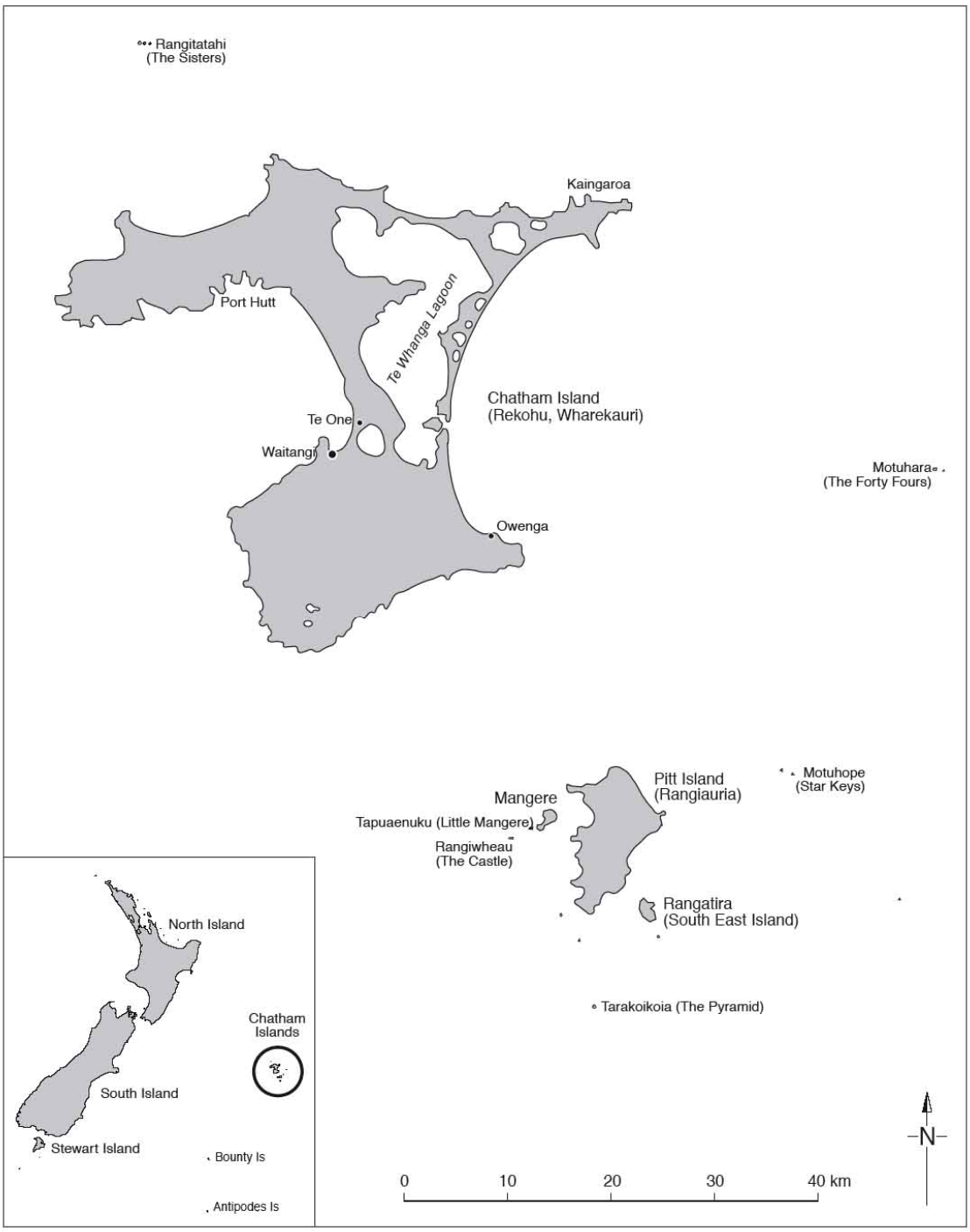
Trip Report: Chatham Islands, 4 – 11 January 2007

Maureen Young (editor)

It was an excited group of 22 ABS (Auckland Botanical Society) members who gathered at Auckland Airport, ready to fly to Chatham (Rekohu/Wharekauri) Island for the New Year field trip. Accommodation was to be at the Hotel Chatham at Waitangi, and our host, Valentine Croon Jnr., had organised the itinerary and all travel arrangements on the island. After a two hour flight on the Air Chatham plane, and with 45 minutes time difference, it was late afternoon when we flew in over the low peaty landscape and the huge Te Whanga Lagoon. At the airfield we met our host, and also our friendly young driver and guide, Lynda Guard. On the drive to Waitangi we noted many gnarled, wind-distorted trees of *Olearia traversii* ("akeake" to the locals) (Plate 1). Unlike the other spectacular species of *Olearia* on the island, akeake has insignificant, rayless flowers. After a photo stop and a brief visit to the Department of Conservation (DoC) office at Te One to borrow some botany books, we arrived at our comfortable accommodation right on the waterfront at Waitangi. Dinner that night set the standard for the fantastic meals that were served to us during the week, with the bold each tackling half of a huge crayfish beautifully cooked and presented.



The Chatham Islands (With permission, DoC, Wellington)

5 January 2007

Ewen Cameron & Anthony Wright

Breakfast completed, hotel lunches loaded into the bus, we departed on time from the front of the waterfront Hotel Chatham at 9 am with Lynda driving the 19-seater Nissan bus, and our own Paul Asquith driving the Ford Transit rental 12-seater van. The first destination was the Ocean Mail Reserve at the northern end of the island, some 35 km distant. The low-lying topography supported rough pasture with marram grass (*Ammophila arenaria*), and gorse (*Ulex europaeus*). Goats were also present. Common birds seen from the vehicles were buff weka (introduced from the mainland where it's now extinct) running across the road, harriers gliding over the pasture and black swans in the Te Whanga Lagoon.

By the Waitaha Creek Lynda soon learnt what happens when you let botanists out for a photo stop – they're difficult to round up again! The grassed and grazed volcanic outcrop nearby, Mt Chudleigh (188 m) (Fig. 1), stood out behind the foreground of low-lying grazed fernland on peat. Some quick observations included: *Gentianella chathamica* subsp. *chathamica* (E = endemic to the Chatham Islands) (Plate 3), *Leucopogon parviflorus, Myriophyllum pedunculatum* subsp. *novae-zelandiae, Drosera binata*, and a 10 cm-tall flowering specimen of the exotic strawberry myrtle or "cranberry" to the locals (*Ugni molinae*).

Fig. 1. Mt Chudleigh (188 m) from the southeast, the small volcanic cone stands out from the peat fernland in the foreground (Ewen Cameron).

A speedy second stop 4 km along the North Road by Taupeka, allowed just enough time to photograph and collect some adult strawberry myrtle locally common along the roadside. Here they formed suckering, round-headed shrubs to 1.5m tall. The hanging bell-like, pink flowers were abundant. It is native to Chile and is cultivated in New Zealand for its edible fruits. The first collection of this weed on the Chathams appears to be in 1981 by Tony Whitaker (CHR 369525) – it's high time for its eradication! Strawberry myrtle has also sparingly naturalised in several places on the New Zealand mainland.

Ocean Mail Reserve 1st stop (Fig. 2)

The first scheduled stop was at 10 am at the DoC managed Ocean Mail Reserve – named after a shipwreck in 1877. This area was fenced from stock and is a narrow piece of low-lying land between the northern end of the Te Whanga Lagoon and the Pacific Ocean. It includes a couple of peaty lakes, and was last burnt in 1994. Everyone was rapidly out of the bus and into a damp hollow in standard ABS position (head-down, posterior-up) admiring the first plants that greeted us: *Pratia arenaria* (a larger version of *P. angulata*) (Plate 3), *Epilobium billardiereanum* s.str. (stems erect), *Ranunculus amphitrichus, Triglochin*

Fig. 2. Ocean Mail Reserve 1st stop, the botanically interesting 4WD track (Ewen Cameron).

striata, Blechnum penna-marina, Lobelia anceps, Myriophyllum pedunculatum, *Juncus planifolius, Eleocharis acuta, Apodasmia similis* (with wider than usual culms to 3 mm diameter) and a *Prasophyllum colensoi* in full flower. The similar-sized yellow flowers of *Potentilla anserinoides* and the exotic *Ranunculus repens* superficially looked rather similar and appeared together. The group spread out along the peaty 4WD track where *Drosera binata*, *Pratia arenaria, Luzula banksiana* var. *acra*, *Isolepis habra, Poa chathamica* (E) (Plate 4), *Libertia peregrinans* (with an occasional late flower) (Plate 4), *Carex chathamica* (E), *Pimelea arenaria* (Plate 2), *Thelymitra pulchella* and *Gentianella chathamica* (flowers mostly white, but locally pink), were all locally common. The tallest vegetation was flax (*Phormium* aff. *tenax*) (E), *Leucopogon parviflorus, Leptecophylla robusta* (E) (with red fruit) (Plate 2), *Dracophyllum scoparium* (in full flower), *Coprosma propinqua* var. *martinii* (E), *Corokia macrocarpa* (E), and bracken (*Pteridium esculentum*) all up to c.1 m tall. The flax had wide leaves that flopped over at the top (though not as marked here as in other areas on the island) – the old flowering stems indicated that it had been a poor flowering year. The most photographed plant was a patch of the stiff-leaved *Aciphylla traversii* (E) (Plate 3) in full flower, both male and female plants (Plate 3). This was the

only locality where we saw this species in the wild. A patch of what at first appeared to be *Empodisma minor*, proved interesting when it was noted that this species was not on the list. The penny then dropped, it was sporadanthus (*Sporadanthus traversii*) (E) (Plate 4), only 0.5 m tall, much reduced compared with its robust North Island cousin, *S. ferrugineus*, which remarkably was only separated from *S. traversii* in 1999. We did see it two days later over 1.5 m tall behind Waitangi West Beach. Our scheduled 1 hour stop was only 30 minutes overtime.

Ocean Mail Reserve 2nd stop (Fig. 3)
Some 2 km further along the North Road we stopped to walk into an old burn area near Lake Rangitai that now contained plenty of shrubs of *Olearia semidentata* (E) (Plate 1), 1.0 -1.5 m tall. These were very attractive with their shiny dark-green leaves (white

Fig. 3. Ocean Mail Reserve 2nd stop, shrubs of *Olearia semidentata* stand out from the sporadanthus-bracken cover (Ewen Cameron).

underneath) and showy purple flowers, fading to mauve (Plate 1). They were emergent above the sporadanthus, *Dracophyllum scoparium, Leptecophylla robusta*, bracken and *Coprosma propinqua* var. *martinii* forming a continuous cover c.1 m tall. Back by the road under the shade of a single akeake (*Olearia traversii*) (E), *Urtica australis* was spotted with its large, thickish leaves (leaf blades: 12 x 12 cm) along with a patch of *Tetragonia implexicoma*.

J.M. Barker (Hapupu) National Historic Reserve
Driving on c.16 kms to the east and then south brought us to the J.M. Barker (Hapupu) National Historic Reserve (30 ha) on the north-east side of the Te Whanga Lagoon. It was time for lunch and an opportunity to read the several notice boards (from which the following information is taken). This reserve was once part of the 4116 ha Kaiangaroa Station (purchased by the Hokotehi Moriori Trust in 2004) and contains many of the surviving rakau momori (Moriori tree carvings or dendroglyphs). It has been fenced and is jointly managed by the Hokotehi Moriori Trust and DoC. The historic farm started as a pork station in 1840 and later grew potatoes and grain for the Auckland and gold mining markets. The Barker family farmed the Station from 1893-2004. They built the first airfield here at Hapupu in 1967, which operated for 14 years, and they have protected coastal forest and dunelands as reserves and covenants. Rakau momori represent a significant aspect of Moriori culture and identity – these carved forms and the places where they are represent a unique association between the Moriori Karapuna (ancestors) and their world, the living world of modern Moriori and the remaining kopi (*Corynocarpus laevigatus*) forests. In the late 1950s and 1960s David Simmons (Auckland Museum) photographed and recorded 1400 rakau momori; recent surveys only found 147.

The dendroglyphs were common in the reserve, though some were rather faint, even though the bark had been "cleaned" in the carved area. All carvings were on the large kopi trees. It is thought that the Moriori introduced kopi to the island from the New Zealand mainland in pre-European times. All the ones we saw appeared to be in a similar style and evidently were in memory of a person (Fig. 4). We had some discussion about the original image changing shape as the tree expanded – did the carvers account for this?

Fig. 4. Chatham Islands dendroglyph, J.M. Barker Reserve (Mike Wilcox).

The reserve was dominated by kopi, 10-15 m tall, with straight unbranched trunks for 4-6 m, 40-60(-100) cm across; many trees were in a state of decay or dead. The understorey was youthful and only 4-5 m tall – a reflection of when it was fenced. It was dominated by *Melicytus chathamicus* (E) (Plate 2), which reminded many of us of *M. novae-zelandiae*. Occasional large *Pteris tremula* were grand at 1.6 m tall and herbs included: *Parietaria debilis, Hydrocotyle heteromeria, Cardamine debilis* agg., *Urtica australis* and *Uncinia uncinata*. There was good seedling regeneration of a variety of future canopy species, including kopi. It was sad that this remnant appeared to be all that was left of the coastal forest in the area. By the entrance to the reserve was a vine with a difference: a large-leaved *Muehlenbeckia* (*Muehlenbeckia* aff. *australis*),

which we had observed the previous day down by the Waitangi Wharf. It differed from the New Zealand mainland form with its thicker, pale green shinier leaves, giving it quite a different appearance. Evidently there are plants of this form in Northland (e.g. AK 252987) and Norfolk Island (Peter de Lange *pers. comm*.). It was common, widespread and the only form we saw on the Chathams.

Fig. 5. Botanising the Hapupu lagoon turf (Ewen Cameron).

Hapupu Lagoon turf

Driving north for Kaiangaroa, a green turf was spotted by Lisa on the margin of some ephemeral lakes to our west. The drivers were persuaded to deviate over the pasture to near the water's edge and quickly it was time for a potential new ABS T shirt photo-shoot (heads down, posteriors up). The water had only recently receded from the sandy hollows and one of these we investigated (Fig. 5) contained a tightly

Fig. 6. *Isolepis basilaris* – from the Hapupu lagoon turf – a new record for the Chatham Islands (AK 298647) Scale in cm.

mixed turf of: *Isolepis basilaris* (only 10-20 mm tall) (Fig. 6), *Callitriche petriei* subsp. *chathamensis* (E), *Crassula sinclairii, Limosella lineata, Lilaeopsis novae-zelandiae,* and *Myriophyllum propinquum.* They were associated with: *Leptinella potentillina* (Plate 3), *Rorippa palustris* (yellow flowers present), *Epilobium billardiereanum* s.str., *Triglochin striata, Rumex neglecta, Samolus repens, Juncus bufonius, J. articulatus, Pseudognaphalium luteoalbum, Myriophyllum triphyllum* and *Ranunculus glabrifolius.* This was a botanically rich and fascinating area – we saw the above species in only a few square metres of turf. Here and in most other areas in the grazed Chatham pasture near the coast, *Pimelea arenaria* was abundant, in places forming weak circles – a single plant spreading out and dying in the centre? Stock obviously know to leave this poisonous plant alone. Why is it so common here, yet extinct in the Auckland Region?

Kaiangaroa (Fig. 7)

A plaque recorded that Kaiangaroa was the first meeting place between Europeans and Moriori on 29 November 1791. We arrived at this small northern fishing settlement at 3.30 pm, and strolled northwards up the rocky exposed coast from the jetty. The bright blue Pacific Ocean, white sand and schist rock framed a new landscape – the ancient schist is the oldest exposed rock of the Chathams and forms part of the northern Chatham Island coast. Mike made the most of a low tide by venturing along the tide mark recording and collecting the abundant algae (seaweeds) that were present.

Fig. 7. Chatham Island forget-me-not (*Myosotidium hortensia*) in a prostrate mat of *Hebe chathamica* in full flower at the back of the botanically rich saltmarsh/coastal herbfield at Kaiangaroa (Ewen Cameron).

We first passed several houses that had a 'bachy-look', one even had whale vertebrae for a front fence! Among the marram grass and *Ficinia nodosa* at the back of the shoreline were the two Chatham Islands endemics that lack close relatives anywhere in the world: the giant puha or Chatham Islands sow thistle (*Embergeria grandifolia*), (Plate 3) and the well-known Chatham Island forget-me-not (*Myosotidium hortensia*). The former was in full flower but the latter would have flowered in August-October. This upper spring tide zone of the rocky reef was a very colourful saltmarsh/coastal herbfield with abundant mats of *Hebe chathamica* (E) (Plate 1) in full flower (mauve in bud, fading to white), and commonly being visited by the Chatham Islands red admiral (*Bassaris gonerilla ida*) (E). In places there were more robust forms of prostrate hebe – presumably hybrids (*Hebe chathamica* x *H. dieffenbachii*). The common

flowering, various shades of pink, mats of *Disphyma papillatum* (E) looked remarkably like *D. australe*, except for the fine papillae along the leaf margins and the slightly smaller flowers. *Geranium traversii* (E) (Plate 3) (with pink flowers of various shades) was growing in the grooves in the schist and was usually tightly associated with *Samolus repens* (with white flowers) which was abundant. Other associates included: *Sarcocornia quinqueflora, Triglochin striata, Chenopodium ambiguum, Puccinellia walkeri* subsp. *chathamica*, *Apium prostratum* subsp. *denticulatum* (E)*, Carex pumila, Lobelia anceps, Isolepis cernua, Lachnagrostis billardierei* and *Crassula moschata*.

A single patch c.1 m across of *Ranunculus acaulis* was puzzling – fleshy, shiny bright green leaves, and the flowering stalks 8 cm long! Evidently this is akin to the form described by Allan (1961) as *R. petriei* (Peter de Lange *pers. comm*.), which today is included within *R. acaulis* (see Fisher & Hair 1963). It certainly looked very different from the small-leaved, sessile-flowering *R. acaulis* of the northern North Island. Close by were two prostrate mats of *Lepidium* aff. *oleraceum* (a) (E) to 1.5 m across with the prostrate *Hebe chathamica* on shell and pebbles with marram close by. The exotic tree mallow (*Lavatera arborea*) >1 m tall was locally common at the back of the beach and along with marram and harestail (*Lagurus ovatus*) formed a trio of the most obvious exotic species.

A rock stack near the end of the reef (Kaiangaroa Point) was well worth investigating. Between and under the rocky schist blocks on the more sheltered side two ferns were locally common: *Asplenium chathamense* (E) and *Blechnum durum.* Higher up on the steeper faces *Senecio radiolatus* subsp. *radiolatus* (E) and subshrubs to 30 cm tall of *Leptinella featherstonii* (E) were common – both in full flower. This is one of very few known populations of *L. featherstonii* remaining on Chatham Island (evidently it is still common on some of the outer islands) and DoC compensates for the lack of seabirds by liberally sprinkling slow-release fertiliser pellets in this area (Peter de Lange *pers. comm*.). This coastline is a wonderfully diverse area botanically; many of these species we didn't see again in the wild during our stay.

We made our way back to the Kaiangaroa Club for a dinner provided by the local community, which was a wonderful mixture of mainly seafood. As we were leaving Kaiangaroa quite replete at 8.20 pm, we spotted a patch of *Euphorbia glauca* just over 1 m tall between the road and the coast! The journey back to the hotel took 1 hr 20 min, then time to write up notes and press the fantastic day's collecting, which meant for some it was nearly midnight before the day was finished.

6 January 2007

Jan Butcher & Lisa Forester

Owenga and Rangaika Scenic Reserve

After a quick look at the DoC nursery, where seedlings of many of the Chathams flora were being propagated, we drove down to the shore at Owenga, spotting there some *Euphorbia glauca* on the roadside. Then it was on to Manukau where there is a life–size smiling cement statue of the great man Tommy Solomon. He died in 1933 and was the last full–blooded Moriori.

The 400 ha Rangaika Scenic Reserve is situated on the Southern Tablelands and was fenced off in 1981. We drove in for about 4 km across private farmland until Paul, driving the small van, wheel-spun on the grassy slope and could not go up one of the hills. On running back to have another try, the van became wedged on the mound of dirt and rocks that was cast aside from the creation of the track. A lunch stop was called, and after about 15 minutes of digging, grunting and pushing, the van came free. Needless to say both vehicles were now parked up, and we began the long walk in to the reserve. The view from the top of the 250 m high sea cliff was fantastic with Pitt, Mangere and Little Mangere Islands and The Castle clearly visible on such a beautiful day. "Follow the fence line!" Lynda said, which turned out to be more easily said than done, and so we turned inland. We trudged across paddocks, then on to peatlands and cleared bog with a low bracken cover and large patches of *Blechnum penna-marina* and the ubiquitous *Pratia arenaria*. The grassy sea cliff side of the fence started showing signs of regeneration, with flax, *Astelia chathamica* (E) (Plate 4)*, Dracophyllum arboreum* (E) (Plate 2)*, Olearia chathamica* (E) (Plate 1) and *Olearia traversii*. As manuka is scarce on the island *Dracophyllum* takes its place as a pioneer species. The adults, with fine leaves, are tall canopy trees, and on the juveniles the leaves are much wider. The reserve appears as a large area of fenced bush ringed with eaten out blackberry and tree ferns, some struggling to survive and sprouting just a few tatty fronds. These fern stump survivors had a lot of *Dracophyllum* growing epiphytically on them. Here we were able to check out some old specimens of *Olearia chathamica*. Despite the state of the vegetation, some interesting little plants grew there – *Australina pusilla, Gunnera monoica, Plantago raoulii, Hierochloe fusca,* and *Lagenifera petiolata.*

Upon reaching the reserve a discussion started as to whether we had *Hebe barkeri* (E) or *H. dieffenbachii* (E). Both were there, or a hybrid between them, but the tall tree form was *H. barkeri*. Near the bush edge, we came across fine specimens of *Pterostylis silvicultrix* (E) (Plate 4) in flower, growing epiphytically in a ring at the top of the trunk around the base of the fronds on the tree fern, *Dicksonia fibrosa*. The smooth pink bark of the 15m high *Coprosma chathamica* (E) made this species easy to recognise. The

Dracophyllum carpeted the floor with golden leaves. The huge leaves of *Nematoceras* aff. *sulcatum*, and clumps of *Asplenium oblongifolium* as high as ourselves, made quite an impact. Large plants of *Blechnum durum* were a surprise, growing so far from the sea. Also seen were *Hymenophyllum bivalve, Blechnum montana, Corokia macrocarpa, Prasophyllum colensoi* and *Aporostylis bifolia.* A few shrubs of *Myrsine coxii* (E) were sighted by some, and Anthony Wright can now claim a new ABS speed record for his endeavours to see this plant after the last of the crew had turned for home.

On the drive home, shortly after leaving the farm, we stopped at the small Te One Stream that came out onto another lovely beach. Mike headed out to check out the seaweed and came back with a couple of beautiful specimens. A black one with straps about 3 m in length was *Durvillaea chathamensis*, endemic to the Chathams.

7 January 2007

Colleen Crampton

The walks and bus travel on Sunday showed some of the complex geological features of Chatham Island. At breakfast Jessica Beever met up with some of her whanau, who are locals. Ten ABS trippers and three local residents attended communion service followed by paua fritters with morning tea at the Anglican church, while most others walked west from Waitangi with Val Croon Jnr. guiding.

We walked up Tikitiki Hill for a view of Waitangi village, with our Hotel Chatham and a fish-processing factory on the foreshore. We then walked west to Point Weeding where we climbed on red tuff cliffs which are sculptured by salt spray and wind. This tuff is a consolidated volcanic ash containing crystals and fossils, which indicate deposition in a shallow marine environment. On the cliffs grew *Poa chathamica* (E), and on the bare eroding clay was *Ranunculus acaulis,* looking more familiar than the strange one seen at Kaiangaroa.

The afternoon bus tour then took us to the north-west of Chatham Island. Along Port Hutt Road we lunched in a basalt quarry, seeking some wind shelter, then walked across a peat plateau to Ohira Bay, where we faced cold hail and rain squalls. On the plateau was plentiful *Libertia peregrinans, Gentianella chathamica* and some *Drosera binata*.

At Ohira Bay a wave-cut platform, like Ireland's Giant's Causeway, is formed on 79 million-year-old polygonal columns of olivine basalt. This superb platform rises above bull kelp, which swirls in wave-rounded basalt boulders. Plants growing in the cracks between the basalt columns included *Pratia arenaria, Selliera radicans* and *Samolus repens,* the *Samolus* with very large flowers. The contact between the basalt and the basement metamorphic rock, Chatham schist, can be seen on the west side of the basalt flow. On the seaside bank was *Festuca coxii* (E) with bluish leaves, both *Disphyma australe* and *D. papillatum, Asplenium chathamense, A. obtusatum, Blechnum durum, Leptinella potentillina, Chenopodium ambiguum, Hebe chathamica, Oreomyrrhis colensoi* (a lovely little carroty plant)*, Carex trifida, C. appressa, Geranium traversii, Ranunculus acaulis* and *Rumex neglectus* (with a little congested seedhead). Along the beach could be found crystalwort (*Atriplex billardierei), Colobanthus muelleri* and the exotic *Cakile edentula*.

We continued west, with distant views of volcanic cones, to Port Hutt, a fishing village with a paua-processing factory on a sheltered harbour in the schist coastline, and big old trees of *Pinus radiata.* We then proceeded along Waitangi West Road, and most climbed down a bank to an alluvial flat wetland, in search of the Chatham Island bamboo rush (sporadanthus*),* growing on peat domes. There among the bracken and umbrella fern (*Gleichenia dicarpa*) were *Myriophyllum pedunculatum, Pratia arenaria, Thelymitra pulchella, T. cyanea* and occasion tiny plants of *Utricularia delicatula.* A few continued in the bus to Maunganui Beach on the north coast, where we noted the crystalwort*,* growing on the foredunes, *Pimelea arenaria,* exotic marram and yellow horned poppy (*Glaucium flavum)*.

Val Snr. and Lois Croon hosted us for a barbecue dinner at their hobby farm beside Tennant Lake in the dunes. Shelter has been created with trees such as akeake, *Plagianthus chathamicus* (E), (Plate 2) tree daisy *Olearia chathamica* and rangiora with huge leaves. The Admiral Farm gardens include spectacular beds of the Chatham Island forget-me-not, *Myosotidium hortensia,* box hedges around flourishing vegetable plots, a wide variety of exotic flowers, and *Cortaderia turbaria* (E)*,* and *Astelia chathamica.* For good measure, the occasional Chatham's admiral butterfly was seen.

Another highlight of the barbecue was the first real coffee for 75 hours since departure from Auckland.

9 January 2007

Leslie Haines

Blind Jims and Nikau Bush Scenic Reserve

Blind Jims is a strip of the coastline of Te Whanga Lagoon, a couple of kilometres from Nikau Bush Scenic Reserve. It consists of limestone cliffs and we saw species here that we hadn't seen at any other site we visited, such as *Linum monogynum* var. *chathamicum*

in flower, and kowhai (*Sophora chathamica*). The cliff forest canopy consists of *Myrsine chathamica, Olearia traversii, Coprosma chathamica, Sophora chathamica, Pseudopanax chathamicus* (E), *Melicytus chathamicus,* and the ubiquitous *Corynocarpus laevigatus*. Ferns here include *Adiantum cunninghamii*, *Asplenium oblongifolium, Pteridium esculentum, Microsorum pustulatum, Pyrrosia eleagnifolia* and *Asplenium chathamense*. Chatham endemic understorey species are *Leptecophylla robusta, Hebe dieffenbachii* (Plate 1)*, Coprosma chathamica,* and *Geranium traversii* along with the indigenous *Macropiper excelsa, Haloragis erecta, Solanum laciniatum*, *Urtica australis*, and *Acaena novae-zelandiae.*

Along the lagoon edge plants were species we commonly see on the mainland such as *Sarcocornia quinquefolia*, *Samolus repens, Ficinia nodosa, Lobelia anceps,* and *Plantago coronopus.* Other less common plants were *Schoenoplectus pungens, Potentilla anserinoides, Chenopodium ambiguum*, *Apium prostratum* subsp. *denticulatum*, and the *Pratia arenaria* that was seen at all sites visited.

We lunched at the west end of the beach and competed for the biggest and most intact fossilised sharks teeth emerging at the edge of the lagoon.

After lunch we visited Nikau Bush Scenic Reserve (19 ha) which is situated on the north-western shore of Te Whanga Lagoon, at the base of Korako Mountain. The reserve was fenced in 1982 to protect it from grazing, so has had about 25 years prolific regeneration. This is the site of the largest stand of Chatham Island nikau (*Rhopalostylis* aff. *sapida*) (E) (Plate 4) on Rekohu (Chatham Island). This is a good example of the Chatham's lowland broadleaf forest and as you enter there are some tall *Coprosma chathamica* typical of the swampy ground. Other canopy trees were *Melicytus chathamicus*, *Myrsine chathamica, Olearia traversii, Pseudopanax chathamicus,* and *Plagianthus chathamicus,* with kopi (*Corynocarpus laevigatus*) dominant.
There was some discussion over the identification of the tree ferns with *Cyathea cunninghamii, C. smithii, C. dealbata* and *Dicksonia squarrosa* all present. *Cyathea cunninghamii* was the dominant one. Also impressive were the *Polystichum* aff. *vestitum* ferns with fronds over 1 m, along with a number of ground cover ferns: *Asplenium bulbiferum, Pyrrosia eleagnifolia, Asplenium flaccidum, Pellaea rotundifolia, Blechnum penna-marina, Histiopteris incisa* and *Blechnum novae-zelandiae* at the bush edge. *Earina aestivalis* was in full flower. The regeneration process was evident with numerous seedlings of nikau, *Coprosma, Pseudopanax, Myrsine, Macropiper,* and *Melicytus.* The party who visited this bush on the previous day saw plentiful *Hypolepis lactea*, with a hybrid *H. ambigua* x *H. lactea,* and were shown some plants of *Myosotis spathulata* with tiny white flowers by our guide, Lynda.

As well we visited the expansive Moriori Te Kopinga Marae built following the millennium celebrations, for the Solomon memorial (Tommy Solomon being the last full-blooded Moriori). We were introduced to some of the history and economics of the island. Moriori and Maori on the Chathams have fishing quota for blue cod, crayfish and paua and these are exported from the island live (crayfish) or frozen, and usually have priority over passengers on planes (as we discovered on departure). Gardens around the marae were planted with iconic Chatham species: *Astelia chathamica, Carex ventosa, Myosotidium hortensia, Embergeria grandifolia, Euphorbia glauca, Rhopalostylis* aff. *sapida, Sophora chathamica, Aciphylla dieffenbachii, Poa chathamica, Cortaderia turbaria, Phormium* aff. *tenax, Olearia traversii, Myrsine chathamica, Hebe chathamica and Dracophyllum arboreum* (growing naturally).

Te Henga Reserve

A group visited the Te Henga Reserve and adjoining sand dunes on the exposed western beach. Highlights here were finding several plants of *Atriplex billardierei* in the dunes, and an abundance of *Asplenium lyallii* amongst the craggy limestone outcrops. Common shrubs in the dunes were *Corokia macrocarpa* and *Leucopogon parviflorus*, and the *Geranium traversii* here had white flowers. In the reserve we found a patch of the introduced umbelliferous herb *Torilis japonica* – a new record for the Chathams.

9 January 2007

Sandra Jones

Pitt Island

"Is the weather going to hold till Tuesday?" "Will it turn bad on Wednesday?" Two five-passenger planeloads were booked for the 20 minute flight to Pitt Island on the Tuesday and another two flights on the Wednesday, so these questions were on all our minds for the first few days. We had faint hope that the wind would drop altogether but we learnt that the direction of the wind is crucial. In the event we were all lucky. There was a degree of haze but not enough to obscure our views of Pitt and the surrounding islands as we flew around Hakepa, a 231 m hill (known by the islanders as "walk em up" because it's too steep to ride the horses up its flanks). Down on the grass airstrip were our two guides with their vehicles, waiting to escort us around Pitt Island for the day. Bernie King, a descendant of the original European settler on Pitt Island, Frederick Hunt, was joined on the first day by her partner, Brent Mallinson, and on the second day by Bronwen Thompson and her back-pack baby Tarn. The only reliable nautical landing place on Pitt Island is at Flower Pot, imaginatively

named for the shape of a rock that once lay close to shore, and of which only the base still survives beneath water level. The total population of the island is +/- 35 and Flower Pot is the most closely settled part. It was here that we were taken to a private home for lunch. Paua fritters were again a feature.

Fig. 8. *Pterostylis silvicultrix* on its preferred habitat the upper trunk of *Dicksonia fibrosa*, Ellen Elizabeth Preece Conservation Covenant, Pitt Island. (Ewen Cameron).

The northern part of Pitt was where we all spent our precious day on the island, although one of the four groups did get as far south as Glory Bay on the east coast (named for a brig of the same name that ran ashore there in 1827). At Glory Bay a brief visit to the coastal rocks revealed *Einadia trigonos* growing on rock ledges, with abundant *Apium prostratum* subsp. *denticulatum, Geranium traversii* and *Disphyma papillatum.* We therefore missed much of the regenerating forest in the Scenic Reserves on the un-roaded central uplands and in the southwest. It was clear from the air how little forest is left in the northern part of the island. Hopes were high however that our visit would coincide with the flowering of the spectacular endemic, rautini/Chatham Island Christmas tree (*Brachyglottis huntii*) (Plate 1), and we weren't disappointed. As we flew in, we caught a glimpse of the first flush of bright yellow flowers below. On our drive across the centre of the island to Flower Pot we stopped at a fenced off area on the edge of the road to inspect the trees at close quarters. Rautini grows to 10 m tall, and the leaves are sticky, clad in downy hairs, giving the tree a silvery appearance. The flowers are brilliantly yellow, and while not at peak flowering nevertheless delighted us all.

Most of the Tuesday group walked the steep track from the end of the 4WD road to the flat top of Hakepa, but the telling of the expedition wasn't exactly enthusiastic, botanically speaking. The group of ten on the second day spent quite some time in the privately-owned Ellen Elizabeth Preece Conservation Covenant, or "Caravan Bush" (25 ha), named for the caravan that was once parked there for DoC staff use and subsequently taken to the airstrip to serve as a shelter. It is still there but is now lying on its side, battered and broken – testament to the strength of storm winds on the island. The bush is also now known as "Black Robin Bush" because it was here in 2002 that DoC transferred 33 black robins from their stronghold on South East Island. Although a predator-proof fence was built in 2001, the sad outcome of this venture is that there was only one (or maybe two birds – both females) left at the time of our visit. It is believed that their bush remnant home is too exposed and young (it has only been fenced since 1991) with insufficient leaf litter to provide the invertebrates necessary to sustain the birds, despite supplementary feeding. DoC is not intending to translocate any more black robins to this Conservation Covenant (it seems no longer appropriate to call it either Caravan or "Black Robin" Bush), at least until the bush matures.

Fig. 9. *Polystichum* aff. *vestitum* with fronds to 2m long. Ellen Elizabeth Preece Conservation Covenant, Pitt Island. Scale: Maureen Young (Ewen Cameron).

The Wednesday group were extremely lucky to have Bronwen, who is a former DoC Ranger on Pitt Island, as our guide as she had been involved with the robin translocation and knew where to find the remaining bird. She attracted it to within metres of the track where we waited expectantly. It was an enormous and rare privilege. Despite its relative immaturity this small bush remnant was also a botanical highlight. It is home to a wealth of filmy ferns and ground orchids, a number of which were familiar species, but some unfamiliar, including *Pterostylis silvicultrix* (Fig. 8), growing epiphytically on *Dicksonia fibrosa* at the top of the trunk, amongst the base of the fronds. Although many species were familiar to us, we were constantly remarking on the gigantism of plants, such as *D. fibrosa, Polystichum* aff. *vestitum* (Fig. 9), *Blechnum chambersii*, *Pyrrosia eleagnifolia*, *Pterostylis banksii* and *Microtis unifolia*. Even the Chatham Island warbler, which we saw flitting around in the trees, is larger than its New Zealand cousin. Pitt Island was the only place that *Cortaderia turbaria* was seen by any of our party growing in the wild. Some of the Tuesday

group had a good view at Waihere Bay of a flock of the famous wild Pitt Island sheep.

Our guides were helpful, informative and friendly; without them a visit to Pitt Island would not have been practicable. All flights back to the Chathams were by the scenic route which took us over Mangere and Little Mangere Islands, along the forested south coast of Chatham Island and up the east coast to the airport in the north of the island. A spectacular end to a great day.

10 January 2007

Carol McSweeney

On Wednesday morning the group headed along the South Coast towards Te Awatotara Covenant. This piece of regenerating forest is owned by Liz and Bruce Tuanui and co-managed with DoC. This covenant extends from the coast up to the Tuku Reserve and the valley is completely fenced. Pioneer plants of *Dracophyllum arboreum* and *Pseudopanax chathamicus* visually dominated the regenerating landscape. The stiff-leaved juvenile form of the mainland lancewood is lacking on the Chatham *Pseudopanax.* As we drove toward the covenant, Lynda commented that the parea (Chatham Island pigeon) is sometimes seen feeding in the paddocks on the side of the road. Right on cue one was observed walking down the centre of the road, an opportunity for everyone to see this special bird at close range.

We parked the bus at the top of the Awatotara gorge and botanised along the basalt banks down to Te Awatotara River. The banks provided an interesting selection of *Blechnum* species for discussion. *Blechnum vulcanicum, Blechnum novae-zelandiae* and *Blechnum penna-marina* were all growing together. Another handsome specimen provided a debate on the characteristics of *Blechnum norfolkianum* and *Blechnum chambersii*. The outcome was not decided in the field but was resolved in the herbarium – the fronds, although measuring 63 x 7.5 cm, were too narrow to be *B. norfolkianum*, and the pinnae were too wide and blunt for that species. *Blechnum montanum* was the species growing commonly in the low vegetation on the roadside.

The ubiquitous *Pratia arenaria* and *Gentianella chathamica* were found in association with mats of *Gunnera monoica* and *Muehlenbeckia* aff. *australis*. Some of the other species found here were more of the Chatham Island endemics such as *Corokia macrocarpa, Hebe chathamica, Asplenium chathamense* and *Dracophyllum arboreum*. A variety of orchids including *Thelymitra* spp. kept the enthusiasts busy. Other species of interest here were the fine native grass *Deyeuxia avenoides*, the small herbs *Lagenifera pumila* and *Senecio glomeratus* and the lycopod *Huperzia varia*.

Healthy specimens of *Plagianthus chathamicus*, the Chatham Island ribbonwood, were abundant down towards the stream. These trees have probably been planted. The *Plagianthus* mostly lacks a distinctive divaricating juvenile form, and this was the only difference we could detect between it and the mainland ribbonwood. The stream banks provided a selection of tree ferns growing together, *Cyathea cunninghamii, Cyathea medullaris, Dicksonia squarrosa* and *Dicksonia fibrosa* were all present as well established adult plants. The pending addition of a large corrugated aluminium culvert in this streambed to replace the current bridge will mean these fine specimens will be removed. Kakariki (Chatham Island red-crowned parakeet) were active in the valley with three being seen at one time flying overhead. One was seen sitting outside its nesting hole in a rock face. Day moths were noted around the low roadside vegetation.

The group drove back for a lunch stop at Bruce and Vi Mills home, Ohinemama, located along the South Coast Road. The home was built in 1884 for Robert Kerr and was made of imported kauri and jarrah. Vi and Bruce continue a long tradition of developing and maintaining both the home and the garden.

The group spent the afternoon at the property of Patrick Smith on Te Matarae Road, Rapanui. The property consists of a house and well-developed garden, farmland, and a fenced area of bush. Patrick, and Bridget Gibb from DoC, met the bus at the top of the farm before we all walked into the property. It wasn't exactly a surprise, but was a welcome interlude when Anthony produced his traditional alfresco gin and tonic. Patrick, as the Mayor of Chatham Islands, gave a small speech and various toasts were made. The ice was still frozen and each plastic cup had a delicate slice of lemon, so all in all it was a classy affair and set us up for an afternoon of heightened observations.
The bush, an area of 34 ha, was fenced 23 years ago, and Patrick indicated that at that time the growth was mostly old karamu (*Coprosma chathamica*) (possibly about 200 years old) and matipo (*Myrsine chathamica*), and that before fencing it was possible to ride a horse through the block. There were eight nikau left in the block at this time, and we were pleased to see that there are now many seedlings. The bush in this covenant proved to be particularly healthy with a good understorey of kawakawa and other regenerating species. Kopi seedlings were plentiful. This was the only bush on the main Chatham Island where we saw plentiful, naturally grown, *Plagianthus chathamicus.*

The limestone outcrops throughout provided another opportunity to see many robust plants of *Asplenium lyallii. Pneumatopteris pennigera* was also plentiful here and this was the first time we had seen this

species on this trip. Some of the other ferns that were plentiful were *Rumohra adiantiformis, Blechnum chambersii, Pellaea rotundifolia, Hypolepis ambigua,* and once again large specimens of *Polystichum* aff. *vestitum* more than a metre in height.

The bush area opens onto the dunes of the Te Whanga lagoon where vigorous populations of *Euphorbia glauca* and *Haloragis erecta* created interest. The introduced species *Glaucium flavum* (horned poppy) and the magenta flowering *Senecio elegans*, were prominent in the dune landscape. Some of the other species in this habitat were *Calystegia soldanella* and *Senecio lautus*, which were both flowering, the small *Ranunculus acaulis, Potentilla anserinoides* and the succulent *Chenopodium ambiguum*. Limestone rock was scattered about the shore and provided another opportunity to view the small flowering *Colobanthus muelleri* tucked in the crevices.

It was noted that some garden escapes, particularly banana passionfruit vine (*Passiflora tripartita* var. *mollisima*), pose some risk to the adjacent indigenous forest. This species was very vigorous scrambling over and smothering trees on the margin of the native forest. Although no seedlings were noticed in the forest, it may be a threat in the future if it is allowed to spread. This may also be the case for other species seen in the garden.

The viability of pine forestry on the Chathams was discussed with Patrick. For various reasons pine timber as a crop is not economical, and pine plantations are not being harvested. This poses the question of the possible future effects on natural ecosystems if *Pinus radiata* becomes naturalised on the island. Macrocarpa is being considered as a possible future crop because of the more durable nature of the timber.

Geoff Davidson, on behalf of ABS, thanked Patrick for his hospitality and commended him on the work he has done in protecting and caring for this piece of bush. He commented on the particularly healthy nature of the ecosystem.

11 January 2007

Maureen Young

As mentioned previously, we found that fish really do have priority over people on the Chathams. Our 9 am flight was delayed, as the only plane had taken an early morning flight to Wellington with a load of paua, and was now fog bound there. After a false alarm or two, and with serious doubt that our errant Geoff would get back in time from a harebrained dash for the Tuku Nature Reserve, our plane arrived and the last of the fish was loaded, and we were off, thus ending one of ABS's most satisfying trips. And when we reached Auckland, did the plane taxi up to the terminal? Don't be silly; what use would that be for the fish? It taxied to the cool-store and we mere humans were taken by bus to the terminal.

Our top ten species

On the flight home to Auckland people were asked to list their favourite ten plants from Chatham and Pitt Islands. The results were, in order of preference:

1. *Brachyglottis huntii* (Plate 1)
This runaway favourite is a candelabrum shaped tree with large, soft, sage-green leaves, topped, at this time of the year, with clusters of bright yellow flowers. The few trees we saw in the south of the main Chatham Island by the Awatotara River appeared to have been planted, but there were many wonderful examples growing on Pitt Island. While not quite the "ring of gold" around the remaining forest that we had been promised, from the plane many splashes of yellow could be seen. Rautini is the local name.

2. *Embergeria grandifolia* (Plate 3)
The giant endemic sowthistle, so beautifully in flower, was seen in gardens, but unforgettably was the dominant plant on an old rubbish dump at Kaiangaroa Point.

3. *Olearia chathamica* (Plate 1)
Rangaika Reserve is the place to see this shrub, which has quite large, thick, serrated leaves. The flowers, with white ray florets and deep purple disk florets, were seen in abundance.

4. *Pratia arenaria* (Plate 3)
This little creeping plant was a real feature of the Chathams, as it was seen in every vegetation type except dark forest. Despite "arenaria" meaning "growing in sand" it was seen on dunes, eroded clifftops, rocks, bogs, pastures, lawns and track edges. In sheltered spots the leaves could reach 3 cm diameter, and it was at the peak of flowering. It also grows in Southeast Otago and the Subantarctic Islands.

5. *Olearia semidentata* (Plate 1)
Chatham aster, as it is known locally, was seen in good numbers in the Ocean Mail Reserve. Its preferred habitat is bogs, and hybrids (*O. chathamica* X *O. semidentata*) were seen on the fenceline of Rangaika Reserve on the southern tablelands. It is distinguished from *O. chathamica* by its smaller stature, narrower leaves with just a few teeth near the end, and by the purple ray florets.

6. *Dracophyllum arboreum* (Plate 2)
This was the dominant tree in the Rangaika Reserve, and it was also seen as an early coloniser in the regenerating Awatotara Covenant. It was plentiful in the Ellen Elizabeth Preece Conservation Covenant on

Pitt Island, where a large tree was estimated to be 80 cm in diameter and c. 10 m tall. A smaller plant, *Dracophyllum scoparium*, was seen less frequently.

7. *Hebe chathamica* (Plate 1)
There are three endemic hebes in the Chathams. *H. barkeri* is a tree which we only saw in the Rangaika Reserve. *H. dieffenbachii*, a shrub with blue-green leaves, the bases of which clasp the stem, was reasonably common, mainly on the shoreline. However, it was the little *H. chathamica* that caught the imagination of our group. This trailing coastal plant with leaves lying more or less in one plane had short erect flower racemes, with the flowers fading from purple to white.

8. *Rhopalostylis* aff. *sapida* (Plate 4)
The Chatham nikau, a handsome palm with a thick crownshaft and short, robust fronds, is not common on the main island. It was seen in numbers in the Nikau Reserve, and one adult was seen in bush at Te Matarae. It was present in greater numbers on Pitt Island.

9. *Aciphylla traversii* (Plate 3)
There are two species of *Aciphylla* that are endemic to the Chathams. *Aciphylla dieffenbachii*, with soft, finely divided leaves, had to be viewed in gardens as it only remains growing naturally on remote cliffs on Chatham Island and offshore islands. However, it was *A. traversii* that won the vote, and this speargrass was seen to advantage in the Ocean Mail Reserve, with plants sporting either a male or a female inflorescence. While the leaves were firmer and more pungent than those of *A. dieffenbachii*, they were not nearly as fearsome as most mainland species.

10. *Myosotidium hortensia*
The monotypic Chatham Island forget-me-not is surely one of the most spectacular plants in the New Zealand flora. That it had finished flowering probably accounts for the lowly position on this list of favourites. Even without flowers it was a privilege to see the huge glossy leaves growing en masse along the shore at Kaiangaroa Point, able to withstand such harsh conditions. It was used extensively in plantings in gardens.

Participants (Fig. 10)
Enid & Paul Asquith, Jessica & Ross Beever, Jan Butcher, Ewen Cameron, Colleen Crampton, Bev & Geoff Davidson, Lisa Forester, Anne Fraser, Leslie Haines, Cathy Jones, Sandra Jones, Carol & Garry McSweeney, John Millett, Juliet Richmond, Alison Wesley, Mike Wilcox, Anthony Wright, Maureen Young (organiser).

Fig. 10. The ABS participants and Tommy Solomon at Owenga. Absent – Anthony Wright (camera of Lisa Forester)

Plate 1: Trees & shrubs

***Brachyglottis huntii*, Pitt Island (Alison Wesley)**

***Olearia traversii*, Chatham Island (Ross Beever)**

***Olearia semidentata*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Olearia chathamica*, Rangaika Reserve, Chatham Island (Mike Wilcox)**

***Hebe dieffenbachii*, limestone cliffs, Te Whanga Lagoon (Lisa Forester)**

***Hebe chathamica*, Glory Bay, Pitt Island (Mike Wilcox)**

Plate 2: Trees & shrubs

***Leptecophylla robusta*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Pimelea arenaria*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Plagianthus chathamicus*, Awatotara Creek, Chatham Island (Mike Wilcox)**

***Melicytus chathamicus*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Dracophyllum arboreum*, Rangaika Reserve, Chatham Island (Mike Wilcox)**

***Myrsine chathamica*, Ocean Mail, Chatham Island (Mike Wilcox)**

Plate 3: Dicot herbs

***Pratia arenaria*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Gentianella chathamica* subsp. *chathamica*, Hakepa, Pitt Island (Mike Wilcox)**

***Leptinella potentillina*, Lake Rangitai, Chatham Island (Mike Wilcox)**

***Geranium traversii*, Glory Bay, Pitt Island (Mike Wilcox)**

***Aciphylla traversii*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Embergeria grandifolia*, Kaingaroa, Chatham Island (Lisa Forester)**

Plate 4: Monocots

***Poa chathamica*, Waitangi, Chatham Island (Mike Wilcox)**

***Libertia peregrinans*, Ocean Mail, Chatham Island (Mike Wilcox)**

***Pterostylis silvicultrix*, Rangaika Reserve, Chatham Island (Mike Wilcox)**

***Rhopalostylis* aff. *sapida*, Nikau Reserve, Chatham Island (Mike Wilcox)**

***Astelia chathamica*, Rangaika Reserve, Chatham Island (Mike Wilcox)**

***Sporadanthus traversii*, Ocean Mail, Chatham Island (Ewen Cameron)**

Polystichum aff. *vestitum*

Ewen Cameron

The large shield fern on the Chathams, *Polystichum* aff. *vestitum* (Fig. 9), deserves separate comment because our group were all impressed by its large stature, especially in the Ellen Elizabeth Preece Conservation Covenant on Pitt Island where it was locally common in the forest. We were surprised that it wasn't given any taxonomic recognition by the recent investigation into the *P. vestitum* complex by Perrie *et al*. (2003). The largest plants seen had a short caudex (to c.40 cm tall), fronds over 2 m long and up to 47 cm across at their widest point (AK 299204-08); also the pinnae didn't taper down to the extent of the mainland form of *P. vestitum*. However, we did see plants on Chatham Island that were much closer in stature to the mainland form of *P. vestitum.*

Brownsey & Smith-Dodsworth (2000) note under *P. vestitum* that plants from the Chathams generally had wider fronds; paler, fringed rachis scales, and concluded that it may possibly be an undescribed species. However, after a detailed morphological and molecular study of the *P. vestitum* complex, with special reference to the Chatham Islands plants Perrie *et al.* (2003) found "...no strong evidence that these divergent Chatham Islands plants constitute an evolutionary lineage separate from the remainder of *P. vestitum*." Based on three characters (relatively longer primary pinnae; relatively narrower rachis scales; and a smaller if not absent central dark area of the rachis scales) they recognised three forms of *P. vestitum* for the Chatham Islands: "divergent" (character states unknown in *P. vestitum* from mainland New Zealand), "mainland-like" (closely resembling mainland New Zealand plants), and "intermediate" (which had a mix of the two previous forms). Because they couldn't find clear evidence to separate the Chatham Islands entities from the mainland they stayed conservative and recommended not to taxonomically recognise the Chatham Islands plants from the remainder of *P. vestitum*. However, they did concede that there was a "...possibility that a distinct lineage did once exist on the Chatham Islands but which subsequently experienced introgression with *P. vestitum* [from the mainland] to such an extent that its distinctiveness has been blurred". After seeing the robust "divergent" Chatham Islands *P. vestitum*, especially on Pitt Island, I favour this latter explanation.

Vascular plant additions to the Chatham Islands Checklist

Ewen Cameron & Anthony Wright

Just before departing for the ABS field trip to the Chatham Islands, Peter de Lange kindly provided us with his latest draft of the Checklist of vascular plants (December 2006 version) for the entire Chatham Islands, then totalling some 735 species. When completed this checklist will provide the first comprehensive listing of naturalised plants since Madden & Healy (1959) and update the indigenous list of de Lange *et al*. (1999) which listed 388 indigenous species. The draft checklist was invaluable in aiding identifications and also directing our collecting – we were trying to fill in the gaps in the Auckland Museum herbarium (AK) Chatham Islands holdings. Note – there must be a specimen to qualify for inclusion in the checklist, i.e. in some cases "additions" may only be confirming known site records.

At 16 taxa, the low number of additions is probably a reflection that the draft Checklist is close to completion or we just went to the same places. Only 2-3 native species were added (1-2 new, and one confirmation with a voucher), compared with 12 naturalised species and one cultivar. Several new environmental weeds are included (e.g., *Glyceria maxima* and *Mimulus moschatus*); hopefully their listing will lead to their eradication. The most exciting addition is *Isolepis basilaris,* being a threatened New Zealand species described originally from Hawke's Bay and now known from there and near Whanganui south to Stewart Island from the margins of inland lakes, dune slacks, and from coastal salt flats. Being discovered so recently on the Chatham Islands is probably more related to its diminutive size (Fig. 6), rather than it being a recent arrival to the Chatham Islands. It formed a moss-like turf with setaceous leaves protruding only 10-20 mm above the sand with the near sessile spikelets hidden amongst the leaf bases but buried just below the sand surface. It was in a coastal turf on the margin of an ephemeral lagoon mixed with *Callitriche petriei* subsp. *chathamensis, Crassula sinclairii, Limosella lineata, Lilaeopsis novae-zelandiae* and *Myriophyllum propinquum.*

Additions from the January 2007 Auckland Botanical Society field trip

Dicots

*Gazania rigens** Flower Pot Bay, Pitt Id, *Cameron 14303*, 9 Jan 2007, AK 298748 (* = exotic species)
*Ligustrum ovalifolium** Owenga, Chatham Id, *Wright 13733*, 6 Jan 2007, AK 298509
*Lonicera periclymenum** Waitangi, near Nairn River, Chatham Id, *Cameron 14322*, 10 Jan 2007, AK 298510
*Mimulus moschatus** central Pitt Id, *Cameron 14316*, 9 Jan 2007, AK 298083
Ranunculus glabrifolius Hapupu Lagoons, Chatham Id, *Cameron 14190*, 5 Jan 2007, AK 298608 (confirms

previous unsubstantiated listing by de Lange et al. (1999))
Rosa wichuraiana 'American Pillar'* Owenga, Chatham Id, *Wright 13734*, 6 Jan 2007, AK 298805 – this is in addition to: *Rubus wichuraiana* hybrids already listed (previous collections in AK and other wild cultivars that we saw on the Chathams were all the double flowering forms, cv. 'Dorothy Perkins')
*Rumex brownii** Nikau Bush SR, Chatham Id, *Cameron 14250*, 8 Jan 2007, AK 298667
*Spergularia rubra** Southern Tableland, Alfred Preece farm, Chatham Id, *Wilcox*, 6 Jan 2007, AK 298512 – also seen in quarry near Basalt Columns
*Torilis japonica** Henga SR, Chatham Id, *Cameron 14259*, 8 Jan 2007, AK 298522 – also seen in forest east of Te One (Patrick Smith's property)
*Trifolium resupinatum** Basalt columns, Chatham Id, *Beever*, 7 Jan 2007, AK 298506
*Tropaeolum majus** Waitangi, Chatham Id, *Cameron 14324*, 10 Jan 2007, AK 298511

Monocots

*Aloe maculata** Flower Pot Bay, Pitt Id, *Cameron 14301*, 9 Jan 2007, AK 298519
*Glyceria maxima** Owenga, Chatham Id, *Wright 13735*, 6 Jan 2007, AK 298649
Isolepis basilaris Hapupu Lagoons, Chatham Id, *Cameron 14184*, 5 Jan 2007, AK 298647
*Sieglingia decumbens** near Basalt columns, Chatham Id, *Cameron 14229*, 7 Jan 2007, AK 298664.

Chatham Island Birds

Paul Asquith

There are 18 taxa of bird that are endemic to the Chatham Islands (Aikman & Miskelly 2004). Although many bear strong similarities to those of the same name found in NZ, they differ mainly in size, plumage or habitat.

What was surprising was the apparently low densities of land based birds compared to those of New Zealand, but then the quality, quantity and variety of the bush is much less than that here in New Zealand. However the group managed to record 39 different species whilst there, including 10 of the 20 endemic species. Many of the others are either seabirds or exist only on the smaller offshore islands and stacks

Sightings of particular note were the Chatham Island endemics of pigeon, red-crowned parakeet, warbler, tui, oystercatcher and shag, and also the Pitt Island shag. For the 'fortunate few' (those with a view of the sea) whilst still abed, the 'nellies' or giant petrels could be seen most mornings patrolling and scavenging just off the Waitangi Wharf close to our hotel.

After being told that it would be most unlikely for us to see one, the birding highlight of the trip for over half the group was the black robin on Pitt Island. A short walk into a 58 ha. reserve resulted in seeing what is probably the one remaining black robin on Pitt Island. It was extremely friendly, perching and loitering around us for several minutes. It was a great privilege for us to be able to see one of this very endangered and world famous species.

List of birds seen

Northern giant petrel
Black shag
Chatham Island shag
Pitt Island shag
White-faced heron
Black swan
Feral goose
Grey duck
Mallard
Australasian harrier
Weka
Pukeko
Chatham Island oystercatcher
Spur-winged plover
Pied stilt
Banded dotterel
Bar-tailed godwit
Black-backed gull
Red-billed gull
White-fronted tern
Chatham Island pigeon
Chatham Island red-crowned parakeet
Welcome swallow
Silvereye
Chatham Island warbler
Blackbird
Song thrush
Chatham Island pipit
Skylark
Chatham Island fantail
Black robin
Chatham Island tui
House sparrow
Chaffinch
Redpoll
Goldfinch
Greenfinch
Yellowhammer
Starling

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The Orchids of Chatham and Pitt Islands

Anne Fraser

Introduction

Orchid genera known from Chatham and Pitt Islands include *Acianthus, Adenochilus, Aporostylis, Corybas, Drymoanthus, Earina, Gastrodia, Microtis, Nematoceras, Petalochilus, Prasophyllum, Pterostylis, Simpliglottis, Singularybas, Spiranthes, Thelymitra* and *Winika* (de Lange *et al*, 1999; P. J. de Lange *pers. comm* (unpub. Species list).

Of these, our group did not see *Adenochilus, Drymoanthus, Gastrodia, Singularybas*, *Spiranthes* and *Winika.* Of genera listed, not all species reported were seen. Late observation, after flowering, contributed to the difficulty of identifying some species.

Habitat

At first sight, the rolling heath lands of both Chatham and Pitt Island suggested an ideal orchid habitat, especially for terrestrial species. They are bracken dominant, with open spaces of dry peat, exposed in tracks broken by stock, but often covered with thin pasture and in places, full vegetation. Genera that commonly colonise this habitat are *Thelymitra,* some *Prasophyllum* and *Microtis* species, and these were also seen in a variety of other open, usually dry situations, including roadsides.

Wetter swamp areas contain some species of *Thelymitra, Prasophyllum* and *Pterostylis,* but the latter are more commonly found in moist bush land. This is also the habitat of *Acianthus,* and also *Nematoceras*, although some of these species prefer wet, cool, shaded stream banks. Dry forest shelters *Petalochilus* sp. and *Aporostylis bifolia* on the more open margins. Epiphytes are usually found in forest and *Gastrodia* in the darkest closed vegetation or in pine forest.

Orchids reported on the group trips (see Young 2007):

Ocean Mail Reserve

At the first reserve, the summer-dry wetland reminded me of the orchid habitat on the Central Plateau around Ruapehu, where similar species of associated vegetation accompanied the tall darkly flowered *Prasophyllum* found here, considered to be *Prasophyllum* aff. *colensoi* (b) (of St George et al. 2005). Its visual difference from *P. colensoi* observed in other North Island areas prompts further investigation. *Microtis* sp. and *Thelymitra longifolia* well past flowering were seen here and on the drier high land above the lake. *Thelymitra pulchella* was in flower still.

Rangaika Reserve

This reserve and environs proved to be a treasure trove for orchids. Here was first seen the Chatham Islands endemic *Pterostylis silvicultrix* in its extraordinary habitat, epiphytic on *Dicksonia fibrosa* trunks, just underneath the new fronds, but above where the dead fronds excluded the light from the trunk. Some plants still had flowers. The whole plant was reminiscent of *Pterostylis humilis,* a montane