatus*), cabbage tree (*Cordyline australis*), hinau (*Elaeocarpus dentatus*), rewarewa (*Knightia excelsa*), silver beech (*Nothofagus menziesii*) and *Pittosporum colensoi*. Many other species have been added. In stunning flower were *Pomaderris hamiltonii* and *P. kumeraho*.

At the back of the arboretum there is a native bush fragment (Dan's Bush) containing about twenty gnarled old ngaio (*Myoporum laetum*) and several large titoki (*Alectryon excelsus*) with characteristically fenestrated trunks. We were surprised to see ngaio growing so far inland.



*Alectryon excelsus*

Native species have colonised throughout the more mature parts of the arboretum, forming a scattered understorey. Prominent shrubs or small trees are *Pittosporum ralphii*, *Carpodetus serratus*, *Coprosma rigida*, *Coprosma rhamnoides*, *Coprosma robusta*, *Hedycarya arborea*, mahoe (*Melicactus ramiflorus*), mapou (*Myrsine australis*), rangiora (*Brachyglottis repanda*) and seedling or striplings of tawa (*Beilschmiedia tawa*), rimu, and kahikatea. The slender leaved bush lawyer *Rubus schmidelioides* was a common scrambler on open sites. But it is ferns that have been the most successful and diverse colonisers

in shade of the arboretum trees, with maidenhair fern (*Adiantum cunninghamii*), shield ferns (*Polystichum wawranum* and *P. neozelandicum* subsp. *zerophyllum*), *Pellaea rotundifolia* and *Dicksonia fibrosa* being the most conspicuous.



*Polystichum wawranum*



*Pittosporum ralphii*

Eastwoodhill has some small wetlands and other damp habitats such as stream banks, with plentiful *Carex lessoniana*, *Carex secta*, and also *C. virgata*. Raupo (*Typha orientalis*) is also common, but at this time of year, still in its winter garb of dead leaves. We were somewhat surprised to see *Lepidosperma australe* growing in dense colonies near some of the ponds – it is a plant we usually associate with impoverished soils. Two pond weeds were recorded – the native *Potamogeton cheesemanii*, and the introduced *P. crispus*. A sheep trough turned up a floating colony of water-meal (*Wolffia australiana*) – one of the world's smallest flowering plants. Several farm ponds were a purply-red colour – choked with *Azolla filiculoides*.

List of native plants recorded at Eastwoodhill, compiled by Maureen Young  
(\* planted)

**Ferns & Fern Allies**

*Adiantum cunninghamii*  
*Adiantum viridescens*  
*Asplenium bulbiferum*  
*Asplenium flaccidum*  
*Asplenium oblongifolium*  
*Asplenium polyodon*  
*Azolla filiculoides*  
*Blechnum chambersii*  
*Blechnum discolor*  
*Blechnum fluviatile*  
*Blechnum novae-zelandiae*  
*Blechnum penna-marina*  
*Cheilanthes sieberi*  
*Cyathea dealbata*  
*Cyathea medullaris*  
*Dicksonia fibrosa*  
*Dicksonia squarrosa*  
*Diplazium australe*  
*Doodia australis*  
*Histiopteris incisa*  
*Microsorium pustulatum*  
*Paesia scaberula*  
*Pellaea rotundifolia*  
*Pneumatopteris pennigera*  
*Polystichum neozelandicum* subsp.  
    *zerophyllum*  
*Polystichum wawranum*  
*Polystichum vestitum*  
*Pteridium esculentum*  
*Pteris tremula*  
*Pyrrosia eleagnifolia*

**Gymnosperms**

\**Agathis australis*  
*Dacrycarpus dacrydioides*  
*Dacrydium cupressinum*  
\**Halocarpus bidwillii*  
\**Halocarpus biformis*  
\**Halocarpus kirkii*  
\**Libocedrus plumosa*  
\**Phyllocladus alpinus*  
\**Phyllocladus toatoa*  
\**Phyllocladus trichomanoides*  
\**Podocarpus hallii*  
\**Podocarpus totara*  
\**Prumnopitys ferruginea*  
\**Prumnopitys taxifolia*

**Dicotyledons**

*Acaena novae-zelandiae*  
\**Ackama rosifolia*  
*Alectryon excelsus*  
\**Aristolelia serrata*  
*Beilschmiedia tawa*  
\**Brachyglottis greyi*  
*Brachyglottis repanda*  
\**Carmichaelia australis*  
*Carpodetus serratus*  
\**Coprosma repens*  
*Coprosma rhamnoides*  
*Coprosma rigida*  
*Coprosma robusta*

*Coprosma robusta* x *C. propinqua*  
\**Coprosma tenuifolia*  
\**Coprosma virescens*  
\**Coriaria arborea*  
\**Corokia cotoneaster*  
\**Corokia macrocarpa*  
\**Corynocarpus laevigatus*  
*Dichondra repens*  
\**Dodonaea viscosa*  
*Drosera auriculata*  
\**Dysoxylum spectabile*  
\**Elaeocarpus dentatus*  
*Euchiton gymnocephalus*  
\**Euphorbia glauca*  
*Geniostoma ligustrifolium*  
\**Geranium traversii*  
\**Griselinia littoralis*  
*Haloragis erecta*  
\**Hebe stricta*  
*Hedycarya arborea*  
*Helichrysum lanceolatum*  
\**Hoheria populnea*  
*Hoheria sexstylosa*  
*Hydrocotyle moschata*  
*Kunzea ericoides*  
\**Knightia excelsa*  
\**Laurelia novae-zelandiae*  
*Leptospermum scoparium*  
\**Leucopogon fasciculatus*  
*Macropiper excelsa*  
\**Macropiper melchior*  
\**Melicope ternata*  
\**Melicytus lanceolatus*  
*Melicytus ramiflorus*  
\**Metrosideros excelsa*  
\**Metrosideros robusta*  
*Muehlenbeckia australis*  
*Myoporum laetum*  
\**Myosotidium hortensia*  
*Myrsine australis*  
\**Myrsine divaricata*  
\**Myrsine salicina*  
*Nertera depressa*  
\**Nothofagus fusca*  
\**Nothofagus menziesii*  
\**Nothofagus truncata*  
\**Nothofagus solandri* var. *cliffortioides*  
\**Nothofagus solandri* var. *solandri*  
\**Olearia albida*  
\**Olearia avicenniifolia*  
\**Olearia furfuracea*  
\**Olearia ilicifolia*  
\**Olearia paniculata*  
\**Olearia rani*  
\**Olearia solandri*  
\**Olearia virgata*  
*Oxalis exilis*  
*Ozothamnus leptophyllus*  
*Parsonsia heterophylla*  
\**Pennantia corymbosa*  
\**Pimelea prostrata*  
\**Pimelea prostrata* var. *erecta*  
\**Pimelea tomentosa*

\**Pittosporum colensoi*  
\**Pittosporum cornifolium*  
\**Pittosporum eugeniooides*  
\**Pittosporum ralphii*  
\**Pittosporum tenuifolium*  
\**Plagianthus regius*  
\**Plagianthus divaricatus*  
\**Pomaderris apetala*  
\**Pomaderris hamiltonii*  
\**Pomaderris kumeraho*  
\**Pomaderris rugosa*  
*Pseudopanax arboreus*  
*Pseudopanax crassifolius*  
\**Pseudopanax colensoi*  
\**Pseudopanax discolor*  
\**Pseudopanax lessonii*  
\**Pseudowintera colorata*  
*Ranunculus reflexus*  
\**Raukaua edgerleyi*  
*Rubus cissoides*  
*Rubus schmidelioides*  
*Sophora microphylla*  
\**Sophora molloyi*  
\**Sophora tetraptera*  
\**Streblus heterophyllus*  
\**Syzygium maire*  
\**Toronia toru*  
\**Weinmannia racemosa*

**Monocotyledons**

\**Arthropodium cirratum*  
\**Astelia banksii*  
\**Astelia nervosa*  
*Carex lessoniana*  
*Carex secta*  
*Carex virgata*  
\**Cordyline australis*  
\**Cordyline pumilio*  
\**Dianella nigra*  
*Earina racemata*  
\**Freycinetia banksii*  
*Juncus edgariae*  
*Juncus sarophorus*  
*Lemna minor*  
*Lepidosperma australe*  
\**Libertia grandiflora*  
\**Libertia peregrinans*  
\**Machaerina sinclairii*  
*Microlaena stipoides*  
*Microtis unifolia*  
\**Phormium cookianum*  
\**Phormium tenax*  
*Potamogeton cheesemanii*  
*Rhopalostylis sapida*  
\**Rhopalostylis* aff. *sapida*  
*Schoenoplectus tabernaemontani*  
*Typha orientalis*  
*Thelymitra* sp.  
*Wolffia australiana*



### Three side trips

**Rere Falls and Rockslide:** The Wharekopae River tumbles over a papa bluff to form the dramatic Rere Falls, and nearby is the Rere Rockslide – a natural steep incline in the riverbed. We found large-leaved kowhai (*Sophora tetraptera*) in flower here.



Rere Falls

**Doneraille Park:** This is a Gisborne District Council park just off the Tiniroto Road, on the banks of the Hangaroa River. There are grassy glades amongst scattered kahikatea (*Dacrycarpus dacrydioides*), totara (*Podocarpus totara*), and matai (*Prumnopitys taxifolia*). Prominent broadleaved trees are lacebark (*Hoheria sexstylosa*), numerous impressively large pokaka (*Elaeocarpus hookerianus*), kaikomako (*Pennantia corymbosa*), and *Melicope simplex*. We found the native herbs *Leptinella squalida* ssp. *squalida*, *Cardamine debilis* and *Hydrocotyle heteromeria*. It was interesting to see sainfoin (*Hedysarum coronarium*) growing on roadside cuttings. This crimson-flowered legume is useful for stabilising soil. Other roadside plants in the district are white poplar (*Populus alba*), hoary willow (*Salix elaeagnos*), cotoneaster (*Cotoneaster franchetii*), and at Tiniroto, holly (*Ilex aquifolium*).

**Hackfalls Arboretum:** Bob and Anne Berry hosted our group for a delightful excursion around their arboretum and homestead garden at Tiniroto. We were joined there by Gisborne tree enthusiasts John and Sue Beedie and Conway Seymour. The arboretum was established by Bob over a period of fifty years, and covers 50 ha. In the 1980's Bob became enthused about oaks (*Quercus*), especially those from Mexico. He introduced, propagated and established what is today widely recognised as one of the most comprehensive living oak collections in the world. Among the many treasures at Hackfalls we especially admired two species from Chile - *Embothrium coccineum* (Proteaceae) in full flower, and beside it in flower, *Drimys winteri*. Bob Berry proudly showed us two native plants of interest – *Tupeia antarctica* growing on an enormous *Pseudopanax arboreus*, and a colony of *Gunnera monoica* on a grassy bank.



*Embothrium coccineum*



*Myoporum laetum*

### Conclusion

We have highlighted here only a fraction of the species we saw. In recording some of the plants, we all became aware that the Eastwoodhill is much more than a collection of labelled specimen trees on display as in a botanical garden. What struck us is the way the trees and other plants – native and exotic, conifer and broadleaf, evergreen and deciduous, planted and naturalised – have blended together to form an attractive forest with a natural feel to it. A serene environment to be in! The network of tracks makes for pleasant walking and viewing, and there are impressive numbers of birds such as pigeon, tui, fantail, silvereye, blackbird, chaffinch and shining cuckoo which add to beauty and enjoyment. The different sectors of the arboretum have evocative names like Douglas Park (1949), Mexico Way (1989) and Pear Park (1926). Thank you Douglas Cook for creating it for us to explore and enjoy!

## Acknowledgements

Our thanks to Curator Paul Wynen for his guidance and encouragement and to Sally Willis for help in the herbarium.

## For further reading

Anon. 2002. Hackfalls recognised. *International Dendrology Society New Zealand Newsletter* 32:4-5.

Berry, J. 1997. A man's tall dream. The story of Eastwoodhill. The Eastwoodhill Trust Board, Gisborne.

Berry, R. 2001. Mexican oaks at Hackfalls Arboretum, Tiniroto, near Gisborne, New Zealand. *International Dendrology Society New Zealand Newsletter Sept 2001*:36-40.

Berry, R. 2002. Mexican woody plants at Hackfalls. *International Dendrology Society New Zealand Newsletter* 32:2-3.

Berry, R. 2005. Hackfalls Arboretum, Tiniroto. Catalogue of trees and shrubs, and a list of native plants recorded on the property. Database on CD. (unpublished)

He Zhengxiang; Luo Weixiang 1992. Evaluation of Chinese tree species in Eastwoodhill Arboretum. *Horticulture in New Zealand* 3(2):7-9.

Mackay, M.B. 1989. Eastwoodhill Arboretum, Ngatapa, Gisborne. Catalogue of trees, shrubs and climbers. Eastwoodhill Publication No. 1.

## Field trip: Upper Nihotupu Valley. 17/09/05

Rhys Gardner

The andesitic plateau high in the middle of the Waitakere Ranges contains a very nice piece of habitat, the damp and sheltered headwaters of the Nihotupu Stream. Today leader Sandra Jones would be showing us what the Ranges offers there in the way of a "subtropical submontane" flora.

We began along Cutty Grass Track in from the Anawhata Road. The vegetation is secondary, dominated either by veteran manuka over dense *Gahnia xanthocarpa*; or by kanuka, rimu, and the "how do you tell them from quite a long way away?" hardwoods: quintinia, ixerba, lancewood, toro, and hinau. We saw *Nestegis cunninghamii*, *N. montana*, plenty of Hall's totara (no ordinary totara), stiff-leaved mats of *Blechnum procerum*, thigh-lapping clumps of *Blechnum discolor*, and waist-high treelets of *Blechnum fraseri*. Many of the flowers of *Alseuosmia macrophylla* had been slit open, a novel practice on the part of silvereyes we were told.

We turned down the top end of the Ian Wells Track, where much *Hymenophyllum lyallii* was to be seen on the trunks of the silver tree-ferns, and began the gradual descent to Sandra's wintergarden. Soon we were tiptoeing past trackside groups of *Corybas* (*Corybas*) *oblongus*, then returning the salutes of their less bashful brothers *Corybas* ("*Nematoceras*") *acuminatus*, very martial-looking with their pointed helmets and red-braided leaves.

The first crossing of the Nihotupu Stream was explored, where this winds between rocky bryophyte-clothed banks under a canopy of pole podocarps (some larger Hall's totara at the stream edge) and tall tree-ferns (*Cyathea smithii*, *Dicksonia squarrosa*). On the bases of kahikatea (*Dacrycarpus dacrydioides*) there are a few colonies of *Grammitis pseudociliata*, and near the water's edge *Libertia micrantha* grows,

this being one of the two only Waitakeres localities for the species. On the stream's true left bank Sandra showed us a colony of cave wetas, in a drive she said had been dug by manganese prospectors long ago.

Rain accompanied us now through the irregular terrain left after the old-time milling and burning of large kauri here (stumps of c. 2 m diameter, hollow and charred). Cutty grass and manuka were relieved in one place by *Astelia grandis* and in another by *Eleocharis gracilis*. The hard clay retains water and makes the track a succession of sloughs, wallows and "brooks too broad for leaping", but thanks to the cutty-grass no-one went too deeply astray. We did make one short planned lateral to admire a group of wheki ponga (*Dicksonia fibrosa*), imperturbable in their cloaks and woolly underwear. The divaricating shrub *Raukawa anomalus*, malformed in orthography as well as morphology (cf. feminine *Ackama*, *Corokia*, *Hoheria*, *Mida*, *Tupeia*) was puzzled over. Easier to recognize were the trackside pelts of *Sphagnum falcatulum*, a moss that looks, as Jessica Beever has suggested, exactly like a drowned kitten.

A short way along the Nihotupu Auxiliary Reservoir road Sandra showed us a find of Harry Beacham's, a pair of 4 m tall horopito (*Pseudowintera colorata*) and a young *Phyllocladus toatoa* nearby. This only occurrence of horopito in the Ranges might just be some tricky bushman's planting; we had to suppose. Both individuals are multistemmed, are growing well, and had a profusion of flowers, but for some reason (the rain?) seedlings were not conspicuous in the damp scrub around. Because of a lack of data a lesser argument, about *Phyllocladus toatoa* as a rare plant in the Ranges and where the largest one might be found, fizzled. A pretty cool day thank you Sandra, may your flash-cards always be returned unfolded.