



Journal

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Editorial

We need to hear from you

The *Journal* is getting smaller, folks, and the regular contributors have a style that must be boringly familiar to you by now. The way to make the *Journal* bigger and more exciting is for you to write for it.

Write about your trips, your finds, your ideas, your questions, what you have read about elsewhere... but write.

Nothing would be too big or too small: we need your input.

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The flower of *Bulbophyllum pygmaeum* does open

Ian St George

You may have inferred from my drawing of a flowerless plant of *B. pygmaeum* in the last issue that I had never seen the flower. Indeed I had not, but I had taken as gospel Dorothy Cooper's hint that "the flower does not seem to open fully",¹ reinforced by Johns and Molloy's "The tiny flower... is solitary, hairy and whitish.... It barely opens at all...."²

Hooker had noted also that the flowers were minute and solitary, and added "Upper sepal convex, subacute; lateral, broadly ovate, acute. Petals shorter, linear-oblong, obtuse. Lip ovate, obtuse, disk with thickened lines down., the centre. Ovary gibbous, hairy."³

Colenso called the ovary "echinate"⁴ (a term Cheeseman later defined as "beset with prickles"; it comes from the Latin echinus: a hedgehog, though we now use the generic name *Echinus* for

sea-urchins. Anyway, it is rather more descriptive than "hairy").

Cheeseman added a little more detail, including "Lip clawed onto the projecting foot of the column; claw long"⁵ Hatch illustrated a partially open flower, and enlargements of the side- views of column and labellum.⁶

Moore wrote that the ovary was hairy, that the flower bract was whitish and membranous. Bruce Irwin's drawing in Moore show&only an open capsule and spent flower.⁷

I have been unable to find any drawings of the fully open flower. Bruce Irwin told me he had often wondered if the flower *did* open briefly, and indeed Dorothy Cooper had written, "After several weeks observation a few flowers appear to 'loosen' at their tips as if they have opened and closed again but most remain tightly closed..."

I was delighted therefore to find a mat of *B. pygmaeum* on a tree off the track behind Day's Bay, Wellington, with two wide open flowers, on 29 December 1991. I took photographs, and made drawings of two live specimens. I did not revisit the site, and cannot say how long the flowers remained open.

The flower was green (some post mature flowers were white, as in other green-flowered species), somewhat prickly, though not nearly so as the decidedly echinate ovary and stalk. In shape it somewhat resembled a *Dendrobium* flower, because of the long column-foot which bore the labellum. The last was mobile, hinged at its junction with the column-foot, and it

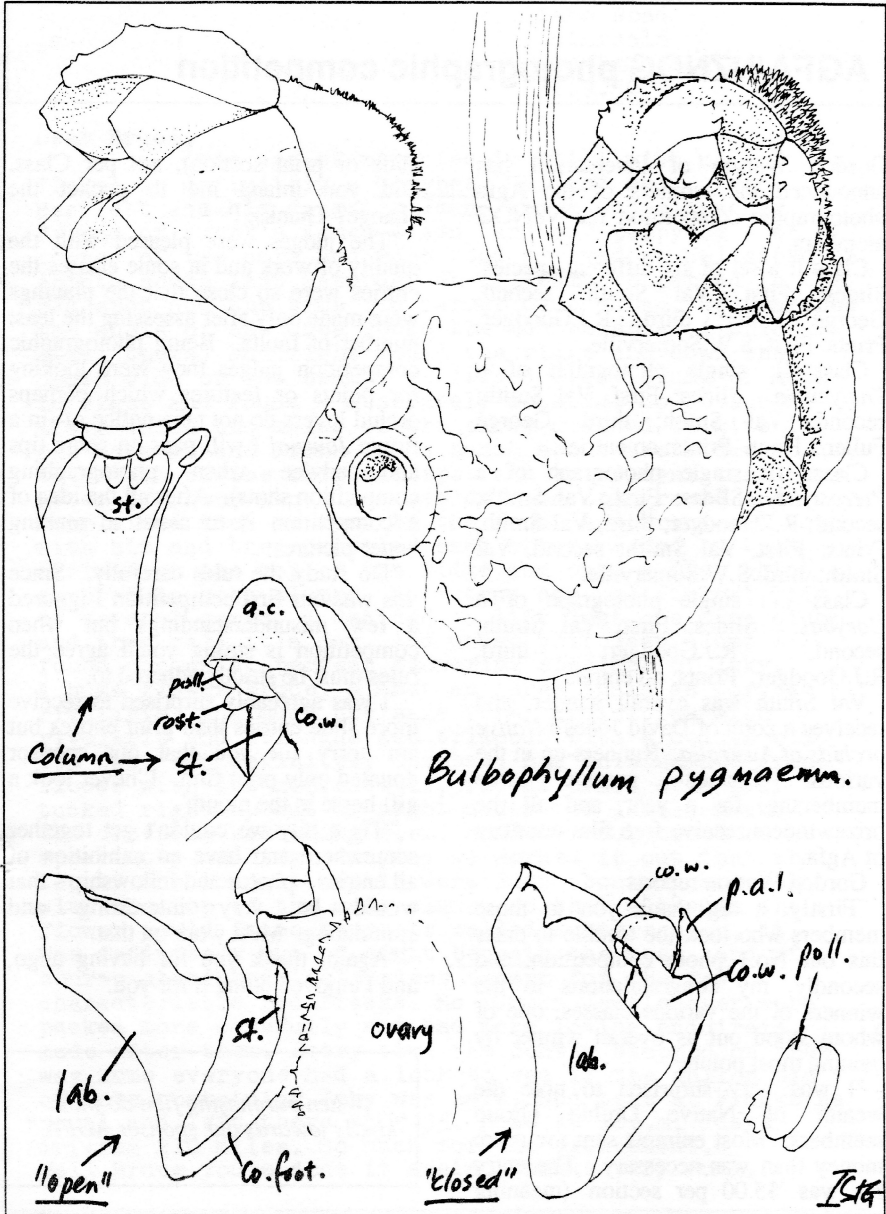
seems to me that there is here a mechanism similar to that of *Pterostylis* for trapping some tiny insect, for the prominent column-wings of *B. pygmaeum* help, with the large lateral lobes of the closed labellum, to complete a tube that requires an insect to escape upward via stigma and pollinia.

It's a tiny flower, though: difficult to dissect. It is hard to know just how much the seeming labellar "mobility" that I thought I saw was genuine, and how much due simply to the trauma of indelicate handling under the binocular microscope. Perhaps the whole flower closes when an insect enters, explaining the few records of open flowers. Please watch them next year and let us all know.

References

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2. Johns J and Molloy B. *Native orchids of New Zealand*. Reed, Wellington, 1983. p74.
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4. Colenso W. *Phaenogams: A Description of a few Newly-discovered Indigenous Plants; being a Further Contribution towards the making known the Botany of New Zealand*. *Trans. NZ I.*1893.26:319.
5. Cheeseman TF. *Manual of the New Zealand Flora*. Govt Printer, Wellington. 2nd ed, 1925. p334.
6. Hatch E.D. The Epiphytic Orchids of New Zealand and a new species of *Pterostylis* from Mount Egmont *Trans. Roy. Soc. NZ.* 1950.78: 105.
7. Moore L. and Edgar E. *Flora of New Zealand, Vol II*. Wellington, Government Printer, 1970. pl63.

You can still buy the Group's book,
The New Zealand orchids: natural history and cultivation.
write now to the editor, or to E.D. Hatch at 25 Tane Rd, Laingholm, Auckland



AGFA/NZNOG photographic competition

Gordon Watson of Invercargill has announced the winners of the Agfa photographic competition for NZNOG members.

Class I: a set of six different species. Slides: First, Val Smith; second, George Fuller, third, R.J. Goodger. Prints: First, S.W. Somerville.

Class II: single photograph of a *Thelymitra*. Slides: First, Val Smith; second, Val Smith; third, George Fuller/J. Hunt Prints: no entries.

Class III: single photograph of a *Pterostylis*. Slides: First, Val Smith; second, R.J. Goodger; third, Val Smith. Prints: First, Val Smith; second, Val Smith; third, S.W. Somerville.

Class IV: single photograph of a Corybas. Slides: First, Val Smith; second, R.J. Goodger, third, R.J. Goodger. Prints: no entries.

Val Smith was overall winner, and receives a copy of David Jones's Native orchids of Australia. Runners-up in the various Classes receive free membership for a year, and all the prizewinners receive free film courtesy of Agfa.

Gordon Watson reports:

"Firstly, a big thank you to those members who took the trouble to enter this our No. 1 photo competition, and secondly, my congratulations to the winners of the various classes, one of whom stood out as overall winner by gaining most points."

I was very surprised to note the wealth of Native Orchid Group members.

Most entrants sent me more money than was necessary. The entry fee was '\$5.00 per section' (meaning slide or print section), not per Class. Did you intend me to pocket the change? Thanks.

"The judges were pleased with the quality of work and in some classes the entries were so close that the plantings were made only after assessing the least number of faults. Being photographic competition judges they were looking for points or features which perhaps orchid lovers do not take notice of (in a future Journal I will pass on some tips and advice when photographing competition shots). After all the idea of a competition is to assist in making better pictures.

"Do study the rules carefully. Since this was our first competition I ignored a few misunderstandings but when competition is strong you'll agree the rules must be strictly adhered to.

"I was agreeably surprised to receive more slide entries than print entries but am sorry for you that our sponsor donated only print film. I 'never look a gift horse in the mouth'.

"'Tis a pity we couldn't get together somewhere and have an exhibition of all entries - photos and fellowship - that would be very interesting and stimulating. Must work on that.

"Again, thank you for having a go, and I enjoyed doing it for you."

"When purchasing film do think kindly towards our sponsor AGFA"

Notes



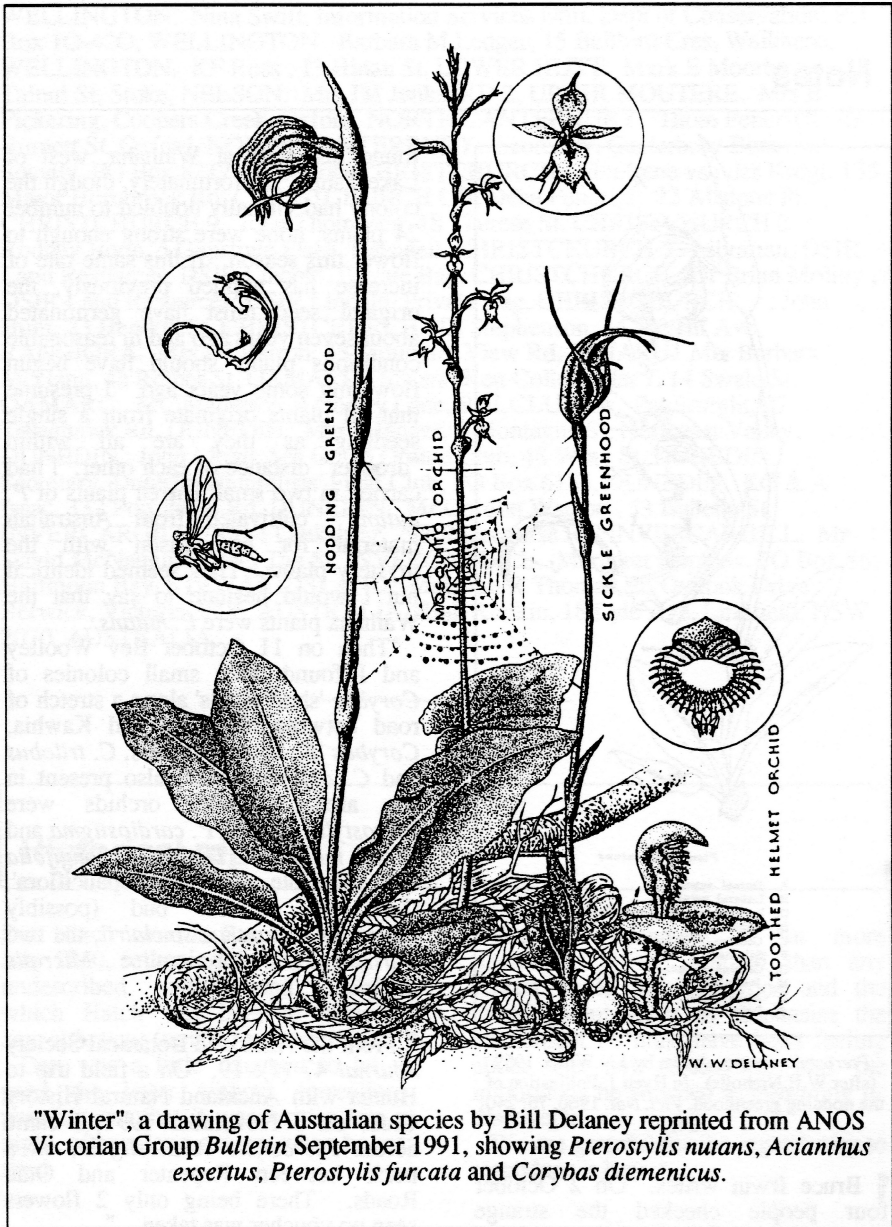
Pterostylis nutans, drawn by J.N. Willis, 1959 (after W.H. Nicholls). In Hyett J. *Pollination of the nodding greenhood*. Viet. Nat. 1960, 76: 240-241.

¶ Bruce Irwin writes, "On 2 October four people checked the strange *Pterostylis* which Cathy Jones and I had found last year at Waihaha, west of

Lake Taupo. Unfortunately, though the colony had virtually doubled to number 24 plants, none were strong enough to flower this season. If this same rate of increase has applied previously, the original seed must have germinated about seven years ago and in reasonable conditions plants should have begun flowering some years ago. I presume that all plants originate from a single seedling as they are all within "dropper" distance of each other. I had carried in two small barren plants of *P. nutans* cultivated from Australian material for comparison with the mystery plants. They seemed identical but I would hesitate to say that the Waihaha plants were *P. nutans*.

"Then on 11 October Bev Woolley and I found three small colonies of *Corybas* 'short tepals' along a stretch of road between Waitomo and Kawhia. *Corybas* A, *C. macranthus*, *C. trilobus* and *C. oblongus* were also present in the area. Other orchids were *Pterostylis banksii*, *P. cardiostigma* and *P. aff. montana*. *Thelymitra longifolia* and possible *T. 'pseudopauciflora'*, *Caladenia* sp. in bud (possibly *catenata*), *Acianthus sinclairii*, the two *Earinas*, and of course *Microtis uniflora*."

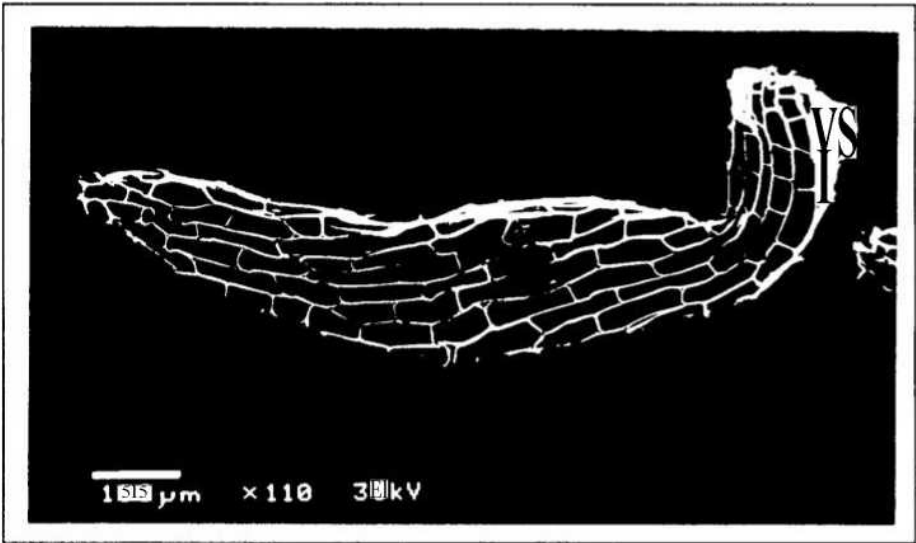
¶ From the Auckland Botanical Society Journal A1 (1): 19, "On a field trip to Hunua with Auckland Natural History Club, on 3 November 1991, I came across *Pterostylis cardiostigma*, on a track between Repeater and Otua Roads. There being only 2 flowers seen no voucher was taken...."



"Winter", a drawing of Australian species by Bill Delaney reprinted from ANOS Victorian Group *Bulletin* September 1991, showing *Pterostylis nutans*, *Acianthus exsertus*, *Pterostylis furcata* and *Corybas diemenicus*.

Noeleen Clements writes (25 February), "Friends found a group of *Gastrodia* with the first flowers open at the end of December and fortunately took a photograph. Early January we returned to the spot in the Russell State Forest with 'expert cameras and gear' as the group of about a dozen should have been in full flower. They were under *Dicksonia squarrosa*, so in fairly dark conditions, streamside. Unfortunately

only chewed stalks remained! plus possum droppings. Do *Gastrodia* attract possum with their scented flowers? Unfortunately no seeds from what was a great group. From the photo I would say *Gastrodia cunninghamii*, not very common in our area." - *Unlikely to have been Gastrodia cunninghamii up there, Dan Hatch commented.*



¶ Dan Hatch sent this photograph of the seed of *Pterostylis banksii*, taken by Dr Mia Molvray, Tulane University, New Orleans.

¶ Moorhouse writes, "I have just returned from a three day sojourn into the heart of the Inland Kaikouras, including the ascent of Tapuaenuku and Mt Alarm (well named with a nasty 1000 foot sheer drop off the back). The approach to these nine thousand footers is up the Hodder River, a tributary of the Awatere. The area is extremely

barren but I did manage to locate *Microtis unifolia* and *Prasophyllum colensoi* on the lower fringes of the meagre fell-fields. Quite a few other plants unique to the area, but Orchidaceae are pretty thin on the ground. Single plants of *Microtis* fairly scattered; small colonies of *Prasophyllum*. Both in full flower... *P.*

SECOND AUSTRAL ASX AN NATIVE ORCHID CONFERENCE AND SHOW
First Update

By now most Native Orchid Societies will be aware that the Native Orchid Society of Toowoomba Inc. has been granted the honour of hosting the Second Australasian Native Orchid Conference and Show to be held at the University of Southern Queensland, Toowoomba, from Friday 17 Sunday 19 September 1993.

The Conference will be held on the first weekend of the nationally acclaimed Carnival of Flowers and ample time has been allowed within the Conference timetable for delegates to view the Carnival parade on Saturday. In addition two other orchid displays will be staged in Toowoomba during Carnival of Flowers week. Tours will be available for those delegates wishing to view prize winning gardens or take in the sights of Toowoomba and its surrounding area following the Conference.

Preliminary reply forms have been distributed to Orchid Societies throughout Australasia to assess at an early time the likely number of delegates attending so that preliminary bookings for accommodation can be made. Accommodation is at a premium during Carnival of Flowers week and early bookings will be essential. It is anticipated that the second flyer will be distributed in mid 1992 and will include a detailed Conference programme, list of conference speakers, registration costs, etc. Show schedules and registration forms will be available soon after the release of the second flyer.

Conference lecturers have been secured from throughout Australia, Papua-New Guinea and America and we are confident that the proposed lectures will present a well balanced programme of topics with something of interest to all enthusiasts. Lecture topics fall into two broad categories, one including cultivation, hybridising, scientific research,

et. whilst the second category will include discussion on success stories associated with conservation/recovery management issues associated with native orchids.

Total prize money of approximately \$7000 will be available for the Show and displays, with \$1000 sponsored by ANOS Council, being allocated for Grand Champion Orchid of the Show.

In addition to prizes being awarded for the various judging classes, there will be prizes awarded to the winners, second and third place-getters for Society and individual displays and tabletop displays. We extend an invitation to all Societies to stage either a combined Society display or displays by single individuals or groups of individuals. As there will be a limited number of sites available, those wishing to obtain further details regarding the staging of displays should contact NOSTInc , P.O. Box 2141 G.P.O. , Toowoomba, 4350 as soon as possible. Sites will be available for commercial sales of orchids and other associated paraphernalia (books, pots, hangers, etc) and inquiries regarding these sites may also be made to the above address.

R.J. Kanowski
(Secretary - Organising Committee)

colensoi fairly well advanced, with more in early fruit than in flower (1-3 Feb.1992).

"To the best of my knowledge this area falls in Ecological District 44.01....

"A comment on plant associations - as a forestry worker I have long noticed the association of *Chiloglottis* and pine forests. In fact they 'flourish' under pines in the Nelson area. But have you noticed that *Gastrodia minor* also grows well under *Pinus radiata*, and the larger *Gastrodians* under *Sequoia* and *Lawsoniana*?

"Also, a number of *Pterostylids* are very happy in thick pine litter provided there is sufficient moisture, and the pines are mature enough to let in a little

light. *Pterostylis graminea, australis, banksii, irsoniana, montana*, and to a lesser degree *trullifolia* all seem to survive well in the modified habitats of pine forests.

"A recent attempt to relocate *P. nana* in a location which was modified by tree planting eleven years ago, failed. The original manuka cover has been 'swamped'. But there are a few other hopeful locales nearby which have yet - to be checked...."

¶ Congratulations to Bruce Irwin who has been awarded \$500 by the Wellington Botanical Society towards his *Corybas* research.

The New Zealand Native Orchid Group

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Historical reprint

Dan Hatch wrote to Bruce Irwin on 31 July 1950, following the finding of the undescribed underground *Corybas* which Hatch was later to name *C. saprophyticus* (now *C. cryptanthus*).

Dan was a little reluctant to let us print the letter without corrections, pointing out that it was written late at night, after a long outing, when he was tired. But the document is far more interesting in the original than any reprint could be: the typos and the crossings-out serve to emphasise the excitement he must have been feeling about the new discovery, and the importance he attached to informing its discoverer.

We are grateful for the opportunity to reproduce it here.

Tane Road
Laingholm
AUCKLAND.S.W.4.
31.7.50

Dear Bruce,

The age of miracles is still with us and 'Icky' is definitely a *Corybas*. Val and self, Frank Bartlett and his daughter Jean, and a schoolteacher friend of Frank's named Olsen, and our puppydog - a convoy of two cars and much food arrived at Wellsford or points south last Saturday at 11.30am. We parked in the old spot and the same old farmer came along. We searched the whole of the area round the handkerchief (which is still there) and right round the ridge and down the north side of the swamp. We lifted every clump of moss in sight and found - absolutely nothing. So to lunch. After which the males of the party decided to give it one more go and Frank had a hunch about the ridge to the south of the original spot and so we went that way. After 3/4 hour Ken Olsen sat down on the ground and complained that he must be the Jonah and Frank sat down with him and they consoled each other. I had by then arrived at the top of the ridge and onto a flat which was covered in moss clumps, *Acianthus* spp and *Pterostylidis* of several sorts. I decided to lift just one more clump and then call it a day. And under that last clump I found one only, perfect flowering specimen of *Corybas rivularis*, and much the same form, affinities with *rivularis* and *oblongus* and *trilobus* with a column all its own, but definitely *Corybas*. But this damned great flower with its microscopic, floral bract of a leaf tucked right up out of sight under the labellum and the creeping branching stem, a flower supported by apparently nothing. Anyway we worked it out that the top of the longest sepals were just about on a level with the top of the moss clump, so that although the flower could in no sense be called subterranean, it was definitely out of sight beneath the moss, and of course absolutely colourless except for the few characteristic red flecks. No XCrown Jewels ever were packed more carefully and had more loving enquireis made after them. Every time the convoy stopped on the way home everyone had a look to see if the gallon tin of moss containing Icky was safe. Had teas at Franks as usual and left there at 8.35. Home at 10p.m. days driving 210 miles. So much for the excitement. Well Bruce youve done it again. Thanks very much.

I made three drawings on Sunday morning and the last is enclosed. I guarantee its accuracy, although my lines are a bit shaky. Now to the dope for your note in the Bot. Soc's Bulletin.

Development. - I have not seen the protocorm but the general layout suggests that the juvenile is leafy and produces the first tuber, which in turn develops the creeping stem which is literally perennial, growing and branching in front and dying away behind. Owen's plant which bore a tuber was probably behaving like my *Pterostylis trullifolia* which produced juvenile plants from tubers grown on a mature but maltreated parent. It is fairly certain that under normal conditions no tubers are formed. The branches form in the axils of the scale bracts and the internodes ~~are~~ are covered with root hairs in the main parts (the tip portions are pure creeping stem with no roots). As the plant dies away behind it stands to reason that death and dissolution eventually arrive at a branch and the plant is divided into two separate plants, and so on. Thus vegetative reproduction - no need for tubers? The flower is terminal on a long or short peduncle (depending on the distance to the surface - my flower from the tall moss clump had a relatively long peduncle, whereas your original seeding specimens were all direct from the horizontal stem in teatree debris. The *Thelymitra* - like column suggests that the flower is self fertile, and its environment makes cleistogamy almost a necessity. Also you recorded numerous seed heads from an area where the plant must now be extremely rare, so that every plant must have produced a ripe capsule. My flower measured 6cm. from the base of the leaf to the top of the lateral sepals which were 25mm. long. petals 15mm. long. diameter of flower 1cm. leaf (what there was of it) acuminate, 1cm. long by 5mm. broad. the whole thing buried completely in the moss and quite out of sight. The creeping stem lay on the surface of the yellow clay, the branches creeping into crevices and twining in among the roots of other plants. No connection with *Astelia*, there were none in the vicinity where the flower was found. The reduced leaf is in order since it cannot function normally as a leaf and only serves to protect the bud in the early stages, thus usurping the functions of the floral bract which is accordingly reduced. The secondary bract, normal in all *Corybas* spp. except *aconitiflorus* is missing entirely. I think that is all you will need. The name will be *Corybas saprophyticus*, and nutriment must be by way

(3)

of mycorrhiza or bacteria or both.

You can natter away in a genral fashion in your essay to your hearts contaat, but dont describe the thing technically, dont mention it by name (except as a new sp of Corybas) and dont give the exact locality vicinity of Wellsford is enough. Not that it mattets much in a Wellington paper. Not likely to be a goldrush to exterminate it ?

I will get to work and write it up officially amd submit it to Trans. without delay.

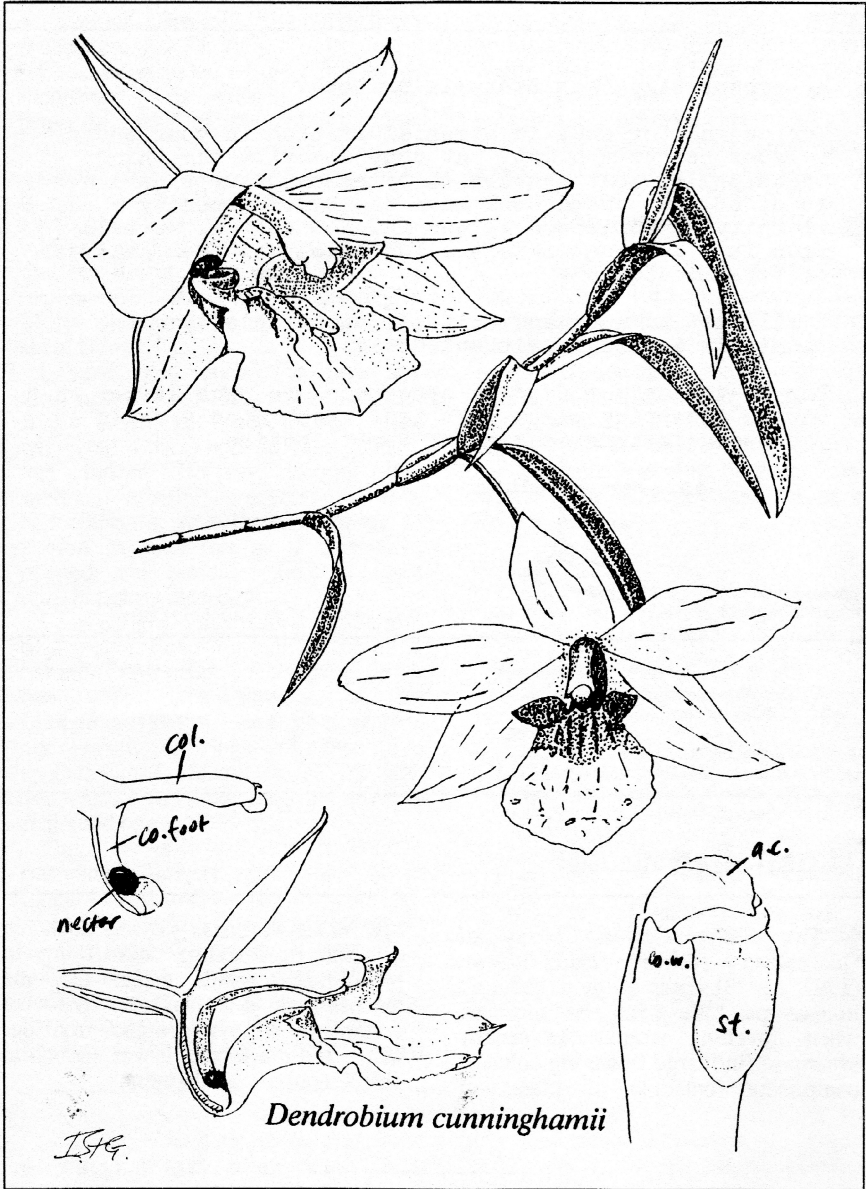
The leaves on our seeding specimens are much larger than on the flowering plant, the leaf must go on growing as the peduncle lengthens after fertilisation.

as ever - bedtime

Australian notes

¶ The Native Orchid Society of Queensland's *Native orchid bulletin* (1992,23: 73) warns of things that lurk in swamps: "We were also fortunate when travelling around the nearby swamp to find large flowering colonies comprising hundreds of plants of

Spiranthes sinensis. Lying about in swamps in drizzling rain trying to photograph orchids meant that the leeches became bothersome. We were continually removing leeches from our hands and our faces. It was enough to sharpen our visual alertness."



Dendrobium cunninghamii