

issn 1170-1543



Pterostylis australis
Haast Pass.

Science moves, but slowly slowly, creeping on from point to point: Alfred, Lord Tennyson 1809-92

the new zealand native orchid journal september 2003 no.88

The New Zealand Native Orchid Group should become the New Zealand Native Orchid Group Incorporated.

The Group can become an Incorporated Society on application by fifteen members, along with agreement to hold an annual general meeting, submission of contact details and annual accounts, and paying a once-only registration fee of \$100.

The fifteen signatures have to be witnessed, and the rules confirmed by statutory declaration.

All of this can be achieved at a general meeting of the members of the Group—by tradition members are those who pay the annual subscription and Life Members.

I propose that this meeting is held at Iwitihi (see page 27 of this issue) on Saturday 13 December 2003 at 7 p.m. All members are invited; signed proxy votes will be accepted from those unable to attend. The agenda is to the right, and a draft set of rules below.

What are the advantages? the work will be shared, and the funds will be properly accounted for. But most importantly, we can apply for grants from charitable bodies. This will be necessary as we move to publish the descriptions of new native species, and will allow us to seek proper funding to expand our conservation efforts.

— Ian St George

AGENDA for a general meeting of the New Zealand Native Orchid Group to be held at the Iwitihi Camp at 7 p.m. on Saturday 13 December 2003.

1. Present
2. Apologies
3. Discussion of the proposal: *“that the NZ Native Orchid Group should become an incorporated society”*.
4. If the proposal is agreed,
 - Convenor elected,
 - Executive elected,
 - Rules approved,
 - Date and place of AGM,
 - Date of financial year.
 - Application signed by 15 members and witnessed,
5. Policy on new generic names.
6. Other business
7. Close.

Rules (draft for comment)

1. Definitions of terms.

- (a) The Group means *The New Zealand Native Orchid Group Incorporated*.
- (b) The Journal means the Group’s *New Zealand Native Orchid Journal* sent to all Members and to appropriate bodies, as agreed by the Executive (see 4. below).
- (c) The *Code of ethical conduct* is that set out in Journal 70 p3, or as may be amended from time to time.

2. Objects

- (a) to promote the conservation of New Zealand native orchids,
- (b) to assist in the preservation and extension of native orchid habitat, and to discourage its destruction,
- (c) to make information about New Zealand native orchids easily available,
- (d) to affiliate with appropriate other bodies with similar objects,
- (e) to engage in any appropriate activity relevant to these objects.

3. Membership

- (a) Membership of the Group is open to individuals and groups, for one or more years on receipt of the correct subscription.
- (b) Membership of the Group will lapse on: non-receipt of the subscription for the year, or on receipt of a written resignation, or for misconduct. The Executive will be the sole judge of what constitutes misconduct.
- (c) The Executive may appoint people to Life Membership. Such people will have made significant contributions to the Group's Objects, and will have accepted their appointment in writing. The rights and obligations of Life Members are those of Members except subscriptions are waived.
- (d) The Executive will keep a register of current Members.

4. Officers

- (a) The Group's activities will be overseen by an Executive of three to five Members who are elected at a general meeting, and hold office for three years, but may be re-elected, replaced or succeeded at any time. Each Executive member will act as one or more of the following:
 - Convenor, elected at the AGM, chairing Executive and general meetings.
 - Editor of the Journal.
 - Secretary who will keep minutes of meetings.
 - Treasurer whose duties are set out in 6. below.
- (c) On the death or resignation of an Executive Member, the Executive may appoint a replacement from the Membership who will hold office until the next general meeting.

5. Meetings

- (a) An annual general meeting (AGM) open to all Members will be held each financial year (see 6. below) between September and February.
- (b) Minutes of the previous AGM will be available at each AGM.
- (c) All Members have the right to speak or to nominate Executive Members at the AGM.
- (d) A special general meeting (SGM) may be called at any time by a document signed by ten Members, or by the Executive.
- (e) A quorum for an AGM or a SGM will be nine Members.
- (f) Notification of the time and place for an AGM or a SGM will be included in the preceding Journal, or will be by special mailing to all members, at least four weeks before the meeting.
- (g) The Executive will meet by telephone conference or email connection as circumstance demands, or face to face as occasion allows; a quorum will be three members. Actions by the Executive will be approved by three or more Executive and recorded in the minutes.

6. Finances

- (a) The Group is a non-profit body, as defined in section 61 (34) of the Income Tax Act 1976.
- (b) Income will be derived from subscriptions, donations, sales of publications and orchid memorabilia, and grants for specific purposes.
- (c) Annual subscriptions payable by Members will be recommended by the Treasurer and set by a majority at each AGM. Subscriptions will be due at the end of the financial year.
- (d) Legitimate expenses are those reasonably incurred in activities that promote the objects of the Group. They include the cost of the Journal and other publications, and may include the production of native orchid memorabilia, the purchase of reference works pertinent to the Group's objects, and grants to individuals or bodies as approved by the Executive.
- (e) No payments may be made to the Convenor or Members of an Executive except (with the agreement of the Executive) to refund expenses incurred in furthering the objects of the Group.
- (g) The Treasurer will collect the subscriptions, keep the register of Members, and keep the accounts.
- (h) The Treasurer or a deputy will have accounts available at the AGM for the financial year ending 30 September, and will be responsible for sending the annual accounts to the Registrar of Incorporated Societies.
- (i) The Group will have no power to borrow money.
- (j) The Group may be wound up by a three quarters majority of the Members at an AGM or SGM called for that purpose at any time.
- (k) If any assets remain after winding up the Group and the satisfaction of all liabilities, such assets may not be paid to the Convenor or members of the Executive, but will be paid to a New Zealand botanical non-profit body [as defined in section 61 (34) of the Income Tax Act 1976] with similar aims to those of the Group.

7. Alteration of the Rules

- (a) These Rules may be changed at any time by a two thirds majority of Members present at an AGM or SGM voting on a notice of motion submitted to the Executive six weeks or more before the meeting.
- (b) No addition to, change or recession of the Rules may be approved if it affects clauses 6 (e) or (k) above (payments to Convenor or Executive).

Friends of Iwitahi Native Orchid Protection Area

by Max Gibbs, Hamilton

We are forming a “Friends of Iwitahi Native Orchid Protection Area” as a way of maintaining the Heritage Protection Authority over the native orchid habitat under the *Pinus nigra* forest at Iwitahi. Why is this necessary? Well it’s a long story starting almost 20 years ago.....

In 1985, the superabundance and huge diversity of native orchid species under the pine trees in the Kaingaroa State Forest was first brought to the attention of the Taupo Orchid Society by Ken Scott, as the society was setting up for their annual orchid show. The importance of the site was recognised and Taupo Orchid Society members Max Gibbs and Trevor Nicholls successfully negotiated with the forestry managers, Timberlands, and DoC to protect an area of the pine forest habitat and adjacent roadsides for these orchids. In 1986, a reserve covenant was placed on a 5 ha block of 50 year old *Pinus nigra*, particularly well endowed with orchids, and the Iwitahi Native orchid Reserve was born. Conceptually, this reserve would provide native orchids to re-seed the new pine forests being planted as the old forest was harvested. We were naïve....

Through annual meetings at the Iwitahi Native Orchid Reserve with the NZ Native Orchid Group and other interested visitors, and a series of surveys of the rest of the Kaingaroa State Forest, it became apparent that the proliferation of native orchids strongly favoured *Pinus nigra* for all but a few common species. It also became apparent that forestry activity was steadily removing this special habitat and replanting with *Pinus radiata*, for which most of the native orchids have little affinity. With the felling of adjacent tall trees, the

vulnerability of such a small reserve was obvious as the under story became desiccated and overgrown with grass and other weeds. In 1993, through the tireless efforts of Trevor Nicholls and his dedicated helpers, a clause in the 1991 Resource Management Act (RMA) was used to establish a Heritage Protection Authority to manage a somewhat larger and hopefully less vulnerable parcel of *P. nigra* forest as a Heritage Protection Area.

Unlike a reserve covenant, which precludes any manipulation of the area, a Heritage Protection Area requires a sustainable management plan to maintain the area being protected. Also unlike a reserve covenant, for which there is currently no legal means of removing, the Heritage Protection Authority and thus the area of protection can be removed by the Minister for the Environment if it is shown that the Heritage Protection Authority is no longer able to honour its obligation, or the need for the Heritage Protection Area no longer exists.

The Heritage Protection Authority for the Iwitahi native orchid area is vested in the Taupo Orchid Society Inc. Incorporation of the Taupo Orchid Society was part of the requirement for the establishment of the Heritage Protection Authority, and the whole process was supported and funded by the current forest owners, Fletcher Challenge Forests Ltd. A management committee was established with members drawn from the Taupo Orchid Society Inc., Fletcher Challenge Forests Ltd., and the NZ Native Orchid Group.

While the committee has formulated policy and a management plan, much of the work of maintaining the Heritage Protection

Area has fallen on the shoulders of Trevor Nicholls and his helpers. The Rangitaiki School children have been very willing helpers and have adopted the native orchid area as their conservation project. Other organisations such as Forest and Bird and various botanical society members have also worked in the Iwitahi native orchid area.

Three major points of concern were

- the establishment of ground-level wind-breaks along the western boundary of the native orchid area, to reduce the impact of drying winds when the adjacent forest was felled;
- ensuring the native orchid area held representative species of all the native orchids growing on the forest floor; and
- managing the habitat for the orchids.

While the first two had finite ends, the third is ongoing (e.g. pest control and weeding) with long term objectives which include sequential replacement of the *P. nigra* to maintain the orchid habitat.

Fundamental to the continuing existence of the native orchid area is the continuing existence of the Taupo Orchid Society Inc., which is the Heritage Protection Authority. As with many small Orchid Societies, falling membership and aging members means that those societies become no longer viable and they close. The Iwitahi Native

Orchid Protection Area received a very welcome donation of about \$4500 from the Kapiti Orchid Society when the latter closed. The Taupo Orchid Society Inc. is facing a similar problem but, with the realisation that it must continue to exist for the sake of the Heritage Protection Authority status, the society has voted at its last AGM to become "less active" with a social meeting at least once a year (AGM); and for the management committee for the Heritage Protection Area (i.e. the Iwitahi Native Orchid Protection Area) to become the society's active committee with the power to co-opt. This last is very important as the committee members are also aging and moving on. Trevor Nicholls advises us that he is leaving New Zealand in November 2003. He will be sorely missed and his leaving highlights the need for new members.

Discussions at Iwitahi last December produced the suggestion of establishing a "Friends of Iwitahi Native Orchid Protection Area" to ensure the survival of the native orchids at Iwitahi. This would be a voluntary group with a donation of say \$20 pa for membership. Annual meetings at Iwitahi as working bees will continue independent of or in conjunction with annual meetings of the NZNOG. Details of these will be announced through the NZNOG Journal.



An Invitation to join "Friends of Iwitahi"

Activities will include

- tours of flowering orchids in H.P.A
- annual camp in December
- working bees (weeding / transplanting etc)
- your chance to help protect NZ native orchids
- **groups are welcome to join**

Membership fee \$20

More information will be available on our upcoming website: www.wildwoodgallery.co.nz/iwitahi.orchids.htm

For further info contact: Robbie & Sue Graham

The science of scents—2: how people perceive perfumes

...delicately perfumed

Let me say for a start that olfaction is a very complex process; if you want to be dazzled by the science of the sense of smell, try www.leffingwell.com/olfaction.htm. What I will tell you is a hugely simplified version.

Smell is one of the chemical senses, the other being taste. They are called that because they sense chemicals. With these senses we sample our environment for chemical information. We sniff the quality of the air we breathe and we test for the presence of food or flowers or another person. Odour molecules must be small enough to be volatile (<300-400 molecular weight) so they can vaporise and reach the nose.

Smell depends on receptors that respond to airborne molecules of odorant chemicals. In humans, these receptors are located in the olfactory epithelium — a patch of tissue about the size of a postage stamp located at the top of the nasal cavity. The olfactory membrane is made up of ciliated sensory neurons (called mitral cells), supporting cells, and between them basal cells that divide regularly, producing a fresh crop of sensory neurons to replace those that die.

The cilia of the mitral cells are immersed in a layer of mucus. Odorant molecules dissolve in the mucus and bind to receptors on the cilia. Binding activates a sequence of reactions that ends in an action potential — an electrical impulse — that is conducted back along the olfactory nerve to the brain.

The brain combines the information in this impulse with other olfactory signals reaching it and interprets the pattern as a particular odour. Humans can discriminate among thousands of different odorant molecules. There are about 1000 related but separate genes encoding different odour receptors.

(Thus as many as one percent of 100,000 human genes may be occupied just with producing these receptors, as opposed to a mere 3 genes for color vision).

Each olfactory neuron has only a single type of receptor, but each odorant is capable of binding to several different receptors. This provides the basis for combined odorants being sensed as a diversity of smells. It would work like this: assume Odorant A binds to receptors on neurons #3, #427, and #886. Odorant B binds to receptors on neurons #2, #427, and #743. The brain then would interpret the two different patterns of impulses as separate odours. Or if the two odorants were mixed, it might interpret an unoaked chardonnay with (A3,427,886+B2,427,743) as “a bouquet of berry fruits”.

Eric Scanlen tells me he cannot smell the exquisite perfume of brown Baronnia (nor can a third of people) – yet that fragrance is made up of over 20 different volatile odorants: he must be genetically unendowed with the neurons for some of those chemicals.

Memories

When I smell new haybales I am transported back nearly 60 years to one golden preschool summer twilight when my brother and sister and I were allowed to play late in the paddock while the men rushed the hay in before predicted rain. Everybody has such experiences – long-lost memories triggered by smells – it’s called the Proust effect.

From the olfactory neurons the signals move to the limbic system, the part of our brain believed to be concerned with emotions and motivation. Part of this system is our memory.

We need memory as the yardstick by which to judge a smell. There is no colour chart, and no tuning fork for smells. We can only say what a smell reminds us of - “This sauvignon

blanc has a strong gooseberry nose”, or “*Earina autumnalis* has the scent of soap”. Smell thus relies on memory and memory is subjective – my wife tells me that to her *E. autumnalis* smells like urine.

Classifying fragrances

When we first smell an orchid flower we thus relate it to substances we have already smelled – Peter de Lange found a *Gastrodia* “long column” that smelled to him like freesias; Pat Enright found a *G. cunninghamii* that smelled to him like jasmine; in Australia *G. sesamoides* is called “Cinnamon bells” because it smells like cinnamon.

Certain fragrances have been related to colours in an attempt to objectify them. The major colour groups are

1. White floral image - a soft fragrance. The white-floral scents incorporate the very pleasing scent notes of jasmine, tuberose, orange flower, honeysuckle etc. These flowers are usually white and release their scent at night. Most are pollinated by moths which use the scent and whiteness as guides.
2. Rosy floral image - a sweet, rosy smell almost like Turkish delight. The scent of cyclamen, lily of the valley, sweet pea and rose. Sunlight and warmth trigger scent production.
3. Yellow scents - strong, citrus-like freesia fragrance.
4. Brown scents - of spices; cloves, coriander; caraway and cinnamon. Typical scent of a carnation.
5. Green scents - a mossy, wet-forest scent.
6. Dark smells - mostly unpleasant; musty, stale-socks.

In the perfume industry fragrances may also be compared to musical notes – thus “Aldehydes are used for their particularly vivid top notes”, and “It usually takes from ten to twenty minutes for the middle notes to develop fully on the skin”. Floral fragrances, mixes of many pure (primary?) odorants, might be thought of as harmonious musical chords (in the industry they are called “accords”). Interestingly colour and music

combine in “Green notes add lift and vigour to a fragrance composition”.

Judging fragrance

Linnet Hamman wrote that judging fragrance at orchid shows has become “fashionable”.

The trouble is that fragrance is a very personal, individual experience - it can never be truly objective. It is a good idea to try and cover the plant in a neutral container, so its beauty does not influence the judges unwittingly (when judging the clinical competence of medical students, this trap has been called “the pulchritude factor”).

“Another problem in fragrance judging is that orchids are not all fragrant at the same time. Stimulating the orchids which are fragrant at night to be fragrant in the daytime, and the other way around is quite a headache!”

As with wine-tasters, some believe you need only to whiff the air above the flower (head-space). Others suggest a waving-and-sniffing action while another school believes you have to stick your nose right into it.

“We have used a basic score-sheet in South Africa: there are five characteristics that the orchid fragrance is judged by:

1. Intensity - the strength of fragrance,
2. Diffuseness - can you smell it from a distance or only very close?
3. Pleasantness - how pleasant (or unpleasant) the fragrance is,
4. Elegance - how well rounded and perfumistic the fragrance is; chemical notes or thin fragrances would be marked down,
5. Instant appeal - do I like it and how much?

“All characteristics are scored out of ten points (minimum zero, maximum 10), except pleasantness which is scored from -10 to +10. A maximum of 50 points is possible.”

The New Zealand orchids

What then of the fragrance of NZ orchids? We think at once of the heady *Earina autumnalis* of course, whose perfume, especially at night, is powerful and (to most of us at least), pleasant. (White? Night? Is it moth-pollinated?)

We might be led to look only at the insect-pollinated NZ orchids, but that would be a mistake, for *Gastrodia cunninghamii* is almost obligately a selfer, yet plants have been found that smell strongly of jasmine. (I hypothesise that, once the key mutation to confer the ability to self-fertilise happens, for ever afterward selfing permits fewer genetic modifications than crossing, so old features that used to be associated with insect-pollination—perfume, labellar decoration, etc—may be stable and persist).

There is an “orchid smell” that Eric Scanlen has referred to—indeed cutting the flower of many species, or crushing their leaves or stems, allows the emission of some fragrance. In the North American *Cypripedium acaule* the odorants pyridine and methyl anisole have been isolated from stems, leaves and roots, and similar is likely with other species.

Contrariwise Jones and Clements note that the pollinating microdipterans of *Pterostylis* species “approach the flower flying into the wind as if following a perfume trail”, though for most species no perfume is noticeable to humans. Furthermore the insects appear “to become excited with the approach of a squall, almost as if a floral scent was being released”. *Cryptostylis subulata* is similarly pollinated, and so is *Nematoceras iridescens*.

Chiloglottis valida has osmophores on its sepal tips.

I am aware of fragrance detectable to humans in all three Earinas, *Gastrodia cunninghamii* and *G.* “long column”, *Nematoceras* “Trotters”, *N.* “whiskers” and *N.* “Craigie lea”, *Prasophyllum* aff. *patens*, and *Thelymitra* aff. *longifolia*. Eric Scanlen found references in our Journal to several more: *Drymoanthus flavus* at Invercargill, “slight fragrance” [J6:2]; *Thelymitra malvina* [J62:2]; *T. hatchii* Pat Enright [J63:20]; *Anzybas carsei* oniony-meaty smell Peter de Lange [J70:16 & J78:39]; *Thelymitra pulchella* violet scent at Macraes Flat Barbara McGann [J70:26]; *Thelymitra* “tholinigra” faint dung smell E Scanlen [J85:10], *Earina mucronata* (southern form) nose catching like weak ammonia E. Scanlen [J82: 11].

Is that it, or are there more?

References

1. This paper is based on material gleaned from the following websites:
www.orchidssa.co.za/fragrance.htm
www.anucci.com/fyi/tech_glossary.html
www.cf.ac.uk/biosi/staff/jacob/teaching/sensory/olfact1.html
2. Arditti J. *Fundamentals of orchid biology*. John Wiley, New York, 1992. Scents: pp273-8.
3. Jones DL, Clements MA. A reassessment of

Curly flat-sepal pterostylids

Here are a few copies from my unruly slide collection, of *Pterostylis montana* or something similar. They illustrate my perception that flat lateral sepals may sometimes curl—it’s in the nature of ribbonlike structures to curl. I don’t think the curl of a flat lateral sepal should be regarded as a diagnostic feature.

1. The plant illustrated at top left is the typical bronze-coloured, short, upright-leaved, grassland plant with the bulbous stigma in an upright flower: almost certainly self-pollinated; very common around Dunedin, Wellington and the Wairarapa;
2. Horse Range north of Dunedin;
3. Aorangi SFP southern Wairarapa;
- 4, 5. Airlie Rd, Plimmerton, Wellington;
6. Maungatapu, Taieri, Otago;
7. Almost achlorophyllous *P. banksii*, Kaueranga, Thames;
8. (centre), mutant form, Upper Morrisons Creek, Leith Valley, Dunedin.



To study **history** one must know in advance that one is attempting something fundamentally impossible, yet necessary and highly important. To study history means submitting to chaos and nevertheless retaining faith in order and meaning. It is a very serious task, young man, and possibly a tragic one.

—Father Jacobus (from Herman)

The first description of Pterostylis montana

From Hatch ED. New Zealand forms of Pterostylis R.Br. Trans RSNZ 1949; 77: 239-40

Pterostylis montana Hatch spec.nov.

Pt. australis affinis, subsimilis. Circiter 15cm alter. Folia 1-5, patula, linearo-lanceolata, acuminata, saepe repanda. Flos brevis. Sepalum dorsale acuminatum, apex horizontalis. Sepala lateralia acuminata, lobae brevis. Labellum viride, recurvum, apex impariter constringit. Columna Pt. australis similis, superioribus lobis acuminatis, inferioribus lobis angusto-oblongis incurvis.

A compound species of 2 jordanons. Cheeseman included them in *Pt. graminea*, but they differ from Hooker's species in having constricted labella and spreading leaves (characters which incidentally they share with *Pt. australis*), whereas *graminea sens. strict.* has a symmetrical labellum and erect leaves.

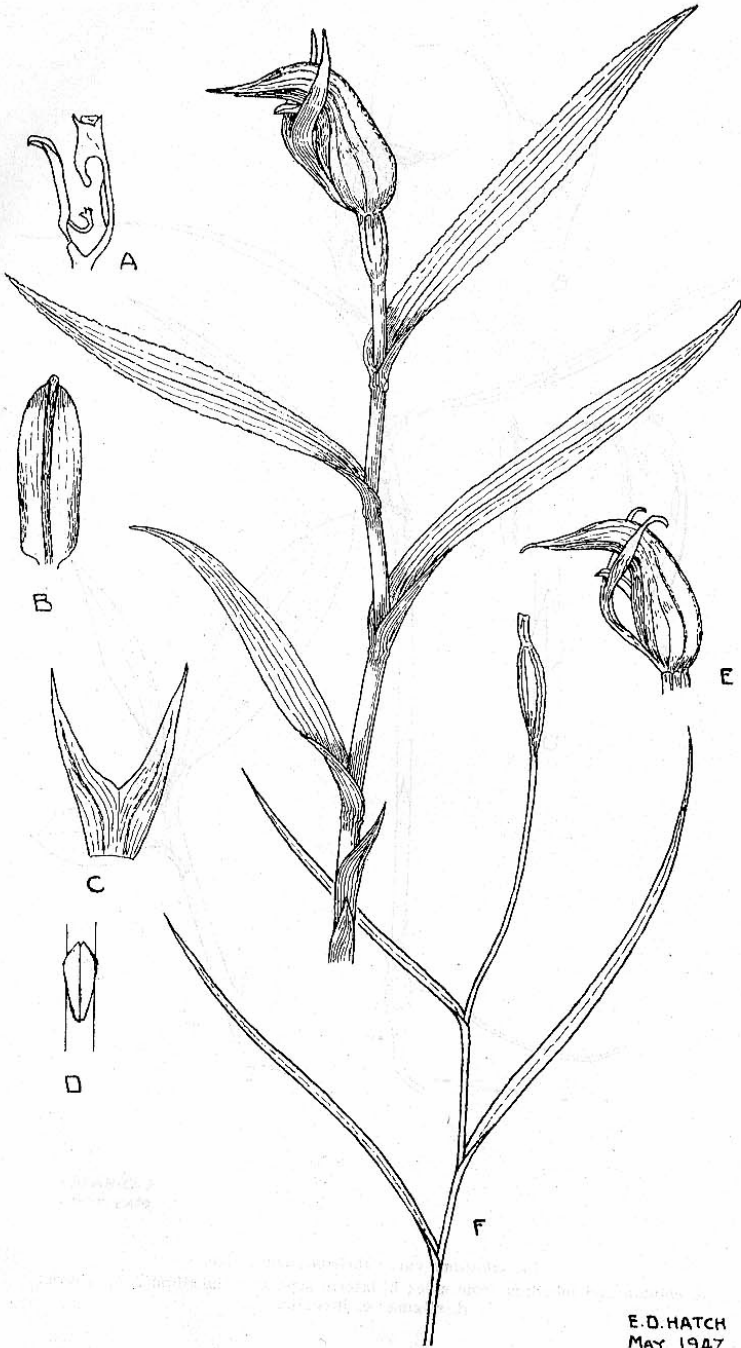
(a) *Pt. montana* var. *typica* Hatch.

Pt. graminea Cheesemn. in part (not of Hook.f.)

Up to 15cm. high. Leaves 1-5, linear-lanceolate, acuminate, often repand, up to 4cm. long by 4mm. broad. Floral bract foliaceous. Flower solitary, up to 3cm. high. Dorsal sepal acuminate, longer than the petals, the tip horizontal. Lateral sepals acuminate, the lobes shortly exceeding the galea. Labellum green, recurved, the tip unevenly constricted. Column typical, stigma prominent, elliptical. Column-wings with acuminate upper lobes as high as the anther. Lower lobes incurved, narrow-oblong. With maturity the lateral sepals tend to fall away from the galea.

Distribution. Endemic – 5, not uncommon about the *Nothofagus* forests on Mount Ruapehu, *Matthews, Hatch; 15*, Lake Manapouri, 1, 1946, *Geo. Simpson; 16*, abundant throughout Stewart Island, 12, 1946, *C. Smith.*

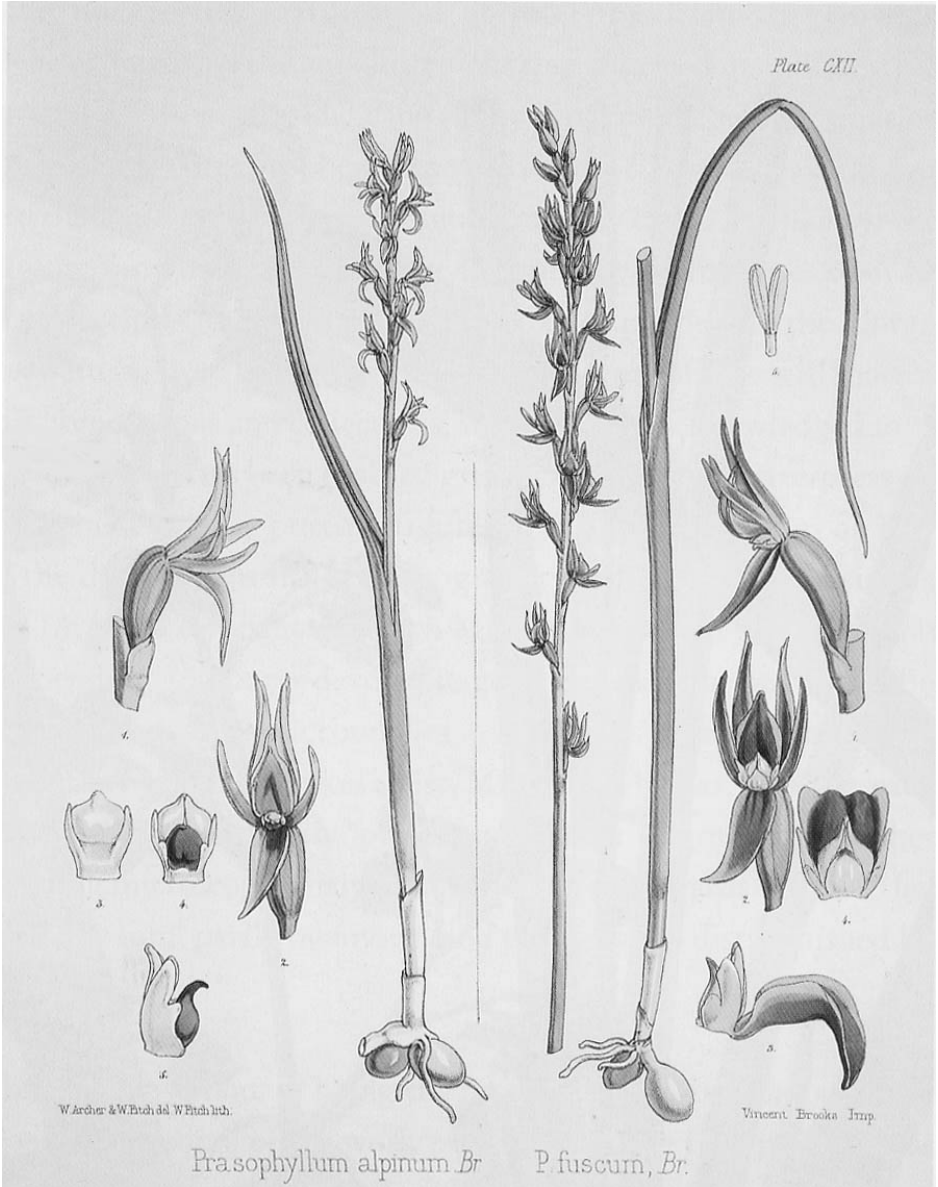
Flowers November - January, sea-level – 4,500 ft., scattered on the forest floor, common. Probably derived from *Pt. australis*. Almost certainly confused with *graminea sens. strict.*, and probably abundant in most subalpine areas in the North and South islands, but has so far only been definitely recorded from the localities given above. *Holotype* in Herb. Hatch, No. 564, Halfmoon Bay, Stewart Island, 11, 1946, C. Smith. The accompanying illustration can be



Pt. montana var. *typica* nat. size.
 a, column and labellum from above; b, labellum from above; c, lateral sepal; d, stigma;
 e, flower showing first stages of disintegration; f, seeding stage

E. D. HATCH
 MAY 1947

close relations: orchids like ours



***Prasophyllum alpinum* R.Br.
and *Prasophyllum concinnum* WH Nicholls (= *P. fuscatum* R.Br.)**

Handcoloured lithograph drawn by William Archer and WH Fitch, litho by WH Fitch, from Hooker JD. *Flora Tasmaniae*, London, 1858, and reproduced in Hewson H. *Australia: 300 years of botanical illustration*. CSIRO Publishing, Collingwood, 1999, p114.

1. *Pterostylis round-up*

1. *Pterostylis irsoniana* stole the show at Gordon Sylvester's Blue Creek, Kahurangi National Park on 25 Nov 02 for signal red and white stripes (**Fig. 1**). The colour in these and others that Gloria and the Column met at L. Kanieri, Hokitika Gorge and Takaka Hill, leave his Egmont ones for dead.

2. *P. oliveri* at Blue Creek all sported the spiral dorsal sepal which curls through 270 (**Fig. 2**) but those from the type locality at Arthurs Pass on 7 Dec 02 had the more elegant but rarer, recurved dorsal sepal (**Fig. 3**) usually depicted in the literature.

3. CHS Takaka Hill, on a fine 26 Nov 02, took the cake for fine vistas around Nelson so, the Tackle-Anything-Trio (TAT), Mark Moorhouse, Gordon Sylvester (Puddy TAT?) and the Column, sought instead the bush and blocky limestone at Hawkes Lookout — thanks for the tip Graeme Jane — and took a figurative bath in a multitude of the promised green-hoods. *P. irwinii* in red livery (**Fig 4**) still unfurling, was here. It was also scattered around St Arnaud, previously unreported, in ER 49. A stumpy *P. australis* (?) with an elongated galea and hump-backed dorsal sepal (**Fig. 5**) took the TAT's attention. In the open or light shade, the hump-back was particularly noticeable, the labellum was red (*also red in Aorangi SFP, Ed.*) but with the typical tiny arch in the tip margin. But in deeper shade, *P. australis* (**Fig. 6**) reverted to more normal dimensions and dark brown labellum tip. The TAT consensus (but not conviction) was that the stumpiness, which occurs in other greenhoods, resulted from exposure. Spent *P. banksii* and a red stemmed *P. irsoniana* also came to light at Hawkes Lookout.

4. At least 4 species, in Nelson, have been first spotted around Mt Egmont and/or the Central Plateau. (*Pt. irsoniana, irwinii,*

Nematoceras “Sphagnum”, and *N.* “round leaf”) where they are isolated to patchy. What does this prove?

A. Bruce Irwin who had a hand in all four in their limited N.I. sites, is a top species spotter;

B. orchid species spotting has been so conservative around Nelson (e.g. Jean Jenks told of an odd “*Pt. graminea*” reported by Brian Molloy at Harwards Lookout and sent Allan Ducker and the Column looking for it on 10/11/99. It was *Pt. irwinii* [1] which Allan recognised immediately, J70:36)

C. Nelson species were quick to blow north as seed to colonise areas devastated by volcanism, [Graham Dickson J70:40]. Central Plateau plant life was obliterated by the cataclysmic Taupo eruption of A.D. 200 [2] so where else could those 4 species have come from but Nelson? Curiously, most of the 4 migrant species have remained localised in the north, possibly because of subsequent competition from other species recolonising the volcanic desert 1800 years ago.

5. Gloria and the Column met Thom Pendrigh and Hazel at Lake Lyndon on 2 Dec 02. Thom knew the minuscule *Hymenochilus tristis* (was misnamed *Pterostylis mutica*) from Oxford's View Hill Reserve but no amount of crawling nose-to-turf had disclosed any this season so they had been pleased to meet here to check on others' finds. The site, carpeted in that high country plague, *Hieracium pillosa*, looked unlikely but Thom was undeterred and triumphed near the cattle stop. A colony of tiny spikes peeped through the *Hieracium* in a 5m² area. **Fig. 7** shows a 62mm tall plant, after moving the *Hieracium* and a worm cast, covering the complete basal rosette! Next Hazel spotted a solitary, all-green specimen (**Fig. 8**). Thom had his lens out and declared both to have the basal appendage on the labellum pointing inwards so both green and brown forms were *H. tristis*. Possibly, the “*Hymenochilus*

tanypodus" (was *Pterostylis* aff. *cynocephala*) which had been previously reported flowering in November was actually this green form of *H. tristis*. The Column's pics don't show the all important appendage do they? But **Fig. 9** shows minute denticulation to the petal margin, as described by Moore & Edgar in Flora II and as drawn by Bruce in the Field Guide. The flowering time was also right for this subalpine site. Later (22 Dec 02) the TAT and others hunted the Rainbow Skifield, above any *Hieracium* and still failed to spot *H. tanypodus* with its entirely smooth petal margins and forward facing basal appendage to the labellum.

6. The Column needed *P. areolata* but the TAT found neither it nor *P. porrecta* along the Hackett Track on 28 Nov 02. But Thom knew of some in a location near Oxford. *P. areolata* in the open on 2 Dec 02 were stumpy, as *Pterostylis* can be but some of average height in the shade were nicely figured in red (**Fig. 10, 11**). Many thanks to Thom and Hazel for donating valuable time to the cause.

7. Dan Hatch's holotype of *P. montana* at CHR on 10 Dec 02 (**Fig. 12**) in transmitted light, shows the column and labellum in silhouette, but column wings and labellum basal appendage seem to have shrivelled, sad to say. However, the straight, flat, lateral sepals etc. define it well enough to confirm Mark's identification of a specimen near St Arnaud on 22 Dec 02 (**Fig. 13**). This solitary specimen could have been Dan's model for the description drawing, [J72 p36] right down to the 2 short, acute, bracts at the base. Notice that the labellum is "green, recurved, the tip unevenly constricted" as Dan described. This aligns sensibly, if you study the evidence, with the *sensu* Moore taxon [J25 p13 from Otago; J71 p20 from the Central Plateau] where the labellum usually twists 90° to the right and the lateral sepals curl at the tips; up to 360°. Mr Kelly Rennell sent a CD from the far south with 4 pics of *P. montana* also with straight flat

sepals and Mark revealed other colonies in Big Bush State Forest, off Station Ck, ER49. Kendyll and Caryl Moorhouse helped in the hunt at Big Bush and were intrigued with the in-bud *Gastrodia cunninghamii* colonies and a friendly S.I. robin.

8. *P. graminea* "red coil" at Tophouse Reserve, ER49, has to be seen to be believed (**Fig. 14**). Mark took the TAT there on 29 Nov 02, to colonies of this long leafed taxon under beech forest.

9. *P. "peninsula"* Gordon's new taxon from the Brunner Peninsula, St Arnaud, has a flower akin to *P. cernua* but longer leaves more like *P. graminea*. Gordon spotted a colony of several diminutive specimens by the driveway to Dennis Meade's bach and tagged them *P. "Peninsula"* in J86:29. The Column had searched in vain at the wrong culverts near Kumara for *P. cernua* and this looked like it. Brian Molloy scuttled that idea on the email by indicating the different leaves. The diminutive stature of Gordon's "type" *P. "peninsula"* has to result from exposure. A nearby tight colony of 55 flowers, of more respectable height and one filmed (**Fig. 15**) on the Peninsula Nature

Figures (p15)

1. *Pterostylis irsoniana* typical of the South Island colour form.
2. *P. oliveri* at Blue Creek showing the spiral dorsal sepal curling back past the galea.
3. *P. oliveri* Arthurs Pass with the more elegant but less common, recurved dorsal sepal.
4. *P. irwinii* in red livery, not quite fully open, at Hawkes Lookout, Takaka Hill.
5. *P. australis*(?) showing elongated galea and hump-backed dorsal sepal in semi-shade at Hawkes Lookout.
6. *P. australis* of more normal size in deeper shade at Hawkes Lookout.
7. *Hymenochilus tristis* 62mm tall in common brownish coloration.
8. *H. tristis* all green specimen also with petal denticulation.





10 ↑
12 ↓



13 ↑
14 ↓



Walk (North Islander slack spotting!) were more typical of a considerable population here. The sepal plate at right angles to an orange-striped ovary, a blackish labellum plus dorsal sepal and petal tips coinciding, said *P. cernua* but minor things such as a dusky red apiculus, at the labellum tip and labellum appendage forked instead of 11 fingered also gave subtle indication of a separate taxon. Others on that Walk were *P. graminea* s.s.; “Habit of *P. Banksii* but smaller and much more slender” as Cheeseman described it in the 1925 Manual.

10. Mark took the TAT over to Kerr Bay camping ground at Lake Rotoiti and along Black Birch Creek, through a bewildering plethora of greenhoods, all in flower on 22 Dec 02. There were *Pterostylis* “peninsula”, *graminea*, *irsoniana*, *irwini*, *montana*, aff. *montana*, and every hybrid imaginable between them. So mark St Arnaud as a prime GLOS (great little orchid spot).

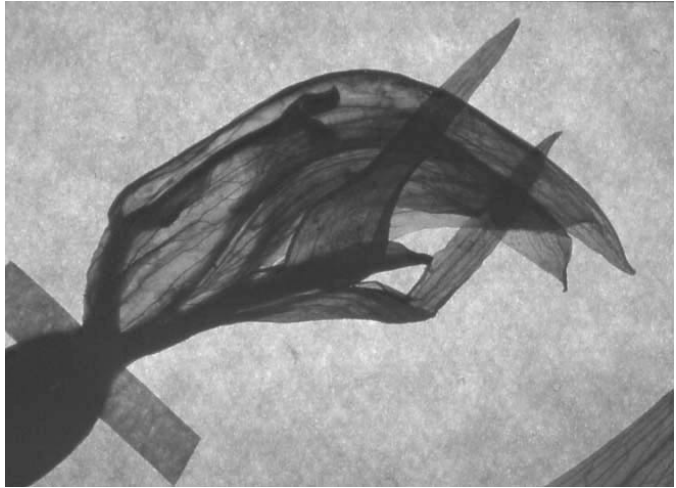


Fig. 11: *P. montana* Hatch, holotype by transmitted light showing silhouette of column and labellum

11. Prime *P. banksii* s.s. on 4 Dec 02, with long turned up dorsal sepals, occurred by the path to the white heron and royal spoonbill sanctuary, Waitangiroti River. One of the foreign tourists actually lay down on the board-walk to photograph one. How embarrassing? The Column would have joined him but he was economising on film. The number of clean flowers in the open was surprising as was a kie-kie (*Freycinetia banksii*) flower or tawhara, wide open and unmarked. Both are normally dessert for 'possums and/or rats. Our knowledgeable guide put its survival down to the determined clearance of predators from the region for the benefit of the birds. So, the orchids and other plants are also benefiting from the spin-off. Later, Kelly's CD depicted prime *P. banksii* from the far south confirming its NZ-wide status.

References

1. Jones, DL et al, Six new species of *Pterostylis* R.Br. from NZ, *The Orchadian* Vol. 12, No. 6:266.
2. Hicks, G. Campbell, H. *Awesome Forces* Te Papa Press, Wellington, 1999.

Figures (p16)

9. *Hymenochilus tristis* showing minute denticulation on petal margin.
10. *P. areolata* with showy red coloration in 3-D. Try viewing with Warehouse 4X spectacles to let L & R eyes focus on L & R pics and thus give a full depth image.
12. *P. montana* Hatch from Black Birch Creek St Arnaud showing flower details
13. *P. graminea* “red coil” at Tophouse Reserve. The twisted labellum suggests *P. aff. montana* but the long, slender leaves and extended dorsal sepal say *P. graminea*.
14. *Pterostylis* “peninsula” on the Peninsula Nature Walk, Lake Rotoiti.

2. *Petalochilus*, *Prasophyllum*, *Stegostyla* round-up

Stegostyla lyallii “4row” twin flowered (Fig. 15) and single flowered, greeted the TAT (tackle-anything-trio), Gordon Sylvester (Puddy TAT), Mark Moorhouse and the Column at the frontage to Dennis Meade’s bach, St Arnaud on 29 November 02. It was not a metre from the white *Singularibas* “aestivalis” site. This is mossy, glacial moraine, on the Brunner Peninsula, in regenerating beech/kanuka forest, where DoC requires conservation of the grounds; no lawns! Great habitat for orchids, thriving on the bush edges, around the bach and on the frontage up here at 660m altitude. The Column wanted to compare southern *S. lyallii* taxa with the numerous forms at Iwitahi [J78 centrefold], and here was one with 4 rows of disc calli, wide, 5 veined tepals, sparse red glands on dorsal sepal hairs, red stem and green ovary. Compare J78 pl13, the Column’s non-red barred *S. lyallii*, with 2 rows of disc calli, narrow 3 veined tepals, red stem (so it is *not* an albino) and red glands, both sessile and on hairs atop the dorsal sepal. Both had sessile, marginal calli to the midlobe hence they comply with David Jones’s definition of *S. lyallii* [ref 1; J61:6-8; J63:4] but the tedious truth is that these two specimens have separate characters so they are separate taxa, aren’t they? Hooker in his 1864 Handbook, originally described *Caladenia lyallii* as “disk with 2 series of stipitate glands” as drawn by Dr Brian Molloy [1]. So it would appear that the Iwitahi alba form, plus a red barred one the Column has from Tongariro’s Ketetahi track, 1978 [J59:12] are *S. lyallii* s.s. And the 4 row, 5 veined taxon at St Arnaud, also lacking the sessile glands on the dorsal sepal, isn’t! Thus it came to be tagged *Stegostyla lyallii* “4 row” despite Cheeseman and most subsequent chroniclers insisting in error, that there should be 4 rows of calli on the disc. What do you think?

Stegostyla aff. *alpina*, twin flowered and aging (Fig. 16), greeted the TAT in the identical place to the *S. lyallii*, at Dennis’s frontage; but 21 days later. Who wants these enigmas on a restful (?) S.I. holiday? By lying, lens-in-hand in the gutter, as he does, the Column found it was not the 29 Nov 02 twin flowered *S. lyallii* “4 row” whose remnants were later uncovered. One puff of hot breath neatly hooked a labellum down, by its marginal calli, between the lateral sepals, showing off the 6 irregular rows of calli reducing to 4, of *S. aff. alpina*. The slides later showed a different pattern of red stripes inside the column and marginal calli (not noted on site!) at the pucker where lateral and mid-lobes meet, so it *was* a different plant. A most confusing coincidence.

At Arthurs Pass, Dobson Nature Walk, 7 Dec 02, *S. aff. alpina* with maroon stems and green bracts, were not uncommon but Gloria spotted a twin with 4 rows of calli in the fresh, top flower and 4 + 2 half rows in the lower, more mature flower (Fig. 17) much as Mark had reported in J78:21. The mature one was open enough to view, against its own leaf (Fig. 18). How come? The long stem fell over at an insect bite, honestly! Note the length of the leaf hairs. This taxon is a twin to the St Arnaud one above also to J82:16 (Ian St George’s from Dunedin), and J78 Plate 1 (Mark’s at Mt Robert) so it is a widespread taxon which could well earn specific classification. The Tasmanian *S. alpina* flowers at the same time but has narrower tepals together with red buds and bracts.

However, the similar but smaller Iwitahi taxa, J35:20 of Max Gibbs’s and J78 Plate 9, the Column’s alba form with red stem, don’t quite fit and there is a stepped midlobe form too: all three the Column is tentatively lumping as *S.* “subalpine”. Iwitahi’s widespread little *S. aff. lyalli* [J76:39] and *S.* “lytuck” [J78:35] a form with tucked back column wings, are in there as well but separate again.

If the above leads are borne out by DNA analysis, it seems that *S. aff. alpina* [J76:39] and *S. lyallii* “4 row” [Fig. 1] do not occur at Iwitahi. Also, the Column’s Journal index is in for some serious amendments as are some of his cherished mental type specimens from way back. What do you think?

Petalochilus aff. chlorostylus red stemmed and twin flowered, opened on track-side near Dennis’s bach on 22 Dec 02, our last day at St Arnaud. A late afternoon effort achieved **Fig. 19,20**. At first we thought (were sure!) it was multi-flowered *P.* “red stem”, first reported by Gordon from the Puffer Track, [J39:12] then by the Column and field party from the same area [J66:25] as *Caladenia* “maroon”. The Puffer taxon had 2-4 flowers per spike and everything maroon, bracts stem, ovary and buds. But Bruce Irwin’s *P. aff. chlorostylus* [J79:6; J83:17] sometimes throws two flowers as Robbie Graham (pers. comm.) has photographed at Iwitahi, it can have red or green stems but the red stemmed form has three green strips on the ovary [J83:16 Fig. 2 of Bruce’s & J86:32 of the Editor’s] just like the St Arnaud specimen — which thus triggered the Column’s re-identification of it as *P. aff. chlorostylus*. The St Arnaud specimen survived the close attention and leg numbing photography, you will be pleased to know, but, as always before, the Column photographed it from the front so the only red glands showing on sepal backs, are peeping around the sepal tips or on the out-of-focus bud: not good for a principal identifier.

Post script. On 18 Nov 93, at Albany Scenic Reserve, Doug McCrae identified what we now call, *P. aff. chlorostylus*, both with red and green stems, as his *Caladenia* “green column” [J35:32-43]. The Column photographed only the pretty red stemmed ones that day and featured one in “The *Caladenia minor* imbroglio” [J72:27 Fig. 2] as his quintessential *Caladenia minor*; please note! Like Doug, he had lumped all the northern taxa with toothed midlobes,

into *C.* “green column”. Bruce, it transpired, was well aware then of the hairy vs. glandular sepalled distinction between the all-green-tepals-and-stem, *P. minor/chlorostylus* and later flowering, red or green stemmed *P. aff. chlorostylus*, to use their modern classifications. Doug had been aware of Bruce’s split, Brian Molloy and the Column had also been told but none of them had twigged. It wasn’t until Bruce published a description and tagged his red glanded taxon as *P. aff. chlorostylus*, in J83:17 last June, that the Column caught up with the consistent differences between these taxa in his own numerous pics of them.

BUT, we still do not know whether Hooker’s type specimen of *Caladenia minor*, held at Kew, has hairs or sessile red glands on its sepal backs. In other words, is *Caladenia minor*, *Petalochilus chlorostylus* or Bruce’s *P. aff. chlorostylus*? Next time you are in London, pop out to Kew, have a look and do please let us know.

The moral of the postscript is, *when you notice a consistent difference in a taxon, please focus attention on it by tagging and publishing it yourself.*

Petalochilus nothofageti (Molloy), was by the same track as *P. aff. chlorostylus* but nearer the bach, also on 22 Dec 02; a rare sight for the Column. In **Fig. 21** (p20) it has its long, bright green leaf tucked under, showing sparse, short, *non*-glandular trichomes (hairs) on the right edge, viewing the slide with a X20 lens. Those trichomes were supposed to be glandular and the leaf shouldn’t reach past the flower according to Brian Molloy’s description and drawing [2] so there is some variation within the species. In **Fig. 22** (p21), if it weren’t for the colour, it could come off the same plant as Fig. 6, *P. aff. chlorostylus*! It even has sessile, but colourless glands on the sepals. *P. minor/chlorostylus* also opened this day on the Peninsula Nature Walk, confirming the start of the *Petalochilus* season just as we were leaving.



Fig. 21. *Petalochilus nothofagei* from Brunner Peninsula

Prasophyllum “A” Fig. 23, 15 Dec 02, from Jacks Pass at 869m altitude near Hanmer Springs, has conjoined sepals. At first it was mistaken for *P. colensoi* but the moderately long column arms and widely spaced larger flowers, clinched its I.D. Pollinia like bunches of grapes (similar to *P. “B”*) have mostly gone but some “berries” remain. On 20 Dec 02, another *P. “A”* at 1000m on Mt Robert, looking out over L. Rotoiti, had free lateral sepals. Both were green form [J79:9] in contrast to the purple scaped specimen from Middle Road [J87:6, Fig. 1]. For comparison, **Fig. 24** is the closely related *P. colensoi* from Takaka Hill on 27 Nov 02. Note the short column arms with tips barely showing.

Conclusion. Vigilance for *Drymoanthus* on Gloria’s and the Column’s tour of the South Island top half, was rewarded with one out-of-reach *D. adversus* at Lake Kanierie, but we were too early on Brunner Peninsula for

Gastrodia “long column St Arnaud” and an all-dark purple *Thelymitra* sp. in bud along the roadside or for *Hymenochilus tanypodus* anywhere so another S.I trip is a must in the near future. The orchids encountered were well above expectations making for an enthralling trip, thanks in no small part to Thom Pendrigh and Hazel, Mark & Caryl Moorhouse, Cherry & Gordon Sylvester and to other keen members of the field trip to Rainbow Skifield.

References

1. Jones D.L., “Reinstatement of *Caladenia alpina* RS Rogers as distinct from *Caladenia lyallii* Hook. f. etc.” *Muelleria* 9:41-50.
2. Jones D.L., Molloy BPJ, & Clements MA, Three New Species and a New Combination in *Caladenia* R. Br. from NZ, *The Orchadian* 12:5, Sept 1997, 221-228.

Figures (p21)

15. *Stegostyla lyallii* “4 row” from Brunner Peninsula, 29 Nov 02, 4 rows of disc calli, sessile marginal calli to the midlobe, 5 veined tepals. Twigs inserted to open the flower to view.
16. *Stegostyla* aff. *alpina* from Brunner Peninsula, 20 Dec 02, showing 4-6 irregular rows of disc calli. Its tuber is adjacent to the twin *S. lyallii* “4 row” which flowered 21 days earlier.
17. *Stegostyla* aff. *alpina* twin from Arthurs Pass; top with 4 rows of calli, lower with 6.
18. The lower *S.* aff. *alpina* from the Fig. 3 pair over its own leaf, showing 6 rows of calli
19. *Petalochilus* aff. *chlorostylus* twin flowered from Brunner Peninsula
20. *Petalochilus* aff. *chlorostylus* close-up of the Fig.5 flower.





Fig. 1. *Spiranthes lacera* var. *lacera*. **CANADIAN NOTES**

Fig. 2. *Spiranthes lucida* grows amongst rocks just

above the waterline along the shores of the Ottawa River. Photographs by Michael MacConaill.

3. Move your feet: do take steps in orchid ID

The esteemed writer (Bruce Irwin) of *Let us keep our feet on the ground* [J87:28] knows full well the Column's penchant for healthy debate and knows that such an open challenge could not go unanswered.

Tagging The Column is unrepentant about encouraging people to tag their colonies of unusual taxa which are seed propagating, not including the solitary mutants or sterile mutant colonies that spread vegetatively. Keeping one's feet on the ground is one thing; staying rooted to the spot is another. If we are going to see advances in our orchid taxonomy, one has to step out. Do please announce your unusual taxa to the Journal, with a tag so that others have a handle with which to associate their own finds and thus establish the limits of their territories. If you hang back, your orchid may get lost in anonymity.

Take for instance *Nwsltr* 5:1, Dot Cooper's *Gastrodia* from the Puffer Track, 15 Jan 83, fawn with white petals and a short column. It got indexed as "*G. cunninghamii* albino" along with Fairlie Horsley's (*Nwsltr* 30:1) "*G.*

cunninghamii . . . lovely pale cream in colour" from NW Nelson and with Ian St George's [J72:32] "pale green, short columned . . . *Gastrodia*" from Paradise (the places that man's been!) and Queenstown. Not a tag amongst the three of them! although Ian wondered about an unlikely connection with *G. leucopetala* (Col). Now Mr Kelly Rennell [J87:26] has sent in some brilliant shots from Lake Hauroko's shore, of that same Paradise taxon. Note the distinctive saddle shape; the green shade of Ian's could well be available-light problems under green canopy. So Kelly scooped the pool by tagging it (pers. comm.) *Gastrodia* "shauroko" short for "Short column Hauroko" and the Column belatedly made the connection with the wrongly indexed "*G. cunninghamii* albino": to be corrected. I do hope Dorothy's and Fairlie's specimens had those distinctive, non-cunninghamii, abrupt saddle and turned up orange labellum tip because they will all now get re-indexed under *G.* "shauroko".

What if formal analysis shows this form little different from *G. cunninghamii*? No big deal – but unless we ask the question, how will we find the answer?

Who else has spotted this taxon and said nought in case they got made fun of? Remember, these are not impossibilities like flying saucers! There are 70++ unnamed taxa in NZ (not counting a range of *Pterostylis* aff. *montana* and hybrid swarms) according to the collected list from the Journals index. If you have one or another, do tell the readers of the Journal about it and if it appears distinct tag it!

Does it really matter whether such as *P.* "brumobula" [J80:18-20] are actually separate taxa? The question should at least be asked, and the Column still needs more info on this one. Bruce could well have used for an example of unfortunate tagging his own *Corybas* "ratty" which has yet to have its obituary written in the Journal. It turned out to be *Nematoceras* "whiskers" which itself had been found and described in

Figures (p22)

22. *Petalochilus nothofageti* with close structural resemblance to Fig. 6, *P* aff. *chlorostylus*.
23. *Prasophyllum* "A" from Jacks Pass, green stemmed form showing column arms almost as long as the anther.
24. *P. colensoi* at Takaka Hill, 27 Nov 02, showing lateral sepals united except at the tips, florets closely spaced
25. *Nematoceras* "trijuly" from Bream Tail reserve 18 July 98 with no SB in sight.
26. Sectioned *Nematoceras* "trijuly" from Matakawau, 16 July 99. Note the "triloba notch" across the cleft and stigma well above pollinia site ensuring no self pollination. The SB shows a tip only.

manuscript by Henry Matthews about 1928 as *Corysanthes* “viridis”. So by rights and tagging lore, we should be calling it *Nematoceras* “viridis”, shouldn’t we?

Sheathing bracts. Bruce brought some useful traits to notice re the sheathing bract (SB) on *Nematoceras iridescens*. Quite similar to *N. acuminata* [J85:14] it would seem. The Column also noted that the SB position in *N. acuminata* was usually 5-6mm above the tuber but was also unrelated to its distance from the leaf axil. *N. macrantha* too, as Bruce pointed out, has a variable stem length from SB to leaf axil. The column’s shot of *N. macrantha* on a bank with leaf axil right at the SB confirms. However the shape, size and colour of the SB are traits worthy of notice and in *N. triloba* taxa particularly, the SB may be a clear identifier in such as *N. hypogaea* (Col) and *N. “pygmy”* where the leaf axil is typically right at or inside the SB. For instance, **Fig. 1 & 2**, *N. “trijuly”* [J85:14]. The Column is red-faced at having these slides masquerading as *N. “pygmy”* until recently. *N. “trijuly”* plants look similar to those of *N. “pygmy”* but they can’t be the same; the leaf axil is 5mm or more above the SB, it has a long petiole and its flowering peak is a month later. Physical traits are sorely needed to separate the multiple taxa in *N. triloba* so please do not cast aside the handy SB just yet. Colenso first wrote about it, even though subsequent chroniclers have chosen to ignore it.

Colour Bruce’s concern that we should not differentiate taxa on “inconsequential differences” like colour, is a convention stemming from pressed specimens eventually turning brown so colour is not much use for IDs from herbarium specimens. Botanists could be leaning too hard on the all-important pressed specimens in this respect. In the field, orchidologists can find colour differences in fresh specimens to be a valuable signal and

sometimes a clear identifier. For instance the cerise shade of *Petalochilus bartlettii* and the redder *P. aff. fuscatus* (more correctly, *P. “nitida rosea”* ex Matthews) detected at Scott Point [J82:7] made ID possible from 2m away.

But care is needed for *Thelymitra* and others which diffuse their colour just before opening. *T. aff. ixioides* and its amphidiploid off-shoot, *T. nervosa*, are notorious for this as the Column found when translocating the latter to the Iwitahi Reserve. Almost all the buds which were opened for ID had white tepals but with dark spots already formed. Some, such as *Chiloglottis valida*, open green but diffuse their colour well after the flower has opened to become that deep purplish shade which confused Bruce. Dorsal sepals on *Nematoceras triloba* agg. often do the same.

Beware film colour though. Slides are better than the prints which often get “corrected” with filters but all films can get confused in the violet, purple or mauve shades. E.g. compare or more likely, contrast J62:12 (*T. aff. longifolia* to the Column then) lilac, from a slide and J62:25 (*T. nuda* was the Editor’s thought) pink, from a print of the same flower taken earlier in the day, tagged incidentally, as *T. aff. longifolia* “tired one” (as per index) by Bruce from two plants side-by-side.

Conclusions

1. Take note of the sheathing bract’s characters especially in *N. triloba* agg.
2. Colour can be a useful identifier in the field but can be misleading on photos lacking a colour chart or in the violet/purple range with or without a colour chart.
3. Get someone involved to proof-read your draft write-ups.
4. By all means identify unusual seed-propagating colonies with a tag and do tell us about them.
5. *Nematoceras “trijuly”* stands as a valid taxon in the Column’s book.

notes, letters, news, views, comments

These remarkable images of a Levin form of *Nematoceras* aff. *trilobus* were sent in by Geoff Monk. As he pointed out, the flower bud, curled in the leaf, emerges with it—unusual for *N. trilobus* agg. (though normal behaviour for the *N. iridescens* around Otago, *N. longipetalus* around the Central Volcanic Plateau, and *N. dienemus* on MacQuarie Island—Ed. [J60: 2])



Left to right,
top row:
30 May 03:
leaf width
2.5mm, 5mm,
11mm.

Middle and
bottom:
flowering
plants, leaves
9-11mm wide.

P*etalochilus bartlettii* was said to be an orchid of the kauri zone, but there is no doubt it grows in the Aorangi State Forest Park and at Craigie Lea in the southern Wairarapa, and furthermore Graeme Jane has reported it from near Nelson.

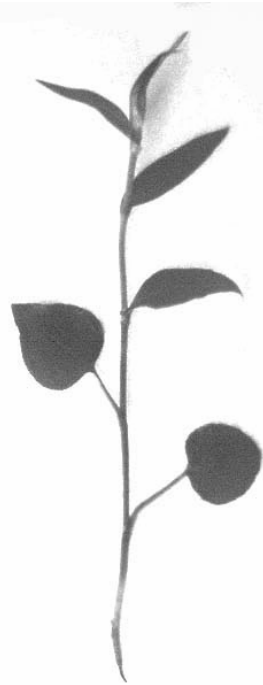
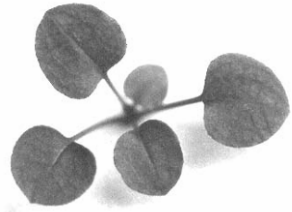
Do you grow NZ native orchids? Would you be happy to have overseas collectors or scientists keen to get NZ orchid plants, seeds or flasks legally, referred to you? If so please contact Ian St George.

Eric Scanlen wrote, "Bob Bates was keen to see pictures of our *Linguella puberula* from Billy Goat Track, to see if it lined up with any of the many South Australian *L. nana* aggregate so I sent him some slides and he responded, '*L. puberula* seems to have features of our 4 commonest 'nanas' in SA. It has the crinkle edged leaves of our 'coastal *Linguella*' from coastal sandhills, the laterally compressed flowers of 'mallee *Linguella*' and the white 'hairs' on the stem of our 'mountain *Linguella*' and 'Desert *Linguella*'. So obviously it is not a SA escapee.'"

The Natural History Museum (London) Picture Library has launched its new website. Once you have registered and received your password you can search through a range of images using common or scientific keywords, artists' names (Forster, Parkinson), you can save pictures in a personal lightbox for future reference or to email to your colleagues, and you can request an immediate price quote on-line. The museum has a stunning selection of scientific illustrations. Look at www.nhm.ac.uk/piclib.

An international workshop on orchid population dynamics will be held in Haapsalu, Estonia and Hiiumaa island on 27 June–2 July 2004, organized by the Institute of Zoology and Botany, Estonian Agricultural University and the Estonian Orchid Protection Club, <http://www.zbi.ee/Est2004>.

Half a century of population studies in Orchidaceae have revealed several mechanisms responsible for fluctuations in orchid populations. However, adequate models for the demographic processes in orchid populations are still to be worked out. Long-term observations are very much needed, because in many species germination and underground protocorm development is a very extended process, mature



Diplodium trullifolium

A juvenile rosette (above) and an adolescent plant with leaves grading from juvenile at the base to adult at the top.

WANTED

Cover art

individuals are long-lived, and in case of dormancy in adult plants this period may last for several years. These strategies vary from species to species. Hopefully more attention will be paid to the underground structures of orchid plants and clonal growth. Demographic studies have so far too seldom been accompanied by genealogical analysis of orchid populations.

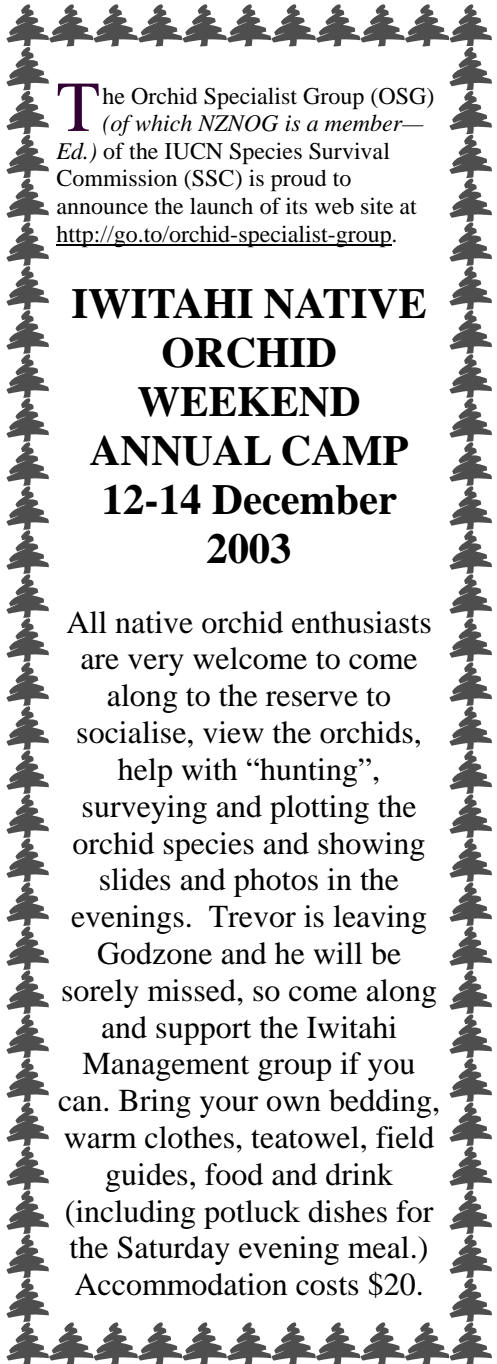
This workshop will be the third (after 1990 South-Limburg, The Netherlands, and 2001 České Budejovice, Czech Republic) in a series dedicated to orchid population studies. Topics: *Long-term population dynamics; Climate change and orchid populations; Strategies of short- and long-lived orchids; Dormancy; Clonal reproduction; Mycorrhizal connections in orchid demography; Pollination biology and seed production.*

Preregistration is open: send a message to tiuu@zbi.ee or a letter or a fax to Tiiu Kull, Institute of Zoology and Botany, Riia 181, Tartu 51014 Estonia, fax +372 7 383013.

Haapsalu is a resort town on the west coast of Estonia, wellknown for centuries for its warm sea water, curative mud and peaceful atmosphere. The conference excursion will visit Hiiumaa island in the eastern part of the Baltic Sea, 22 km from the mainland. Nearly 60% of the island is wooded, and there are large marsh areas. 31 orchid species grow in Hiiumaa.

Cast your vote at Iwitahi!

There are advantages in the New Zealand Native Orchid Group becoming an Incorporated Society. Among them: that the accounts will be audited, there will be a committee, and we will be able to apply for grants from funding bodies for projects. This move needs the signatures of 15 members at Iwitahi. Be there to make your vote count.



The Orchid Specialist Group (OSG) (of which NZNOG is a member—*Ed.*) of the IUCN Species Survival Commission (SSC) is proud to announce the launch of its web site at <http://go.to/orchid-specialist-group>.

IWITAHI NATIVE ORCHID WEEKEND ANNUAL CAMP 12-14 December 2003

All native orchid enthusiasts are very welcome to come along to the reserve to socialise, view the orchids, help with “hunting”, surveying and plotting the orchid species and showing slides and photos in the evenings. Trevor is leaving Godzone and he will be sorely missed, so come along and support the Iwitahi Management group if you can. Bring your own bedding, warm clothes, teatowel, field guides, food and drink (including potluck dishes for the Saturday evening meal.) Accommodation costs \$20.

Structure and development in the New Zealand terrestrial orchids

by E.D. Hatch [updated 25 April 2003; previously published as Hatch E.D. Auckland Botanical Society Newsletter p5 November (1971); reprinted Orchadian September p10 (1972) and NZNOG Newsletter 2: p4 June (1982); NZNOG Journal 72: p17 September (1999)].

In New Zealand the terrestrial orchid is a typical monocotyledon. It consists of a creeping, branching rhizome with alternating nodes and internodes. (The nodes are the knobbly bits which carry the leaves, while the internodes, as the name implies, are the smooth stretches of stem between the nodes). Each node bears buds for leaf and branch, and the relative development of these buds depends on their position on the plant. Below the surface leaf-buds form scale-bracts and branches develop freely.

Above the surface green leaves are usual and branches less frequent. In those species which lack chlorophyll, the leaves, not being required for food production, retain their underground scale-bract dimensions. The buds are borne only on the nodes and it follows that any bud-bearing structure must be, or include, a node. The round tuber in *Pterostylis*, *Corybas*, *Acianthus* etc., is therefore an enlarged terminal node, adapted for food storage, dormancy and regrowth, while the so-called 'root' which precedes it is a single elongated internode. Not all these branch internodes bear tubers. Some remain slender, have numerous root-hairs and appear to function only as feeders.

In *Diploidium* those species which have a bracteate-leaved mature form (I have experimented with *alobulum*, *brumale*, *trullifolium*, and the Australian *coccineum* and *obtusum*), will throw rosettes of juvenile leaves from the nodes of the flower stem in the event of damage to the plant. Usually the lower nodes but sometimes halfway up the stem, and these branch rosettes will in turn produce their own descending, tuber-forming internodes. Working with

Pterostylis oliveri [1], I discovered that if a flower stem comes into contact with the soil it will throw tuber-bearing branches from the nodes (i.e. from the axils of the leaves).

The elongated tuber in *Thelymitra*, *Orthoceras* and *Calochilus*, and in *Spiranthes* also, is an initial node combined with a partly enlarged following internode.

In *Gastrodia* the whole rhizome is enlarged, nodes and internodes together. Scale-bracts and scars of scale-bracts point the position of the nodes.

The function of the tuber is to tide the plant over the dry season and in those species which form several tubers, to provide a means of vegetable increase. In mountain and far-southern species the dormant period is extended to cover the cold season as well. In species which live under relatively damp conditions throughout the year (*Adenochilus*, *Danhatchia*) there is a tendency for the rhizome to be perennial and no tubers are formed. *Molloybas cryptanthus* which is normally rhizomatous, will form tubers under adverse conditions, while *Townsonia deflexa* and *Corybas cheesemanii* sport both semi-perennial rhizomes and regularly-formed tubers. Some swamp species are also perennial. *Thelymitra pulchella*, which sometimes grows in water, will often throw a new leaf along the still-green old one, and the same occurs with *Spiranthes*. In *Spiranthes* also, if the plant is too small to flower, it will go on growing and not die back until it has flowered at the end of the second season. Until, that is, it has built up sufficiently large tubers with enough store of food to flower on. *Spiranthes* can do this because of the

swamp environment; "dry" species are often forced to spend several seasons building up the tubers to flowering size. *Spiranthes* sometimes dies down at the end of the second season without flowering. Bob Bates [2] says "...In the semi-aquatic *Microtis orbicularis* the new tuberoid may begin to sprout before the old plant has died off".

In species which have different leaf-forms at different stages in their growth, for example the *obtusum* complex in *Diplodium*, the growth stage depends entirely on the size of the tuber, that is on the amount of nourishment available. In *Diplodium alobulum* and *trullifolium* tubers up to 3mm diameter will produce only rosettes, 4-5mm the intermediate flowering form with both types of leaves, while anything above 7mm will produce the mature flowering form with bracteate leaves only. *D. brumale* has no intermediate stage. The changeover from juvenile to adult is a tuber diameter of 7mm. Similarly in the Australian *D. coccineum* the Rubicon is 12mm. Anything below that diameter will produce a rosette, anything above it a flowering plant. The rosette form which the small plants assume, provides a maximum area of green leaf for photosynthesis and results in the rapid formation of flowering-size tubers. This variation in form does not affect species with basal rosettes (*Pterostylis nutans*, *curta*

etc.) since maximum leaf development is always present. If the mycorrhizome of *Diplodium brumale* chances to develop in a congenial spot it will throw some tubers large enough to flower the following season, 2 years from seed to seed. But this is rare - the tubers are normally smaller and develop rosettes. I have done this experimentally and have also grown *Spiranthes* from seed and produced flowering plants in 3 years.

The form the plant takes depends on the development of the leaves and the length of the internodes. Large leaves and short internodes produce conspicuous rosettes like those of *Pterostylis nutans*; large leaves and long internodes forms like *P. banksii*. Scale-bracts and long internodes give plants like *Gastrodia* and *Danhatchia*, while tubular leaves and long internodes give *Corunastylis/Prasophyllum* and *Microtis*. The tall seeding peduncle of *Corybas/Nematoceras* and *Chiloglottis* is a single internode. The structure is simple but the possibilities are endless, and so the orchids have proved.

References

1. Hatch E.D. *NZNOG Newsletter* 26: p6 June (1988)
2. Bates R. *Journal of the Adelaide Botanical Garden* 7(1): p48 (1984)

BOOKS FOR SALE

The following books are available at a reduced price to members (all proceeds to the NZNOG):

The NZ orchids: natural history and cultivation. St George & McCrae. \$10

Nature guide to the NZ orchids: St George, \$15

Field guide to the NZ orchids. St George, Hatch, Irwin, Scanlen: \$15

The joy of discovery: wondering why

By Marilyn H.S. Light, Ottawa

I often wonder why I study orchids. Is it because they are relatively uncommon and therefore all that more exciting to discover? Is it because many orchids have incredibly tiny yet complex flowers or is it because they all lead such complex lives? Is it because I need the tonic of wildness, an intriguing scent upon the breeze, a flash of colour, or a close yet tenuous relationship with an ephemeral creature? It may be for any or all of those reasons but I know that I was somehow “hooked” by orchids from the first time I learned what they were.

My first experience was with the Yellow Lady’s-slipper (*Cypripedium parviflorum* var. *pubescens*) that I found blooming in a forest about to be cut down to make way for housing. I was twelve years old then and distinctly remember thinking about those who would never have the same opportunity to discover the beauties of nature in this soon to be destroyed woodland. A later experience was with tropical orchids growing in the university greenhouse. I still have those memories stored as photographic images of an un-named and aphid-infested *Epidendrum* and of the fading rose-pink bloom of a *Sobralia*. Comparing what I viewed then to what I have since seen growing in the tropics, the flowers and plants now seem rather ordinary... but they were orchids and therefore something to be examined closely. Recently, I visited Costa Rica where I had the opportunity to walk a rainforest trail in Tapantí National Park. There were not many orchids in flower but the riot of epiphytic growth was fascinating. I could lose myself while closely examining a moss-covered limb for the telltale signs of orchid plants. I was delighted to identify an *Elleanthus aurantiacus* simply by its foliage

and brilliant orange buds. I realized that it is not just the flowers that intrigue me so much but the plants themselves and the way they live. Apparently, this *Elleanthus* is often the first orchid to re-inhabit slopes exposed to volcanic action. I wonder why?

The genus *Spiranthes* is fascinating for several reasons. The common name of this pan-temperate genus, Ladies’ tresses, suggests something dainty yet elegant, geometric spirals to intrigue the observer. The Northern Slender Ladies’ tresses, *Spiranthes lacera* var. *lacera*, is delightful in bloom. Scented and incredibly crystalline white blooms spiral about a central axis (Fig. 1, page 22). Close examination of the flowers reveals their emerald throats. I have come across these orchids mostly by chance: they are never very common and plants not that long-lived. I happened upon the pictured plant and a few others while picking wild raspberries in the forest north of Ottawa. Several plants were growing in the shrubbery along a recently opened bush road. One has to admire the orchid for taking quick advantage of favourable habitat created just three years earlier. Another species, Case’s Ladies’ tresses, *S. casei*, is yellowish-flowered, somewhat coarse and longer-lived but confined to areas of acidic sandstone at least in the Ottawa area.

I have found other *Spiranthes* growing along the Ottawa River shoreline (Fig. 2). In spring, when the winter ice melts and rushes downstream, the shoreline is scoured by giant ice blocks and swift currents. Species such as the diminutive Shining Ladies’ tresses, *Spiranthes lucida*, survive as rosettes nestled between shoreline rocks and anchored by their finger-like tuberous roots. When the waters subside, the leaves expand followed by stems of tiny butter yellow-lipped white flowers (Fig. 3).

The Nodding Ladies’ tresses, *Spiranthes cernua*, and the Hooded Ladies’ tresses, *S. romanzoffiana*, can grow in large colonies of

hundreds to thousands of plants. The latter species is especially widespread from east to west and has even been found along the coast of the British Isles where it perhaps arrived as errant seeds. Some members of the genus *Spiranthes* can be good colonizers. *Spiranthes cernua* is polyploid, pollinator-independent and able to produce embryos without the need for fertilization through a process called apomixis (Fig. 4). It has been suggested that such orchids may have a wider adaptability than their diploid counterparts, especially in disturbed habitats, perhaps because of their ability to produce large numbers of “seeds”. Why then do these populations disappear when the disturbance subsides? Large colonies can be short-lived, flourishing for a time after soil has been disturbed then vanishing as if they had never existed but other colonies persist for many years. I know of a group of *S. cernua* perennially inhabiting a large lawn. The owner does have to cooperate and not mow the developing inflorescences but since this orchid flowers in autumn at a time when grass grows slowly, it likely is a welcome respite from work for the gardener who has an opportunity to sit back and enjoy the sparkling white, sweet-scented flowers instead.

The best way to us conserve orchids poses a vast range of questions for which we still have relatively few answers. Some conservation initiatives are designed to maintain populations in nature but how can we maintain species that depend upon occasional disturbance events such as extreme weather or volcanic action? Obviously for some species, occasional mild disturbance like mowing works well but for others, the most appropriate strategy is not so easily grasped. For these species, we need space, preserves, parks, unmanaged large places where natural disturbances are chance events. Following the behaviour of individuals and populations through long term study will hopefully reveal specific conservation strategies to deal with recovery after extreme events. I hope always to be wondering why and I hope that orchids will persist so there will always be some unique features to be discovered by future generations.

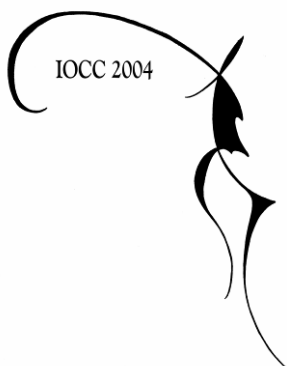


Fig. 3. The Shining Ladies’ tresses.

Photograph by Michael MacConaill.

Fig. 4. Embryos of *S. cernua* are asexually derived genetic clones of the parent that form through a process termed apomixis.

CALL FOR PAPERS



The Second International Orchid Conservation Congress (IOCC)
The Marie Selby Botanical Gardens, Sarasota, Florida USA
17-22 May 2004

TOPIC: Orchid Conservation Measures – The Conservation Balance

KEYNOTE SPEAKER: Dr. Stuart Pimm

The Doris Duke Professor of Conservation Ecology at Duke University

The Program Advisory Group for IOCC 2004 is now soliciting orchid conservation-related papers and posters for inclusion in the Congress program. You are cordially invited to submit your abstracts to the Program Chair, Dr. Tom Sheehan, 3823 S.W. 3rd Ave. Gainesville, FL 32607 or Dr. Wes Higgins, Head of Systematics, Marie Selby Botanical Gardens, Sarasota, FL 34236. Abstracts must be received by 31 December 2003 for consideration.

The International Advisory Board has determined that the focus of the Congress should be on the future of orchid-related conservation measures, theoretical and applied, scientific and practical. Planned topics for IOCC 2004 include government/private partnerships for recovery projects; state and federal legislation; research trends; practical methodologies; integrated approaches; problem solving; conservation education; and progress reviews of global efforts toward orchid conservation. The program will also offer workshops, fieldtrips, and presentations for both laypersons and scientists.

For more information, visit <http://www.selby.org/research/IOCCHome.htm>.

Robert Brown's *Caladenia* and *Pterostylis* revisited

by Dr Stephen Hopper—*excerpted from a paper that first appeared in the June issue of the ANOS Victorian Group Bulletin. Dr Hopper is Chief Executive Officer, Botanic Gardens and Parks Authority, Perth.*

In the bicentennial year of Robert Brown's historic Australian landfall with the Flinders expeditions three major accounts of his *Caladenia* and allied genera were published independently by several workers (Szlachetko 2001, Hopper & Brown 2001; Jones et al 2001). While there is some commonality among these treatments, especially the latter two that draw upon recent DNA sequence studies, there are nevertheless significant differences in generic and some species concepts as well as errors in the interpretation of the International Code of Botanical Nomenclature, mainly to do with typification.

Moreover, the situation was exacerbated when attempts by Szlachetko (2001) and Jones et al (2002; Jones & Clements 2002; Clements & Jones 2002) to rectify mistakes made in their respective earlier papers introduced even more errors or perpetuated others. Consequently, major nomenclature confusion has been generated, and is in need of resolution.

As in previous works (Hopper & Brown 2000, 2001), in a recently prepared paper submitted to the scientific journal *Australian Systematic Botany*, myself and Andrew Brown argue for retaining *Caladenia* in the broad sense, largely reflecting Brown's (1810) original concept save the removal of *Leptoceras* Hopper & AP Br. Thus *Caladenia* remains a large Australasian genus of terrestrial orchids, with 243 species and six subgenera.

We see little merit and much unwarranted nomenclature upheaval in further splitting *Caladenia* as advocated by Szlachetko (2001) and Jones et al (2002; 2002; Jones & Clements 2002). There are plainly no com-

elling phylogenetic reasons for such a split once *Leptoceras*, *Praecoxanthus*, *Pheladenia*, *Glycorchis* and *Cyanicula* have been removed from *Caladenia*.

The genus *Caladenia* as we circumscribe it has been affirmed in several DNA sequence studies as a monophyletic clade (all taxa included share a single common ancestor). Monophyly is regarded by most taxonomists today as an essential first criterion in the formal recognition of taxa if a predictive evolutionary classification is to be achieved.

Unfortunately, while rigorous science enables the question of monophyly to be resolved in a given group, how to name groups of taxa within a monophyletic clade remains more art than science. For example, in the case of our concept of *Caladenia* and *Pterostylis*, the key question for the taxonomic community is whether there is merit in retaining a broad concept of each genus with subgenera and sections within, or in elevating these subgenera and/or sections to the rank of genus.

Although favouring retention of a broad concept of *Caladenia* with six subgenera we accept that history will be the final arbiter on such a vexing question of rank. Hopefully our forthcoming paper, by clarifying and correcting key points of typification and nomenclature, will be helpful for either choice, broad or narrow, relating to circumscription of the genus.

For example, the valid type for *Caladenia* is *C. carnea* R.Br., not *C. flava*, as argued by Jones et al (2000), while that for *Caladenia* sect. *Calonema* is *C. longicauda* Lindl., not *C. filifera* Lindl. as proposed by Jones et al (2001). The genus *Jonesiopsis* Szlach.

and generic combinations *Phlebophilus* (Benth.) Szlach. were validly published. These conclusions, at variance to those of Jones et al (2001), render many of their taxa and combinations superfluous....

How should circumstances pertaining to the proposed splitting of a monophyletic genus such as our concept of *Caladenia* or *Pterostylis* into several genera best be handled? We consider nomenclatural stability to be of fundamental importance to avoid great discredit on the discipline of plant systematics for what is arguably perceived as needless change. For guidance, we turn to the Preamble of the International Code of Botanical Nomenclature (Greuter et al 2000). This is the international rule book for all botanical taxonomy, revised every six years at the International Botanical Congress. We also note that most botanists follow a conservative path of minimal taxonomic change consistent with the principle of monophyly. The same should apply with Australian orchids.

As stated in its preamble, the ICBN "aims at the provision of a stable method of naming taxonomic groups, avoiding and rejecting the use of names which may cause error or ambiguity or throw science into confusion". It also, significantly, argues that "next in importance is the avoidance of the useless creation of names" and "The only proper reasons for changing a name are either more profound knowledge of the facts resulting from adequate taxonomic study or the necessity of giving up a nomenclature that is contrary to the rules. Thus all taxonomic works should aim for stability, using valid published names consistent with scientific understanding (monophyly) wherever possible. To do otherwise is to indulge in the "useless creation of names" which the ICBN specifically seeks to avoid and reject.

Clearly the contribution of science in delivering "a more profound knowledge of the facts" is central in considerations about nomenclature change. The combined emergence of cladistic methodology and DNA

sequence analysis have recently introduced unprecedented rigour and repeatability into the science of systematics, removing it from "a system that depends upon a whim (masquerading as authority) and accidents of history (Chase 1999). For example, the difficulty of character choice and definition, prevalent in all studies reliant on morphological, anatomical or ultrastructural characters, and undoubtedly the cause of much futile argument regarding systematic relationships, rarely applies in DNA sequence studies, except for the choice of genes to be sequenced. The presence or absence of pairs along aligned DNA molecules can be rigorously and independently tested, and has been in many studies. For example, in the case of *Caladenia* and allied genera, similar patterns of relationships have emerged in a number of independent molecular phylogenetic studies that have investigated the same or different gene sequences, both chloroplast and nuclear (e.g. Kores et al 1997, 2000, 2001, in prep.; Cameron et al 1999; Jones et al 2001, 2002).

Thus for *Caladenia* we agree with the removal of species in the segregate genera *Cyanicula*, *Glycorchis*, *Pheladenia*, *Elythranthera*, *Glossodia*, *Praecoxanthus*, *Lep-toceras* and *Adenochilus*, all of which are sister to the monophyletic major radiation of *Caladenia* as largely encompassed in Robert Brown's original concept of the genus. Having removed the above genera, further splitting of *Caladenia* is not needed to satisfy the criterion of hypothesised monophyly, and depends therefore on a judgement of appropriate rank. Nothing new is gained in terms of scientific understanding of phylogenetic relationships by elevating the six major clades of *Caladenia* to generic rank. Indeed, arguably the plethora of new generic names would obscure relationships, leading to a less predictive classification in the hands of most nonspecialists. In such circumstances, nomenclatural stability emerges as a most important consideration in our view, to minimise inconvenience to and confusion of

the users of taxonomic names and to maximise information retrieval and understanding from the literature. Freudenstein and Remus (1999) aptly surmised: "As there are no rules for assigning rank to taxa we can only follow guidelines of striving for an internally consistent system, hopefully one that will disturb the stability of past nomenclature as little as necessary". Similar arguments relate to the recent proposals to split *Pterostylis* into up to 16 segregate genera (Szlachetko 2001; Jones & Clements 2002). Molecular data unequivocally demonstrate that *Pterostylis* sens.lat. is monophyletic. A classification based on the principle of nomenclatural stability would therefore argue for retention of *Pterostylis* in the broad sense, with recently identified subclades within the genus classified as subgenera/sections. The latter approach is again consistent with the Preamble of the International Code of Botanical Nomenclature, and is the one Andrew Brown and I favour.

Quite independently Chris Ecroyd wrote, "I think it should be made clear to members that we do not have to use all the recent generic name changes. Only when a name is proved to be illegitimate or if a species is clearly placed in the wrong genus are we obliged to accept the change. By accepting all the changes we are in fact hindering communication between members. In fact I would go as far as saying that we will see a decline in membership with many thinking they can't be bothered with all these new names. In this country we would be much better retaining the old concepts of Corybas, Pterostylis etc."

This is an important discussion for Iwitihi 2003, and a further good reason for the Group to have an Executive that can take these policy decisions—Ed.

The Orchid Conservation Forum II will be held at the Royal Botanic Gardens Melbourne from 25 to 27 September 2003. It will be held in association with the National Herbarium of Victoria's 150th Conference which will be held from 29 September to 3 October 2003. The Orchid Conservation Forum II will precede the main conference from 25 to 27 September 2003. The Forum will be held at the Royal Botanic Gardens Melbourne.

It will bring together people with a diverse range of skills and knowledge, all working towards conserving the many threatened orchid species. Two days of presentations and discussion will review the progress that has been made, and discussions will help the formulation of continued relevant research and management practices.

Although the Forum will be held in Australia we welcome people working on orchid conservation in other parts of the world to attend.

To find out more about the Orchid Conservation Forum II, there is a website now accessible at <http://www.rbv.vic.gov.au/conferences/orchidforum/index.html>.

The site is almost complete, but please look at it from time to time to check for new information.

Rob Cross
Horticultural Botanist
Royal Botanic Gardens
Birdwood Avenue
South Yarra
Victoria
Australia 3141

Phone: 61 3 9252 2329
Fax: 61 3 9252 2350
Email: rob.cross@rbv.vic.gov.au

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Editor: Ian St George, 22 Orchard St, Wadestown, Wellington, phone 04 4994227, fax 3894178, istge@nzogp.org.nz.

Conservation officer: Peter de Lange, DoC, PO Box 68908 Newton, Auckland, phone 09 307 9279, email pjdelange@xtra.co.nz.

ANOS liaison: David McConachie, 15 Battersea Place, Palmerston North, phone 06 3586559, email pleione@ihug.co.nz.

Field trips: Eric Scanlen, 4 Sunny Park Ave, Papakura, Ph. 09 2984868, email eascanlen@xtra.co.nz.

Editorial Board: Mark Clements, David Jones, Peter de Lange, Brian Molloy, Eric Scanlen.

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