



The New Zealand Native
orchidjournal

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#99





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Thelymitra hatchii, Lindis Pass: photo David Dickson.

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The next is the 100th issue!

The next issue in August will be our 100th. We welcome contributions from readers reflecting on the weak and strong points of the last 100 issues, suggesting new directions, expressing fresh viewpoints, and thus guiding your modest servant the editor humbly toward the next 100—or not: it's up to you.

Please send your best photographs and drawings, and make the 100th issue a spectacular feast of colour.

A real natural therapy?

An editorial by Ambra Burls and Woody Caan, from the Anglia Ruskin university in Essex, appeared in the 26 November *British Medical Journal* (*BMJ* 2005; 331: 1221-1222). It discusses the fascinating matter of "Human health and nature conservation". Its major focus is on the benefits of human relationships with animals, but our relationships with plants are also covered.

The American zoologist Edward Wilson coined the concept of biophilia: "the connection that human beings subconsciously seek and need with the rest of life." That romantic soul William Colenso famously felt it: "... on revisiting these grand old woods... fancy leads me to imagine that the trees and plants, ferns, mosses and flowers both recognise and smilingly welcome me.... I take my hat off and salute them feelingly, and so again on leaving them for the last time".

The therapeutic implication of biophilia is ecotherapy: restoring health through contact with nature, a "sense of unity of biosphere and humanity" that engenders connection, restoration, and respect for self and planet.

The relationship with pets has for twenty years been recognised as health-promoting, but extra benefits may come from the naturalness

factor arising from connection with wildlife. Indeed the same issue of the *BMJ* carried a paper on the positive effects on depression of swimming with dolphins. We NZers know how proud and fulfilled people feel when they rescue stranded whales. Smaller animals (for example, squirrels, owls, and raccoons) have been used successfully in therapies for children with emotional and behavioural problems.

Most therapies involve participation in conservation projects, usually with large species in challenging environments - endangered wolves and birds of prey, dolphins. UK projects have involved species varying from badgers to rare moths. Such projects usually address mental health needs and usually involve small groups of patients under supervision. Wildlife gardens, like Addenbrooke's Hospital's Jubilee garden developed by a stroke patient during rehabilitation, can flourish in small spaces close to human habitation.

People who take part in conservation projects report subjective health benefits, ascribed to being outdoors and to feeling part of a greater system connecting beyond the individual. Such projects can help overcome social isolation among people with disabilities through embracement, can develop skills, and can improve employment prospects as well as provide the known benefits associated with exercise. One volunteer in the Meanwhile Wildlife Garden project, run by the mental health charity Mind to conserve a small wildlife habitat in inner London, described his experience: "Initially it was something that I would do as I recovered from my illness, but now it has become the main focus of my energies."

English Nature has advocated a national strategy to encourage people to reconnect with nature and benefit from proximity to wildlife.

"Partnerships between healthcare providers and nature organisations to share and exchange expertise could create new policies that recognise the interdependence between

healthy people and healthy ecosystems,” said the authors.

“Ecotherapy could be beneficial, but we need more robust evidence,” said conservative old granny *BMJ*.

I have to say, it sounds healthier than some of the toxic or exploitative quackery that poses as “natural” these loopy days.

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The various contrivances by which the New Zealand orchids are fertilised by themselves

Charles Darwin's *Origin of species* was published in 1859, and the first edition of his book on orchid fertilisation appeared in 1862. A second edition renamed *The Various Contrivances by which Orchids are Fertilised by Insects* appeared in 1904.

Darwin introduced the evolutionary concept of natural selection, the struggle of species against each other for survival.

He was a man of his times of course, as the great Darwin scholar Stephen Jay Gould pointed out: “[Darwin] imbibed the basic belief of the Scottish economists that theories of overall social structure must begin by analyzing the unconstrained actions of individuals.”

Gould continued, “The theory of natural selection is a creative transfer to biology of Adam Smith’s basic argument for a rational economy: the balance and order of nature does not arise from a higher, external (divine) control, or from the existence of laws operating directly upon the whole, but from struggle among individuals for their own benefits”.

Adam Smith (1723-1790) was the great Scottish philosopher and economist who is best known for his book *The wealth of nations*, which depicted economics as a struggle for existence – nature red in tooth and claw. (Those were neither Smith’s nor Darwin’s words, but those of Alfred, Lord Tennyson, from his long 1850 poem *In memoriam*: “Who trusted God was love indeed / And love Creation’s final law - / Tho’ nature, red in tooth and claw / With ravine, shriek’d against his creed...”).

Darwin hated the idea of self pollination. He wrote in the first edition of his orchid book, “It is hardly an exaggeration to say that Nature tells us, in the most emphatic manner, that she abhors perpetual self-fertilisation.” Despite observations that the British Bee orchid always self pollinated, he wrote in 1860, “...in other districts, or during particular seasons, it may be visited by insects...(and) would almost certainly receive the benefit of an occasional cross pollination”.

He would not accept the evidence of his eyes.

You can trace a gradual softening of Darwin’s stance on the subject, from incredulity bordering on disgust in the early 1860s that self pollination was even possible,

through to acceptance fifteen years later that it happened, though obviously only when normal, healthy cross pollination by insects had somehow failed, and then only temporarily.

In the early seventies he would list the orchid species in which “self-fertilisation habitually occurs” but would add, “I believe that the few orchids which do not now intercross, either did formerly intercross, or that they will do so at some future period under different conditions, unless, indeed, they become extinct from the evil effects of long-continued close interbreeding.”

I think he was again showing that he was a man of his times. Contemporary medical tomes use remarkably similar language to rail against masturbation – the habit of “self-pollution” or (tellingly) “the solitary vice” as it was called. JH Kellogg (yes, he of the cornflakes) published his *Man the masterpiece* in 1885, and in it listed 22 signs of “self abuse”, and went on to say, “The human being who gives himself up to this sort of sinful indulgence, and abandons himself to the gratification of beastly lusts by this means, is likely to become, sooner or later, a complete wreck physically, mentally, and morally.... Undoubtedly the indulgence of this vile practice affords an ample explanation for the great number of puny, scrawny, weak-backed, lank-limbed, hollow-eyed, pale, sallow-faced boys who may always be seen upon the streets of any city”.

With few exceptions, if pollination is to take place, the pollen from the male anther must come into contact with the female stigma. As with other flowers, insects may help orchids in this. Perhaps 97 percent of the world’s orchids

are indeed insect pollinated. But in New Zealand the position appears to be quite different. Many of our orchids are predominantly self pollinating, to some extent perhaps because of the few pollinating insects here.

Captain James Cook wrote in 1776, after his third visit to New Zealand,

“Insects are very rare. Of these, we only saw two sorts of dragon-flies, some butterflies, small grass-hoppers, several sorts of spiders, some small black ants, and vast numbers of scorpion-flies (cicadas), with whose chirping the woods resound.”

Brian Molloy compared the reported insect faunas of Australia and New Zealand and reached the same conclusion: paucity of insects is, at least to some extent, associated with self pollination.

By the Eocene epoch (54-38 million years ago) flowering plants and insects were diversifying rapidly. In Australia they formed the unique plant/insect pollination partnerships seen today, but even in insect-rich Australia many orchids retained or developed a fall-back position: they could self pollinate if no apt insect visited. Later dust-like orchid seed from Australia and SE Asia made effective landfall here, borne on the prevailing westerlies, sometimes accompanied by the necessary pollinating insects, and often showing structures or functions that had attracted insect pollinators in their homeland—scent, edible calli, nectar, or colour (see Table 1).

What really is special about the New Zealand orchids is the ability of the majority of them to self pollinate. Molloy estimated that in fact 60 percent of our orchids are

Table 1: The origins of the self pollinating New Zealand orchids

A. derived from insect-rich countries (Australia, SE Asia) where their ancestors were
1. insect pollinated, and the NZ species have
1.1 remained insect pollinated, or
1.2 adjusted by becoming secondarily adapted for self pollination, or
2. self pollinating, and they have remained self pollinated, or
B. endemic, either insect pollinated or self pollinated.

predominantly self pollinating.

Some of our self pollinating species have been derived from insect pollinated ancestors, and they continue to inherit some of the characteristics that suggest insect pollination. These characteristics include many that Darwin observed (see Table 2).

We have often, in New Zealand, rather shamefacedly talked of the pale and “delicate beauty” of our orchids, which others have been cruel enough to call “inconspicuous”. We don’t have the masses of colour of a Swiss alpine meadow — but we do have masses of wild orchids, and we don’t have to wear leather pants to keep the stinging insects at bay.

The disadvantages of self pollination may have been exaggerated, just as the evils of that other solitary activity were exaggerated. Neither now seems “abhorrent” or “unnatural”. A dominant advantageous mutation is spread rapidly by cross

fertilisation, but the self pollinator may be more likely to pass, for example, a new recessive character on to its offspring.

The uniformity of structure in self pollinating orchids in contemporary populations (exemplified, for instance, by their retention of rarely useful insect attracting characteristics) might suggest that such genetic change is uncommon.

Eventually Darwin did allow that self pollination may be a fallback position adopted by species that are normally insect pollinated. Even he admitted that self pollination was better than extinction.

This editorial covers some old ground, but signals a new department in the journal, where we will deal with how New Zealand orchid genera use cunning and ingenious means, less obtrusive perhaps, but no less marvellous, than those adopted by insect pollinated species, to achieve self pollination.

Table 2: Signs suggesting insect pollination and self pollination

elementary edhatch

8: Nematoceras 2

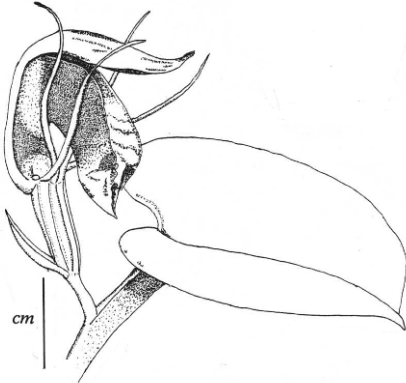
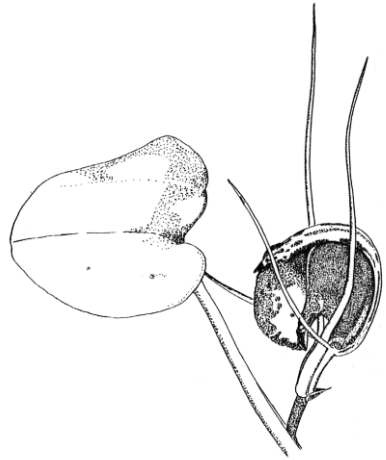
with drawings by Bruce Irwin and Ian St George

5. *Nematoceras macrantha* (the large flower)

The oblong-orbicular, apiculate leaf is carried on a long petiole which raises it above the flower. The petals are about half the length of the lateral sepals. Appears to hybridise with both *triloba* and *rivularis s.l.*

Distribution – endemic – North, South, Stewart, Chatham and Auckland Is.

Flowers – October-January – insect pollinated



6. *Nematoceras orbiculata* (the shape of flattened-out labellum – the species was described from dried and pressed material)

Labellum disc dark red, the margins inrolled to produce a narrow-acuminate appearance. Petals and lateral sepals conspicuously short, only slightly exceeding the dorsal sepal

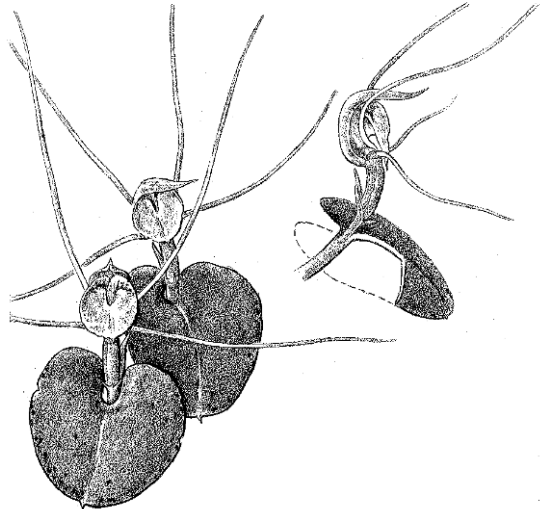
Distribution – endemic – North Id.: southwards from the Volcanic Plateau. South, Stewart and Chatham Is.

Flowers – July-October – insect pollinated

7. *Nematoceras papa* (the mudstone on which the plant grows) *cf N.rivularis s.l. q.v.*

Distribution – endemic – North Id.: northern Taranaki

Flowers – September-October – insect pollinated

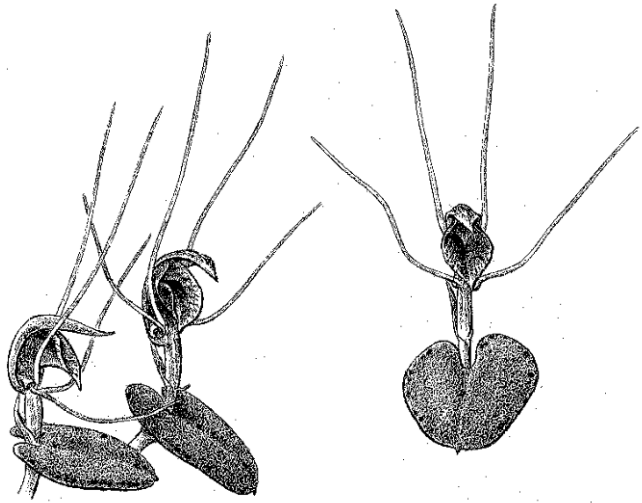


8. *Nematoceras rivularis*

(pertaining to streams)

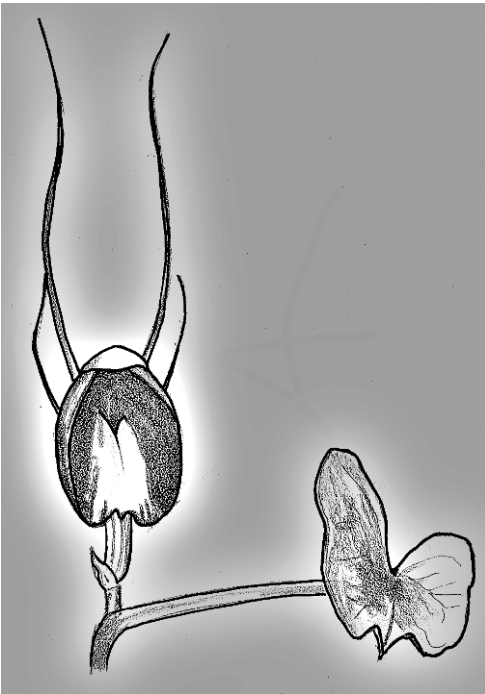
N. rivularis s.s., which now has a restricted distribution, forms large colonies in wet places, stream banks and cliff face seepages. The leaf is near orbicular, sessile, apiculate, with dark spots along the edge. The petals are usually as long as the lateral sepals, while the labellum is dark red.

The majority of plants found, while generally similar to the type, belong to an undescribed aggregate with numerous tag-named forms, some of which are sure to be valid species. They are referred to as *rivularis s.l.*



Distribution – endemic – *rivularis s.s.* North Id.: the Russell-KeriKeri district and about New Plymouth. *rivularis s.l.* occurs throughout the North, South and Stewart Is.

Flowers – September-October – insect pollinated



9. *Nematoceras triloba* (the 3-lobed leaf)

Dorsal sepal \pm obtuse, the petals barely half the length of the long, upright lateral sepals. A very variable plant, some forms of which are almost certainly valid species, others more likely to be hybrids

Distribution – endemic – North, South, Stewart, Chatham, Auckland and Campbell Is.

Flowers – June-December, depending on altitude – insect pollinated



Calochilus paludosus

- from Michael Morcombe. *Australia's wildflowers*.
Lansdowne Press, Melbourne, 1970

historical reprint: 1

— from TF Cheeseman's *Illustrations of the New Zealand Flora*, Vol. II, Government Printer, 1914. Drawings by Miss Matilda Smith, engraved by John Nugent Fitch.

THELYMITRA UNIFLORA AND PRASOPHYLLIUM COLENSOI.

FAMILY ORCHIDACEÆ.] [GENERA THELYMITRA, FORST., AND
PRASOPHYLLUM, R. BR.

Thelymitra uniflora, *Hook. f. Fl. Antarct.* i, 70; *Cheesem. Man. N.Z. Fl.* 672.

Prasophyllum Colensoi, *Hook. f. Fl. Nov. Zel.* i, 241; *Cheesem. Man. N.Z. Fl.* 675.

Thelymitra uniflora was first observed on the Auckland islands by Lieut. Le Guillon, one of the officers of the French exploring-ships "Astrolabe" and "Zélée," which, under the command of Admiral D'Urville, visited the Islands in March, 1840. Le Guillon's specimens were very imperfect; but in November of the same year it was again collected by Sir J. D. Hooker during the Antarctic voyage of Sir J. C. Ross. In 1844 it was published by Hooker in the "Flora Antarctica" under the name it still bears. It was first gathered in New Zealand proper by Dr. Lyall, at Milford Sound; and shortly afterwards in eastern Otago by Mr. Buchanan. Since then it has been found to be abundant on the margins of peaty swamps or on damp, open, elevated moorlands as far north as Rotorua. It descends to sea-level in Stewart Island and in several localities in the South Island, but is most abundant between 2,000 ft. and 3,500 ft. It is specially plentiful on the Waimarino Plateau, to the west of Tongariro and Ruapehu, where in the month of January every peaty swamp is adorned with its dark-blue flowers.

T. uniflora belongs to Lindley's section *Biaurella*, in which the column-wing does not extend behind the anther, but has two prominent erect lateral lobes. In *T. uniflora* these lobes are more or less spirally involute, as shown in figs. 1 and 2 of the accompanying plate, and are sometimes connected by a crest at the back of the anther (see fig. 2). Its nearest ally is undoubtedly the Tasmanian *T. cyanea*, if, indeed, the two plants are not identical.

Prasophyllum Colensoi, as its name indicates, was one of the many discoveries made by Mr. Colenso, but I am not aware of the exact habitat in which it was first found. This, however, is not of any great importance, seeing that it is now known to extend from the North Cape to Antipodes Island, and to be one of the most abundant orchids in subalpine moorlands. Whether the form so generally distributed in mountain districts at elevations ranging from 2,000 ft. to 5,000 ft., and which must be taken as the type of the species, is quite the same as that which is sparsely found in lowland situations, and which extends to the extreme north of the Dominion, is not quite certain. The question cannot be settled until a detailed comparison of fresh specimens has been made.



A. THELYMITRA UNIFLORA, Hook. f. 1-3.
B. PRASOPHYLLUM COLENOSI, Hook. f. 4-8.

P. Colensoi belongs to the typical section of the genus, called by Bentham *Euprasophyllum*, in which the lip is sessile at the base of the column. The only other species of the section found in New Zealand is the Australian *P. patens*, which differs in its much greater size, larger paler flowers, and longer lip, which has a much larger recurved lamina, the adnate plate not extending almost to the tip, as it does in *P. Colensoi* (see fig. 8 of the accompanying plate). The nearest ally of *P. Colensoi*, however, is probably the Tasmanian plant described by R. Brown under the name of *P. alpinum*, but which Bentham, in the “Flora Australiensis,” merges with *P. fuscum*.

The genus *Prasophyllum* contains about thirty-five species. Of these, thirty-two are found in Australia (including Tasmania), four in New Zealand, two of which are apparently identical with Australian species, and one (*P. calopteryum*, Rchb. f.) in New Caledonia.

PLATE 193A. *Thelymitra uniflora*, drawn from specimens collected on the Waimarino Plains, at the western base of Ruapehu; altitude 3,000 ft. Fig. 1, front view of column; 2, back view of same 3, dehisced anther. (All enlarged.)

PLATE 193B. *Prasophyllum Colensoi*, drawn from specimens obtained in the same locality as the preceding. Fig., two flowers (x 5); 5, the two lateral sepals, connate below the middle (x 8); 6, one of the petals (x 8); 7, side view of lip and column (x 10); 8, front view of same (x 10).

Notes: Hooker recognised the similarity between *Thelymitra cyanea* and *T. uniflora*, but they have been formally recognised as identical only recently. WELT contains *Colenso* specimens of *Prasophyllum colensoi* from Pukekura, near Waipukarau, “Taupo plains”, “plains, base of Tongariro”. All were duplicates of specimens sent to Kew along with a letter dated June 1850 to January 1851. *Colenso* remarked of the Pukekura specimens, “Perhaps 2 species?” We still don’t know the answer. See Bruce Irwin’s observations on the *Prasophyllum* depicted on the cover of J98, below. Cheeseman too anticipated that the question of which *Prasophyllums* we have in NZ might be settled once a detailed comparison of fresh specimens had been made. He got that wrong—Ed.

To mark the New Zealand Native Orchid Group’s
25th anniversary,
and the
NZ Native Orchid Journal’s
100th edition

The editor invites you to send in your best photographs or paintings of a native orchid for inclusion in a special colour edition

The main 25th anniversary project is to be a colour CD of described species and undescribed taxa. We are keen to include as many contributors as possible, and welcome photographs, drawings, or observations.

historical reprint: 2

Excerpts from “On the Botany of the Thames Goldfields”

by J. Adams B.A.

From *Trans. N.Z. Inst.* Vol XVI, 1883, Article XXXIX. pp.388-9 and 392. Read to Auckland Institute 2nd July 1883. Contributed by Mark Moorhouse.

In addition to the exploration of the main range I have paid a good deal of attention to orchids; and as these plants have on the whole very short seasons, it might not be unprofitable to put in a connected form the months in which they bloom in the Thames District.

This is the more easy, as the different species appear from month to month throughout the year with such regularity as to form a kind of floral calendar by their successive appearance in flower.

The botanical year may be said to commence in June, when *Acianthus sinclairii* comes into flower. It first appears on the hill-sides in the bush near tufts of *Astelia*, where there is rich mould. A week later *Pterostylis trullifolia* is in full flower in rocky places on patches of moss. This is a common plant in damp places of the sides of fern hills.

During the last week in June *Corysanthes rivularis* begins to appear in damp places near the foot of forest hills, and later, along the banks of mountain streams. All these orchids continue through the month of July.

In August *Corysanthes macrantha*, *C. oblonga* and *C. triloba* can be found in flower. They affect high ground on the borders of heavy bush-land and grow best in rich black mould. Their purple flowers are warnings that the rarest orchids are about to appear and may disappear also in the same month of September. The rare orchids are *Cyrtostylis oblonga*, *Pterostylis puberula* and *Pterostylis squamata*. They all grow on low hills covered with fern (*Pteris aquilina*) and tea-tree (*Leptospermum scoparium*), but are not equally abundant.

There are at least fifty plants of the two first-mentioned to one of *Pterostylis squamata*. This plant grows amongst tea-tree (*Leptospermum scoparium*) and always near the summit of low hills.

Very few of the flowers come to maturity, as they are destroyed by minute insects before the flowers open. Another enemy to it is fire, as the vegetation is annually burnt off the hills where it grows. This year I could find it only in those places that escaped the fire last year; and as its extinction is not improbable, I enclose a painting of it in full bloom.

Whilst these are in bloom on the bare hills, *Pterostylis graminea* is in flower on the ridges of steep bush-land hills.

In the beginning of October *Pterostylis banksii* begins to flower in the woods whilst *Thelymitra imberbis* and *Caladenia minor* have taken the place of *Pterostylis puberula*

and *Cyrtostylis oblonga* on the low hills.

Towards the end of the month *Thelymitra longifolia* is also in flower, and *Chiloglottis cornuta* is found on steep ridges where no bush fires have been.

The commonest orchids appear in November. They are *Microtis porrifolia* and *Orthoceras solandri*. These plants along with *Thelymitra longifolia*, are so abundant on some hillsides near native settlements that pigs turn over the soil in large patches for the sake of getting at the tubers. *Sarcochilus adversus* that blooms in the same month and grows on the boles of trees is not by any means common.

These plants with *Bolbophyllum pygmaeum* flourish through the month of December.

The orchids of January are *Gastrodia cunninghamii* and *Thelymitra pulchella*. The former though a large plant is extremely difficult to see, and the latter I only found once, and that was near the summit of Pakirarahi.

Earina autumnalis begins to flower in February, and can be found in flower for a couple of months.

The last orchid of the year that I found was *Prasophyllum pumilum*. It flowers in the middle of March, and is not only rare but also easily overlooked in the low tea-tree where it grows.

My collection of orchids at the Thames numbers twenty-seven, and the whole number peculiar to New Zealand is forty. I do not include in this number *Adenochilus gracilis*, for although it appears in Mr. Kirk's list I have not been able to find it here.

Additions to Mr. Kirk's Catalogue of Flowering Plants and Ferns in the Thames District.

<i>Dendrobium cunninghamii</i> Lindl.	Look-out Rocks.	Now <i>Winika cunninghamii</i>
<i>Gastrodia cunninghamii</i> Hook f.	Kaueranga.	
<i>Cyrtostylis oblonga</i> Hook f.	Kerikeri Ranges.	
<i>Corysanthes oblonga</i> Hook f.	Tararu Creek.	<i>Singularybas oblongus</i>
<i>Corysanthes rotundifolia</i> Hook f.	Tararu Creek.	Probably <i>Nematoceras</i> "Kaimai"
<i>Caladenia minor</i> Hook f.	Kerikeri.	
<i>Chiloglottis cornuta</i> Hook f.	Kerikeri Ranges.	
<i>Pterostylis graminea</i> Hook f.	Wooded ranges.	
<i>Pterostylis puberula</i> Hook f.	Kerikeri.	
<i>Pterostylis squamata</i> Brown	Kerikeri.	<i>Pterostylis tasmanica</i>
<i>Thelymitra imberbis</i> Hook f.	Kerikeri.	<i>Thelymitra carnea</i>
<i>Thelymitra pulchella</i> Hook f.	Pakirarahi.	
<i>Prasophyllum pumilum</i> Hook f.	Kerikeri.	<i>Corunastylis pumila</i>

Note: Mark Moorhouse commented, "The Adams report for the Thames area bears some remarkable flowering times for a few of the species. Have the seasons really changed so much?"

I have added the notes at the right of the table. I do not know what Adams meant by the Kerikeri ranges, but infer the hills around the Kirikiri stream, a branch of the Kaueranga river, above which *P. puberula* still grows. I wonder what happened to his painting of *Pterostylis tasmanica* in full bloom?—Ed.

notesetc

Mary Watson sent Michael Pratt a photograph of a *Pterostylis* she had found “on the Sunrise track, East Ruahines on 2 December at a mid altitude perhaps 900m-1100m on the trackside near quality bush”. Michael (in my opinion correctly) identified it as *Pterostylis areolata*, confirming an earlier observation that it grows in the Ruahines (Fig. 5). *I have reported it also from the Tararua*—Ed.

Dan Hatch wrote (7 Dec 05), “My infamous pot of *Nematoceras rivularis* s.s., has for the first time produced flowers that are dark all over – no green at all. This tends to prove in my opinion, something that I have harped on for years – that flower colour cannot be used as a taxonomic determinant.” Fig. 6 shows *Nematoceras rivularis* s.s., ex cult type locality: Keri Keri Falls; photo EDH 21 Nov 2005.

Gordon Sylvester wrote (10 December), “I was out with Phil Knightbridge and Neil Bradley of Hokitika yesterday morning. Found *E autumnalis*, *E mucronata*, *Thelymitra aff. ixioides*. Phil showed me a small *Nematoceras* aff. *triloba* and a *Pterostylis venosa* he collected from Gunnar Downs earlier in the week. Later in the afternoon went to Temple Basin and found *Aporostylis bifolia*, *Caladenia* aff. *lyallii* with red stems, wide sepals, some with double flowers, very much smaller than the senior flower. Also found *P. australis* in flower, *Prasophyllum* “B” and surprise surprise: *Gastrodia* about 150mm high in open ground beside the track. I will be marking that for later in the month along with *Prasophyllum* “B”. On the home front *P. cernua* (Okuku) is finished flowering; looks like there might be at least one set seed pod; flowering period is about 2 weeks long.”

Pat Enright reported two new orchids for the Aorangis (ER 37): *Corybas cheesemanii* and *Singularybas oblonga*.

Bruce Irwin wrote, “The cover of J98 is very interesting. The colour of course immediately raises doubts that it is *Prasophyllum colensoi*. The tepals also taper too much, but the giveaway is the apparently tapered floral bract which is definitely not truncated as in *P. colensoi*. *Prasophyllum* ‘B’ shares the tapered bract and the rather widely spaced flowers.” Somebody needs to tell us just what *Prasophyllums* we have!”

Graham Dickson wrote, “The orchid photos (cover photograph: *T. hatchii*) were taken by my son David while on a day trip to Mt Cook about 30 December. David had become somewhat interested in orchids while wandering around parts of the North island with Eric (Scanlen) and myself. As we were crossing the Lindis I decided to show him these orchids which I had seen in other years, quite thick and right on the road’s edge. He took a few photos from interest on his Olympus Mu.

Introducing the **World Orchid Society and Orchid World magazine**. Their vision is to foster global awareness, preservation, and cultivation of orchids through the sharing of knowledge and experience.

“Our goal is to provide the medium, products, and knowledge that will serve to bring an enhanced global appreciation of orchids to enthusiasts, growers, and hobbyists. To help meet this goal, the World Orchid Society will publish *Orchid World* magazine. *Orchid World* is a beautifully designed, full color publication. Published 10 times a year, *Orchid World* is scheduled to premier in the 4th quarter of 2006. We welcome your ideas, support, and participation through your writing and photography.

“We invite you to visit our website at www.worldorchidsociety.org for additional information on the World Orchid Society. Please note the availability of our ‘Events’

page which is open to any orchid related organization wishing to post a show or sale that is open to the public. This service is available at no charge to your organization. Please contact theeditor@worldorchidsociety.org with details of your event.

“As we work to assemble *Orchid World*, we would appreciate your input on what you particularly like and dislike in a publication. What type of articles and departments would you like to see in *Orchid World* magazine? Please feel free to send any comments, thoughts and suggestions to: editor@worldorchidsociety.org.”

Murray Dawson pointed out a **useful site:**
http://www.biologydaily.com/biology/Taxonomy_of_the_orchid_family.

Anne Mackenzie and others, including Mark Clements, presented a paper at the 18th World Orchid Conference in Dijon in March 2005. The *Proceedings* are now available. The paper is “Australia’s subantarctic orchids”, and in addition to *Nematoceras dienema*, it discusses the **discovery on Macquarie Island of a new member of the *N. triloba* complex**. It appears to be endemic to Macquarie, though phylogenetic analysis places it close to *N. aff. triloba* from the Chathams. Of additional interest to us is the publication of a phylogram showing the Australasian forms of *Nematoceras*, based on ITS sequences. These are the Rivularis group, the Macrantha group, and an outgroup containing the Australian *Corysanthes*, *Molloybas cryptanthus* and *N. acuminata*. The Rivularis group contains *Nn. papa*, *rivularis*, *orbiculata*, *iridescens*, *longipetala*, *dienema*, as well as a range of undescribed taxa including *Nn.* “whiskers”, aff. *macrantha* from Campbell Is, and others. The Macrantha group contains forms of *N. macrantha* and the triloba complex, including *N. hypogaea*, the new Macquarie taxon, and 13 others.

Jeremy Rolfe emailed (20 Feb 06), “The attached photographs (**Figs 1, 2:** inside front cover) are of a greenhood that I photographed yesterday on a bank on my property in Stokes Valley. The plant is approx 15 cm tall. There is no basal rosette. *Diplodium alobulum* flowers in the vicinity during winter, but this plant seems to be quite different (flowering time notwithstanding). Can you identify it, please?” See colour figures 1 and 2. This is the first North Island site for *Pterostylis alveata* (*Diplodium alveatum*), reported from northwest Nelson by Graeme Jane and Gael Donaghy in early May 1998. Jeremy’s site photograph is shown below: it’s good to see he has already sawn firewood for the winter—Ed.



Leicester Kyle emailed (20 Feb 06), “re ED 42.02....last month I was able to spend a couple of days in **Sawcut Gorge, which is at the very north end of the Kaikoura Coast**, where State Highway one first reaches the sea. It’s a limestone feature, and, having noticed that the Kaikoura Coast has had relatively few orchid species reported present on it, I kept a good lookout. “Those orchids I found that had not been previously noted from there are: *Chiloglottis cornuta* and *Nematoceras triloba*, both on higher ridges under beech. There was also a *Thelymitra*, which was long past flowering and could not be identified, and a tiny ephemeral *Corybas* growing sparsely amongst moss and liverwort upon a base of deposited tra-

vertine; this was in a dark part of the gorge, upon a dripping bank. This could have been the *S. oblongus* already reported from there, but the leaf did not have the tissue-like appearance of this species. I collected a few plants, and stored them carefully, but they were so frail they had vanished by next morning. There was a large-leaved vigorous *Corybas* I could not identify, locally abundant in gravel and weed, and also a *Gastrodia* on the higher ridges under beech, growing amongst beech debris.”

Hi from Brighton, emailed NZNOG members **Kathy (and Neville) Henderson** with attached photographs, “I hope all is well with you. We’ve had some good orchid hunting trips this year. I’ve attached a couple of photos from Sardinia (lots of orchids and ancient sites), South Africa (animals, spring flowers and fantastic walking in the Drakensburg mountains) and a couple from ‘UK orchid watch’ (Norfolk... paddling to photograph the fen orchid, *Liparis*, below). **Fig 3** (inside front cover) What is this (from Sardinia)? (*It looks mighty like a naked Pterostylis, doesn't it?*—Ed). Our next trip is not plants...we’re going to France skiing in January. We’re hoping to come out to work/play in NZ and Aus for a year sometime next year and hopefully will be able to do some field trips and attend the Iwitahi meeting... hope it went well this year.”



↑In the Norfolk fens; seeking the Fen Orchid↗

Field guide to the New Zealand orchids

the new third edition is available now from Brian Tyler, 4 Byrd St, Levin: Members: \$15; nonmembers \$25; includes p&p in NZ.

iwitahi06: 8-10 December.

October field trip to Te Paki: talk to Eric Scanlen



Lucy B Moore Memorial Scholarship
Jessica Beever wrote, “I very much enjoyed reading Bruce Irwin’s frank account (NZ Native Orchid Journal 98, pp18-19) of his collaboration with botanist Lucy Moore, which so well reveals her quiet encouragement and generosity towards those she felt had a contribution to make.

“After Lucy Moore’s death a scholarship was set up to honour her memory at her old school, Epsom Girls’ Grammar. Lucy attended E.G.G.S. in the 1920’s and was dux in her final year.

“The scholarship consists of a book prize, usually around \$60, and a scholarship of \$500 to the top Year 13 (final year student) who intends to study the biological sciences at university, and has been running since 1988. The current interest on the principal in the fund is only sufficient, however, to continue the scholarship at about one third of this level. Orchid lovers who contributed then, and others, might like to make a donation to revitalise the award.”

Cheques should be made out to “Epsom Girls’ Grammar School Foundation”, with covering note that they are for the “Lucy B Moore Memorial Scholarship”, and posted to Epsom Girls’ Grammar School, Silver Road, Epsom, Auckland 3.

Tricia Aspin emailed (27 Feb), “We have just returned safely from a wonderful 8 days tramping from the Hawkes Bay side of the **Kaweka Range and through the Kaimanawas** to the Desert Rd. I thought you might be interested in the orchids I spied along the way. With 8 days of food, tents and bare essentials to be carried our group of 5 went for a very small point-and-click camera—no good for orchid photos as I tried a couple last year—somewhat frustrating when one knows good opportunities will be missed but over 90kms is a long way to carry nonessentials.

“We started at Makahu Saddle up past Puketitiri in Hawkes Bay. About a minute along the track and I spotted some *Orthoceras*

novae-zeelandiae. My friends were quick to comment that I was ‘at it again’! Side by side, one had the usual green and purple flowers while the other was less robust, green and had yellow where the purple usually is. A good photo missed! Of course I didn’t have a lens or Field Guide either. Eric S tells me Dan Hatch has noted these yellow ones before.

“Up by the tarns on North Kaweka were lots of *Prasophyllum colensoi*. In flower and in seed. We nearly got blown off the mountain in a gale that night—no sleep at all—quite the adventure. The *Prasophyllums* were present in all the subalpine and alpine areas of vegetation right through the Kaimanawas as well around 1350-1700m altitude.

“In the beech forest of the Kaweka Forest Park from West off Kaweka Range through to Tira Lodge, to Te Pukeohikarua, to Harkness hut were many *Chiloglottis cornuta* in flower and with some elongating to seed. Most noticeable on this section were many *Caladenia* in flower. I will have to guess that they are *C. aff. chlorostyla*. Flowers very white with the red that one usually sees with *C. minor* (Eric) / *C. chlorostyla* (Field Guide). I do not recall noticing any dark gland tipped hairs though. I thought it might have been *C. nothofageti* at the time but the deep red barred labellum rules that one out. All had only one flower per stem (just when I was getting used to seeing up to 4 as is the case round here!) They were present again in the really beautiful Cascade North Arm section of beech forest but seemed to be absent further to the west in the Private land and Kaimanawa Forest Park section through to Waipakahi.

“Also spotted several *Nematoceras triloba* in a vegetative state in the bush and several *Thelymitra* spp. in seed in sunny spots along the way.

“On top of Te Rakituangiangi, 1605m, were several *Aporostylis bifolia* just going to seed.

“As well as the orchids there is a vast amount of really interesting country in there. We loved it.”

The Mega-Prasophyllums of Western Australia

by Mike Duncan

From ANOS (Vic) *Bulletin* Vol 38 (7): 12; Feb. 2006.

As the orchid season wanes in south-east Australia and largely retreats to the alpine areas, it's still in full swing in Western Australia. With more than 370 recognised species in the south-west land division, and a flowering period largely restricted to the August-December period, there are plenty of spectacular orchids still to see in late November. In particular, there are many late flowering *Caladenia*, *Diuris*, *Prasophyllum* and *Thelymitra* species. In 2005, I spent nine amazing days studying some of the more beautiful, bizarre and enormous orchids W.A. has to offer.

In late spring, while the diminutive, 10-15cm spikes of the Fragrant Leek Orchid (*Prasophyllum suaveolens*) flowers in Victoria, there are some giant *Prasophyllum* species in flower in W.A. The Christmas Leek Orchid, (*P. brownii*), the Swamp Leek Orchid (*P. drummondii*), the King Leek Orchid (*P. regium*), and even the Fringed Leek Orchid (*P. fimbria*) are all in flower. The average plant of each of these species is comfortably greater than 1 metre, and in the case of *P. regium*, the average plant is about 1.5m tall - it's not the 'king' of the leek orchids for nothing. All are easily larger than Victoria's biggest *Prasophyllum*, the (not so) Tall Leek Orchid (*P. elatum*).

... In a burnt swamp, I was soon surrounded by a forest of enormous *Prasophyllum* spikes, before being confronted by a huge *P. regium* plant of more than 2m. Now, it's not very often that I have to look up to anything (some would say that's due to my generally poor attitude and lack of respect, but that's another story), but for the first time ever I encountered an orchid that was taller than myself. I'm

easily taller than 1.9 in my boots, and my hand is reaching up to the top of the spike. My estimation is that it was a massive 2.1 m tall!

On the bench – 4 November 2005

Commentator: Mike Wicks,

Recorder: Malcolm Thomas

From ANOS (Vic) *Bulletin* Vol 38 (6): 7; Dec. 2005.

Mike just had to mention *Pterosytlis banksii* from New Zealand. This has probably never been benched before, and was grown from seed by Dick Thomson, deflasked, and subsequently grown on to flowering size. Quite an achievement! Dick's advice is to keep it damp throughout the year and place it in the shadiest part of the shadehouse. Another New Zealand plant - a man-made greenhood hybrid, *P. irsoniana* x *banksii*, was also interesting.

Summer orchids around Melbourne

Presented by Wendy Probert

From ANOS (Vic) *Bulletin* Vol 38 (8): 7; Dec. 2005.

Taking into account the paucity of terrestrial species normally benched at February meetings, when she was asked if she would give a Plant of the Month commentary, Wendy elected to speak about species that can be found within 40 kilometres, or less than an hour's drive, from Melbourne's CBD. Her presentation proved you don't have to go to Victoria's alpine areas to find spring flowerers, Wendy has found and photographed orchids over summer.

Although the ever-popular *Caleana major* (Flying Duck Orchid) is most commonly seen during October and November, it can be found in December at, for example, Christmas Hills.

The pretty pink *Caladenia congesta*, with its dense black calli covered labellum, has a

flowering time similar to the above species. You could come across it at the Baluk Willam Reserve in December.

Although we tend to think of *Pterostylis* as autumn and winter, *P. squamata* flowers at Boomers Reserve in Panton Hill in December.

Sarcochilus australis is the only epiphyte found close to Melbourne. If plants haven't been adversely affected by this summer's bushfires, you could find them at Kinglake.

Pterostylis decurva, widespread in Victoria's alpine regions, can be spotted in the Dandenong Ranges National Park, around Tremont and One Tree Hill in December. Wendy photographed *P. atrans* at Healesville in December. Interestingly, *P. atrans* does not begin to flower until late February at Tremont, and then flowers into March and April.

The common name for *Caladenia flavovirens* is the Summer Spider Orchid, so it's not surprising that this one is on Wendy's list. This species, which is uncommon in Victoria, can be found at a few sites immediately to the east of Melbourne. Wendy has seen it at Healesville. It has been reported to occur in the Dandenong Ranges but Wendy believes that it has not been seen in flower for some time. It flowers towards the end of December, into January. Ever optimistic she occasionally has a look around various parts of the Dandenongs in the hope of locating colonies. It's good exercise.

Wendy has found the distinctive *Orthoceras strictum* in grassy areas near Langwarrin in December and January.* The leafless saprophyte, *Dipodium roseum*, is widespread over much of Victoria. Wendy has seen it at the Baluk Willam Reserve and Cardinia Dam in December and January.

The dainty and distinctive *Spiranthes australis* (Austral Ladies Tresses) carries numerous tiny pink and white flowers arranged in a spiral, corkscrew pattern, up the flowering stem. It is usually found in

perennially moist and waterlogged areas. You could be lucky and find this one (in various colour forms) around the Cardinia Dam from December to February. Note -Wendy forgot to mention this at the meeting, but she has also found it near Scoresby Lake. She does not recommend you search the area because the last time she looked, she was confronted with several snakes (copperheads and tiger snakes) and numerous lizards in the 200 metre stretch where they occur.

Cryptostylis leptochila (Small Tongue Orchid) has an extended flowering period - from December to April. This fascinating species has a large reflexed purple labellum with two rows of shiny black calli. Wendy has found it at the Baluk Willam Reserve, in grassy understorey areas dominated by *Gahnia* spp., during the summer months. *C. subulata* (Large Tongue Orchid) grows on the same reserve and also flowers over summer. Like *Dipodium roseum* and *Cryptostylis leptochila*, it can be found in various locations from South Belgrave out through Emerald.

The prime flowering time of *Prasophyllum flavum* is December and January. Look for this one in *Eucalyptus regnans* (Mountain Ash) forests around Belgrave and the Sherbrooke Forest. It appears after fires. It tends to grow at the base of large trees. Like *Prasophyllum elatum*, it is robust but has a distinctive, very short purple leaf.

Chiloglottis cornuta can also be found in the Sherbrooke Forest in December and January. Although Wendy has not seen it there, *C. jeanesii* also reputedly occurs in the Dandenong Ranges.

The deciduous, leafless saprophyte, *Gastrodia sesamoides*, occurs in the more sheltered, damp spots around Kallista and One Tree Hill over the summer months.

There are a couple of forms of the tiny *Genoplesium morrisii* (Bearded Midge Orchid) which grow in open areas of slashed grass. Wendy photographed it at Dewhurst in February. She thinks they look like little toothbrushes used for scrubbing very dirty teeth.

* The photograph in the original paper shows an *Orthoceras* with a short floral bract, very like *O. novae-zeelandiae* - Ed.

thecolumnericscanlen

Matakawau

Tricia Aspin called the Column from Matakawau on 29 Nov 2005. She had come across a colony of 200+ *Caladenia minor* (*Petalochilus chlorostyla*) in the Kemp Road Reserve, about 200m from the road. Some were single flowered, most were twins, many were triples but four had the unheard of, four flowers! The Column grabbed his camera gear and went.

On site, it was just as Tricia had said with many of the *C. minor* flowers appearing illogically, to stem from large *Nematoceras triloba* agg. leaves spread throughout the same site in a stand of kauri where no *Pterostylis agathicola* were in evidence. Who has ever seen these two orchids thriving together under kauri to the exclusion of *P. agathicola*? Stranger still, the whole 8m long, potato shaped site also hosted a crop of recently deceased and dying mingimingi (*Leucopogon fasciculata*) making one wonder if some invasive fungus were concurrently killing the mingimingi whilst providing a feast for the orchids? 29 Nov was late in this clime for fresh flowers especially as many were still in bud. No plants had more than one flower open, others were in capsule or in bud. The biggest 4 flowered specimen was a comparatively huge 380mm tall with a leaf 180mm long. But the flowers were quintessentially *C. minor* as can be seen in **Fig. 4** (inside back cover), the third and fourth flowers to open on the smaller of the two quadruples. The wobbly stem was leaned against a kauri twig for its portrait. The Column had been expecting HB Matthews' *Caladenia*

“chloroleuca” but the marginal calli to the midlobe were all *C. minor*. The photograph below gives a view of the part of the colony with two of the tall quadruples, both with one flower open and the Fig. 4 plant supported by a dead mingimingi branch. Triples, twins and singles also feature and some *Nematoceras* leaves are visible to the left.

A phenomenon such as these quadruples poses many more questions than answers such as why has it happened here? is it a mycorrhizal fungus causing some orchids to flourish uncharacteristically yet killing the mingimingi and making a kauri loving orchid disappear?



Part of the colony showing 2 of the 4 flowered plants amongst dead mingimingi branches.

Inside back cover

Fig.4: Three of the 4 flowers on one stem, one just opening, one fully open and the third withering as the seed capsule expands (this page).

Fig.5: *Pterostylis areolata* in the Ruahines; see p.16.

Fig.6: *Nematoceras rivularis* at Dan Hatch's place; see p.16.

Outside cover

Earina autumnalis, watercolour by Margaret Stoddart, 1894; in Canterbury Art Gallery.



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