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Editorial

Pronunciation of the generic names of the New Zealand orchids

Botanical names are pronounced either according to what is known as the Reformed (or Restored) Academic system, or to the traditional English system.

The former is based on the original Greek or Latin, where, for example, "C" and "G" are always hard - as in "Card" and "Got".

The latter adopts the traditional English pronunciation to the classical languages, and makes a "C" soft (pronounced as an "S") if it is followed by "E, I, Y, AE or OE"), and a "G" soft (pronounced as a "J") if it is followed by an "E, I or Y".

Thus "CINEMA" is pronounced "SINEMA" because it is spelt that way, despite the fact that it is from the same root as "KINETICS".

If we apply traditional English pronunciation to the names of our orchid genera, we have

Acianthus: ASS-ee-ANTH-us.
Adenochilus: a-den-o-KY-lus.
Aporostylis: APP-o-row-STY-lis.
Bulbophyllum: BULB-o-FILL-um.
Caladenia: CAL-a-DEEN-ee-a.

Calochilus: CAL-o-KY-lus.
Caleana: KAY-lee-ARN-a.
Chiloglottis: KY-lo-GLOTT-iss.
Corybas: CORRY-bas.
Cryptostylis: CRIPT-o-STY-liss.
Cyrtostylis: SIR-tow-STY-liss.
Dendrobium: den-DRO-bee-um.
Drymoanthus: DRY-mo-ANTH-us.
Earina: er-EEN-a.
Gastrodia: gas-TRO-dee-a.
Genioplesium: JEEN-o-PLEEZ-ee-um.
Lyperanthus: LY-per-ANTH-us.
Microtis: my-CROW-tiss.
Orthoceras: ORTH-o-SEER-as.
Prasophyllum: PRAS-o-FILL-um.
Pterostylis: TERR-o-STY-liss.
Spiranthes: spy-RANTH-eez.
Thelymitra: THELL-ee-MY-tra.
Yoania: yo-ARN-ee-a.

Original papers

Some success at cultivation of native orchids - and a dilemma.

by Ken Wilson, Auckland

Until 1989 I had no knowledge of orchid cultivation at all except for a *Cymbidium iowianum* on a ponga round I inherited from my Dad. This plant is about fourteen years old, lives in the open, and has had, to my knowledge, no feeding at all except for a chopped banana skin from time to time (true). It produces 5-6 flower stems every year.

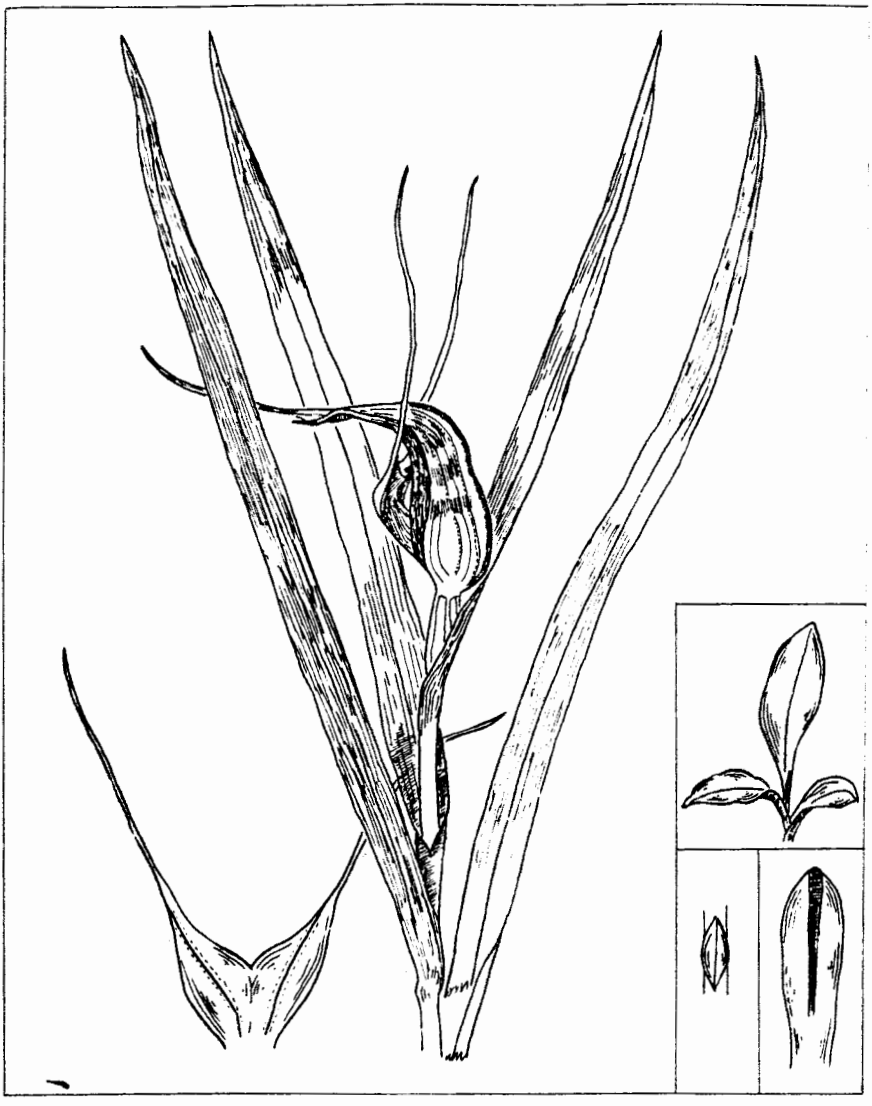
In January 1989 I was asked by an acquaintance to look after some Australian terrestrials in pots as he was off overseas for eight months. There were actually some 10-11 *Pterostylis* species and a *Cryptostylis subulata.* I admitted to knowing nothing about them but agreed to try to keep them alive until he returned.

We have only a small cottage garden close to the centre of Auckland city and no room for shadehouses or the like. I reasoned that as native orcchids grow outside in the wild then so should these. I fixed some shelves onto a fence under the shade of a *Pittosporum*, set the pots up on these and "looked after them" as for other potted plants in the garden. I did have the sense to stand the *C. subulata* in water, knowing it was a wetland species. Through the 89 flowering season what survived and flowered (according to the labels) were, *Pterostylis decurva* (February), *P. obtusa* (March), *P. pedunculata* (July/August), *P. baptistii* (August/September), and something labelled "early flowering *P. banksii*" also August and September.

There was also a pot labelled *P. baptistii* (small form) which produced a very similar rosette and flower to that in the other pot, but only about half the size. More on these two later.

There were several other pots in which nothing appeared and I later found out why.

By December of 89 the owner had shown no sign of wanting to pick up his collection so I decided that, as all the plants had withered away, I would try my hand at repotting. I discussed orchid mixes with a nurseryman who



Pterostylis banksii
a drawing by Dan Hatch from an original by his father.

P. "rubricaulis" was repotted in the new mix with some of the original retained - three tuberoids producing nine the following season.

With *P. trullifolia* I tried an experiment as there were plenty of tuberoids at the base of the pot. I repotted thirteen of these straight into the new mix with more of the original mix in it. The top part of the pot was then placed on top of new mix intact without breaking it down to see how many tuberoids there were. The result was eleven flowering plants from those with the original mix and thirteen from those in the fresh mix. No difference at all in their size or vigour except that the plants in the fresh mix appeared very slightly paler than the others.

The *Cryptostylis subulata* which had flowered so well the first year didn't flower the second but made two new leaves. It was in a 100mm pot and seemed to be a bit paler in the leaf colour. I had a look down the side of the pot and it was virtually root bound, a great knot of roots completely filling the pot. I repotted it in a 200mm pot with the standard mix, increasing the amount of peat a little and potted the whole root ball into it. It responded well to this, producing a lovely flower stem late in 1991 along with another pair of leaves on the opposite side of the pot. Hopefully its immediate future is assured. (If anyone attempts to grow one of these it is essential to stake up the flower stem, as they can grow to 65cm).

All of the foregoing was up to the end of December 1990 and luckily everything progressed well through the 1991 season. *P. decurva* was repotted in July because it is a summer flower (I had been lucky to date, repotting it far too late). Again it had doubled itself, which seems to be right for this one. When it came to the main repotting time in December 1991, I found myself filling fifty pots, which led to the question of where to put them. I took the shelves down from the fence and constructed a miniature shadehouse with two thicknesses of shadecloth for roof and sides. It is open to the south. It has a wiremesh shelf which only just accomodates the fifty pots. This structure is known as "The Orchid Hutch".

Which leads to the "dilemma" which is part of the title above. As I write, late July, there are all of these pots full of orchids, all doing it, and I can almost guarantee the same multiplication I have experienced to date. The dilemma then, is what do I do when it comes to repotting time again in December this year? I cannot house more pots but I'm not about to throw tuberoids away.

I shall have to find good homes for the tuberoids of the following Australian and New Zealand *Pterostylis* species.

P. baptistii: large and small forms,
P. obtusa,
P. pedunculata: there will be hordes of these,
P. alobula,
P. "rubricaulis",
P. trullifolia.

I would like to supply interested growers for the cost of packing and postage - or better still, swap for *Pterostylis* species I don't have.

There are "grey areas" in this; I'm not sure how I really feel about orchids being given outside of their normal ecological regions, even though I have Australian plants (although these were here already and left to me).

I wonder if those in charge of the ANOS banks regulate this aspect.

Now I am not about to set up a tuberoid bank but just to continue the enjoyment my plants have given me, and hopefully add a few more species. The little knowledge I have so far

acquired can only really be labelled as "by observation only".

As far as I can determine the plant labelled "small form" of *P. baptistii* (which grows to 25cm) appears to be the same as the very large plants (which grow to 40cm). The flower is smaller, and the rosette is about the same size as that of *P. pedunculata*. I had wondered if they are just weak plants, though they have been totally consistent for four years.

The orchid that was labelled "early flowering *P. banksii*" is a grass-leaved plant which on 26 July has leaves to 20cm high. If it follows the pattern of previous years these will grow to 25-30cm and it will flower in mid-August. It looks like *P. banksii* but is very dark green with a very red stem and very early. This year I hope to have a positive ID and will note the results later on.

In conclusion I would like to make some observations.

I believe that pot cultivation can force some species to grow to flower earlier than in the wild, sometimes by as much as a month to six weeks. I think that this increases the length of the dormant period and thus puts tuberoids at risk through either rotting or dehydration. I believe that plants that are forced to be early for some reason attempt to return to their correct timing for the following season. Despite the great increase annually in the most prolific colony formers I experience an attrition rate of, on average, one in five repotted. This does appear to be variable, some species suffering more, some less. For example, *P. trullifolia* multiplies about five times each year and loses one. *P. banksii* averages a multiplication of three and loses one. They all seem different in this regard and I hope to go on studying it all. It would be nice to have observations along these lines from other growers to see if there are patterns.

Meanwhile, my address is 20 Potatau St, Grey Lynn, Auckland 1002, phone (09) 3762918 - and that *P. pedunculata* will cost me a fortune in pots if I can't share some tuberoids.

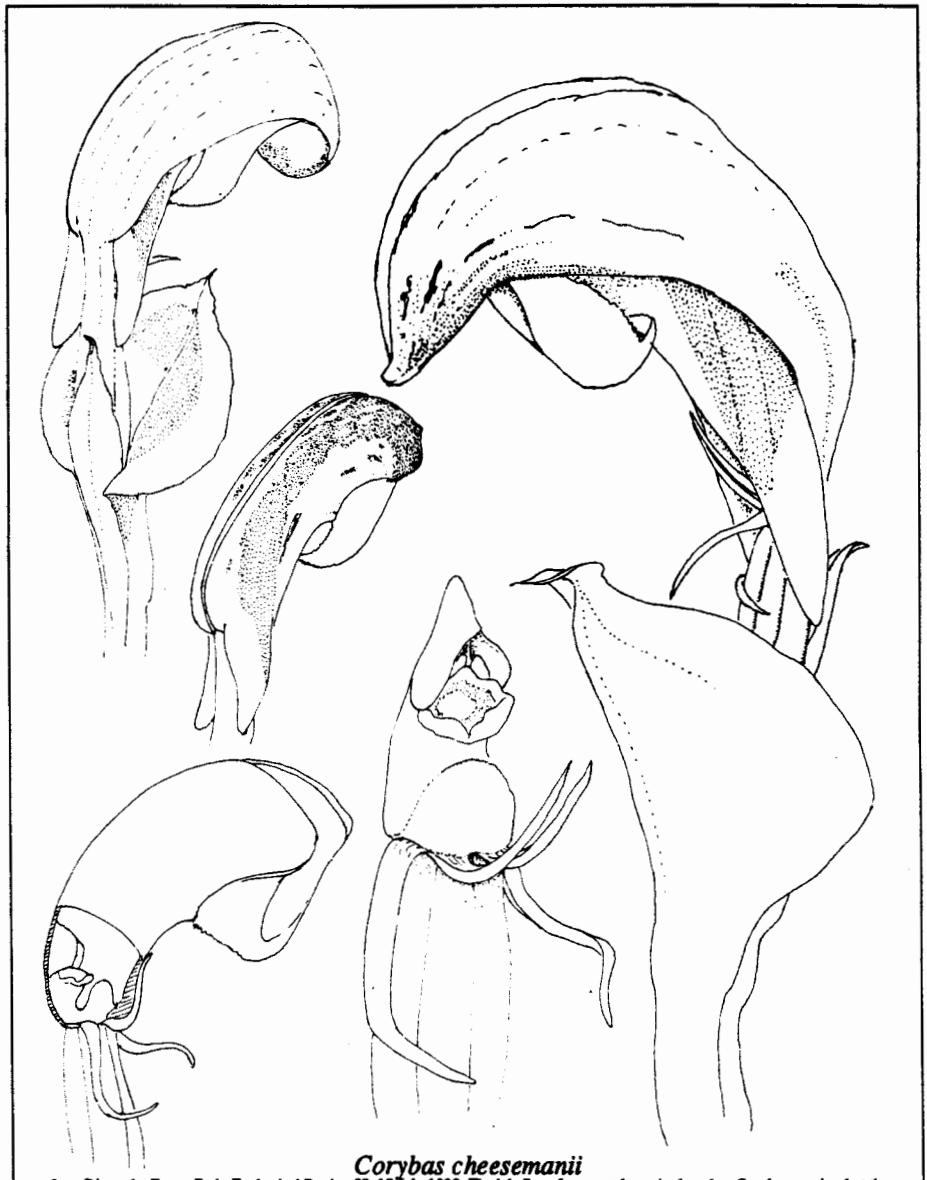
A brief history of *Corybas cheesemanii*

by Ian St George, Wellington

Corybas cheesemanii (J.D.Hook ex Kirk) Kuntze, Revis. gen. pl. 6: 657 (1891).

1801-5: Robert Brown discovers *Corybas bicalcarata* during the Flinders Survey Expedition in Australia (Brown, naturalist; Ferdinand Bauer, artist). There is such a lot of botanical material to draw and describe that it is not until 1810 that the task is completed (see later). Meanwhile Richard Anthony Salisbury surreptitiously copies Bauer's drawing when it is exhibited at Sir Joseph Banks's rooms, even though Brown's name is attached.[1] He gets William Hooker (*not* the famous botanist W.J. Hooker, but a botanical artist of some later repute) to paint it, and in

1805 publishes a description in the *Paradisus Londonensis* under the name *Corybas aconitiflorus*. Hooker's watercolour[2] is quite accurate, though the colour is wrong (owing to a



Corybas cheesemanii

from Rimutaka Forest Park, Ecological Region 38, 18 July 1992. The labellum forms a tube as in the other *Corybas* species, but the sides remain unfused above and behind, and the anterior margin is folded back. The conical spurs are open medially, and seem to represent elongations of the auricular tubes. The petals and lateral sepals are tiny vestiges, the petals upright against the labellum above and between the labellar spurs. The column is upright, the large anther cap close above the upturned stigma to facilitate self-pollination, though a quite prominent rostellar shelf intervenes. A large labellar callus lies at the foot of the column.

misinterpretation of Bauer's numerical colour code on his sketch), and Salisbury's account is nonsense and his description faulty. In

1810 Brown's *Prodromus* is finally published, and it includes a description of *Corysanthes bicalcarata,* and an indignant squawk condemning Salisbury's ethics and refusing to recognise the published priority of the name *Corybas.*[3] A good deal of argument ensues, but eventually botanical rules apply, and Salisbury's prior name *Corybas* is recognised. In

1867 Thomas Frederic Cheeseman sends a specimen found at Purewa to J.D. Hooker at Kew. In

1870 Thomas Kirk describes *Corysanthes cheesemanii* from a specimen found at Te Whau (1865) and one Cheeseman found at Orakei.[4] In

1881 J.D. Hooker describes Cheeseman's specimen from Purewa as *Corysanthes cheesemanii.* W.H. Fitch illustrates the paper. Hooker hesitates to identify *C. cheesemanii* with *C. bicalcarata*; he too expresses his regrets that the generic name *Corybas* is to be recognised. Fitch's drawing is inaccurate, no doubt because of "the extreme difficulty of macerating the flower for the purposes of dissection". It shows a "curious ligulate, often twisted, process which proceeds in some specimens from the very base of the lip, at its medial line, and which I find to be sometimes replaced by two subulate processes".[5] (Perhaps it represents the petals, perhaps a shred of labellum). Meantime the *Corybas*/ *Corysanthes* argument is settled in favour of *Corybas*, and Brown's plant is officially known by Salisbury's name *Corybas.* Later, in

1945, Dan Hatch follows Rupp and includes *C. cheesemanii* in *C. aconitiflorus,*[6] and in

1970 Lucy Moore does likewise.[7] In

1987 K.F. Ross relates finding a saprophytic form near Lower Hutt,[8] and Dan Hatch comments.[9] In

1989 M. Clements reports a personal communication from D. Jones: "(*Corybas cheesemanii*) is now considered a New Zealand endemic distinct from *Corybas aconitiflorus*".[10]

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Corybas carsei and the World Wide Fund for Nature (New Zealand) - the spider swamp orchid is making progress

by Tanya St George, Wellington

Only forty-five plants remain, so the spider swamp orchid (*Corybas carsei*) has the unfortunate distinction of being one of New Zealand's most endangered plants. But the indications are that this curious little orchid could still make a quiet recovery.

World Wide Fund for Nature New Zealand is funding investigations by Dr Bruce Clarkson (DSIR) into the ecology of *C. carsei* based on the last remaining population in the Whangamarino wetlands (Huntly, North Island). Dr Clarkson's research will help determine a conservation strategy for the orchid.

C. carsei is a very small (up to 3cm) ground "helmet orchid" which grows in certain types of peat bogs. It has a heart-shaped leaf, up to 2.5cm long, but 1.9cm broad, and usually has one purplish flower less than 1cm long. *C. carsei* is deciduous and has an annual cycle.

Since its discovery in 1925 the orchid has been recorded in four locations between Lake Tongonge, near Kaitaia, and Moanatuatua Bog south of Hamilton. But drainage of wetland areas and other changes to habitat have since destroyed these populations, leaving only those in the Whangamarino wetlands.

In the last growing season, only one plant flowered, but did not seed. This is not as bleak as it sounds, says Dr Clarkson, as vegetative reproduction added seven new re-sprouts growing near plants.

Dr Clarkson is investigating the effects of manipulating habitat to encourage orchid growth selectively. This involves reducing competition from tangle fern and wire rush, and may be the key to recovery planning.

Although the study is still only in its preliminary stages, early results look good. Despite a very low incidence of sexual reproduction (less than one fifth of the total population at control and cleared sites produced a bud or flower), twice as many buds/flowers occurred at the cleared site, indicating that open sites are more conducive to sexual reproduction than thickly vegetated sites.

Dr Clarkson is quietly confident of a marked increase in flowering, and, he hopes, set seed this coming season. Further fieldwork, about to get under way this spring, could confirm this.

World Wide Fund for Nature (WWF) New Zealand is a nongovernment organisation working to ensure the survival of threatened New Zealand plants and animals and their habitats. It works with the support of members,, earned income and business, and is affiliated with similar organisations in many other countries.
For membership details, write to WWF New Zealand, PO Box 6237, Wellington, or return the membership form included with this issue.

A list of the New Zealand orchids

A list of names, including changes made since the publication of *Flora of New Zealand Vol II* in 1970.

Acianthus sinclairii (was *Acianthus fornicatus* var. *sinclairii)*
Acianthus viridis (has been known as *Townsonia viridis, T. deflexa)*
Adenochilus gracilis
Aporostylis bifolia
Bulbophyllum pygmaeum
Bulbophyllum tuberculatum
Caladenia alata (in *Flora II* included in *C.carnea* as *C.exigua*. See Hatch E.D. and McCrae D. *NZNOG Newsletter* 1987. 24: p9)
Caladenia catenata (in *Flora II* included in *C.carnea*. See Johns J. and Molloy B. *Native orchids of New Zealand* 1983. p18)
*Caladenia iridescens (*in *Flora II* as *C.carnea* var.*minor* forma *calliniger*. See Hatch E.D. *NZNOG Newsletter* 1985. 16: p1)
Caladenia carnea (in *Flora II* as *C. carnea* var. *bartlettii*)
Caladenia "green column" (undescribed)
Caladenia lyallii
Caleana minor (no longer known as *Paracaleana*)
Calochilus herbaceus (in *Flora II* as *C. campestris*. See McCrae D. *NZNOG Newsletter* 1987. 24: p9)
Calochilus paludosus
Calochilus robertsonii
Chiloglottis cornuta
Chiloglottis formicifera (regarded as extinct in New Zealand)
Chiloglottis valida (was *C. gunnii* - not listed in *Flora II*. See Molloy B.P.J. and Johns J. *Orchadian* 1983. 7: p210-4, and Johns and Molloy *ibid.*)
Corybas acuminatus (in *Flora II* as *C. rivularis*. See Clements M. and Hatch E.D. *NZ Journal of Botany* 1985. 23 (3): p491)
Corybas carsei (in *Flora II* included in *C. unguiculatus*. See Irwin J.B. *NZNOG Newsletter* 1987. 23: p8)
Corybas cheesemanii (in *Flora II* included in *C. aconitiflorus*. See Clarkson B.D. *Vegetation of Egmont National Park* 1986. p87)
Corybas cryptanthus
Corybas macranthus
Corybas oblongus
Corybas rivularis (in *Flora II* as *C. orbiculatus*. See Clements and Hatch *ibid.*)
Corybas rotundifolius (was included in *C. unguiculatus* - see Hatch E.D. *NZNOG Journal* 1991. 38: p4-5).
Corybas trilobus
Corybas "A" (undescribed, but see Irwin J.B. *NZNOG Newsletter* 1989. 32: p1-4)
Corybas "short tepals" (undescribed, but see Irwin J.B. *NZNOG Newsletter* 1989. 32: p1-4)
Cryptostylis subulata (not listed in *Flora II*. See Graham D.K.F. *NZ Journal of Botany* 1976. 14: p275)

Cyrtostylis oblonga (in *Flora II* as *Acianthus reniformis* var. *oblonga*. See Jones D. and Clements M. *Lindleyana* 1987. 2 (3): p156)
Cyrtostylis reniformis (in *Flora II* as *Acianthus reniformis* var. *reniformis*. See Jones and Clements *ibid.*)
Dendrobium cunninghamii
Drymoanthus adversus
Drymoanthus "spotted leaf" (undescribed, but see St George I.M. *NZNOG Journal* 1989. 29: p8-9)
Earina aestivalis (illustrated in *The New Zealand orchids: natural history and cultivation* 1990. t4. f13)
Earina autumnalis
Earina mucronata
Gastrodia cunninghamii
Gastrodia minor
Gastrodia sesamoides
Gastrodia "long column" (in *Flora II* included in *G. sesamoides*. See Wilson H. *Field Guide - Stewart Island plants* 1982. p294)
Genioplesium nudum (was *Prasophyllum nudum* - see Hatch E.D. *NZNOG Newsletter* 1991. 37: p18).
Genioplesium pumilum (was *Prasophyllum pumilum* - see Hatch E.D. *NZNOG Newsletter* 1991. 37: p18)
Lyperanthus antarcticus
Microtis oligantha
Microtis parviflora
Microtis unifolia
Orthoceras novae-zeelandiae (was regarded as identical with *O. strictum*, but see Clements M.A. *Australian orchid research* 1989. 1: 100)
Prasophyllum colensoi
Prasophyllum "aff. patens" (was regarded as identical with the Australian *P. patens*, but now thought to be an undescribed New Zealand species)
Pterostylis alobula
Pterostylis areolata
Pterostylis australis
Pterostylis banksii
Pterostylis brumalis
Pterostylis cardiostigma (not listed in *Flora II*. See Cooper D. *NZ Journal of Botany* 1983. 21 (1): p97)
Pterostylis "aff. cycnocephala" (was regarded as identical with the Australian *P. cycnocephala*, but now thought to be an undescribed New Zealand species)
Pterostylis foliata
Pterostylis furcata (was included in *P. micromega*, but now recognised as identical with the Australian species described by Lindley in 1830)
Pterostylis graminea
Pterostylis "aff. graminea" (undescribed)
Pterostylis humilis
Pterostylis irsoniana
Pterostylis linearis (separated from *P. micromega* ~~linearis~~ by Hatch in 1949, and may be ~~now~~ reinstated)
Pterostylis montana
Pterostylis "aff. montana" (undescribed, but see St George I.M. *NZNOG Newsletter* 1988. 25: 12-14)
Pterostylis nutans (extinct in New Zealand?)
Pterostylis oliveri
Pterostylis patens (was included in *P. banksii*, now regarded as distinct)
Pterostylis plumosa (in *Flora II* as *P. barbata*. See Johns and Molloy *ibid.* p45)

Cyrtostylis oblonga (in *Flora II* as *Acianthus reniformis* var. *oblonga*. See Jones D. and Clements M. *Lindleyana* 1987. 2 (3): p156)
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Pterostylis plumosa (in *Flora II* as *P. barbata*. See Johns and Molloy *ibid.* p45)

Pterostylis puberula (was included in *P. nana*, but now recognised as distinct)
Pterostylis tristis (in *Flora II* as *P. mutica*. See Molloy B. *Proc. 2nd Int. Orch. Conf.* 1985. p2)
Pterostylis "rubricaulis" (was *P. graminea* var. *rubricaulis*, then *P. rubricaulis*, now to be renamed?)
Pterostylis trullifolia
Pterostylis venosa
Spiranthes sinensis
Spiranthes "motutangi" (undescribed)
Thelymitra carnea
Thelymitra cyanea (was *T. venosa*)
Thelymitra decora
Thelymitra formosa
Thelymitra hatchii
Thelymitra ixioides
Thelymitra longifolia
Thelymitra malvina (not listed in *Flora II*. See Clements M.A. *Australian orchid research* 1991. 1: 141)
Thelymitra matthewsii
Thelymitra pauciflora
Thelymitra pulchella
Thelymitra tholiformis (was included in *T. ixioides: see Molloy B.P.J. and Hatch E.D. NZNOG Journal* 1990. 35: p20-24)
"Thelymitra dentata" (probably a hybrid between *T. pauciflora* and *T. pulchella*)
Thelymitra "aff.ixioides" (undescribed)
Thelymitra "aff.longifolia" (undescribed)
Thelymitra "Ahipara" (undescribed)
Thelymitra "darkie" (undescribed)
Thelymitra "rough leaf" (undescribed)
Thelymitra "sanscilia" (see *Flora II* p 130 - may be reinstated)
"Thelymitra intermedia" (now regarded as identical with *Thelymitra pauciflora*)
Yoania australis

Notes

¶ Karlie Birchall wrote on 7 January of the East Cape (Ecological Region 20):

"The area I am most familiar with is the Hauparapara River valley in Omaio Bay. A typical East Coast river, wide and shingly but with lovely native bush bordering its edges and the home of several species of orchid. *Pterostylis banksii* was the first species I found. Mostly on the floodline, so somewhere upriver there must be the original bed.... Just up from the bridge is a large colony of *Corybas rivularis* - I think this is what they are but the flower is a bit different from the photo in the Johns & Molloy book. Most of the large trees - puriri etc - have large clumps of *Dendrobium*, *Earina* (*mucronata* and *autumnalis*) and *Drymoanthus*. I have also seen colonies of *Bulbophyllum pygmaeum*, though these were on trees that had fallen over in the bush....

"*Thelymitra longifolia* also grows on the banks of the river in amongst ti-tree scrub, plus onion orchids (*Microtis unifolia*). Also on the road bank near

the river is a large colony of *Thelymitra*.... they never seem to open, but it appears to be a deep purply-blue.

"I have also seen clumps of *Dendrobium* and *Earina* in the pohutukawas at the Motu River entrance, plus the same on the hair-raising road into the old Kereu River Station...."

¶ Phil Chandler wrote on 26 July with a fruiting specimen of *Corybas cheesemanii* found near Naenae "on a clay bank on the uphill side of the track". *The last flowering specimen I found above the Catchpole carpark in the Rimutaka Forest Park was on 30 July; the rest were fruiting - Ed.*

¶ Nancy Adye writes, "This Easter... we found a patch of *Bulbophyllum pygmaeum* on 17 April. It was about thigh height and on a young kauri, a new host to us. I remember the patch as over a foot across but with a bare patch at one point within that area. We were particularly attracted by it as there were well over a dozen off-white, membranous hooded flowers which reminded me of the outline and size of the hood of some smaller *Corybas trilobus* flowers. The other unusual thing was that the lower leaves of the *B. pygmaeum* patch, the bark below and some foliage and litter nearby was thickly sprinkled with dirty white mealy powder which we took to be pollen - or could it have been seeds? The powder was only on and below the *B. pygmaeum* patch and not visible anywhere else on the track...."

¶ L.P. Chrystall (of Foxton) writes, "On July 18th five walked the mile to the Hokio sand dune forest (Horowhenua) which has a cover of large kanuka with some maire, miro, kahikatea, mahoe and rewarewa, and is about a mile from the sea. Sand is encroaching, but in tyhe unfenced area we found numerous colonies of *C. trilobus*, a few with seed heads, but many with buds at ground level. In a fenced area we found colonies of *Pterostylis alobula*, with lovely delicate flowers, in dense shade."

¶ Maureen Young writes, "During an Auckland Botanical Society field trip in July, I had a 'discussion' with my botanical betters on whether the *Pterostylis* orchid we were seeing was *P.* "rubricaulis" or *P. graminea*. My claim that it was *P.* "rubricaulis" was based on the physical features (as listed by Lucy Moore in NZNOG *Newsletter* No.21), and also on the flowering time - too early for *P. graminea* I stated.

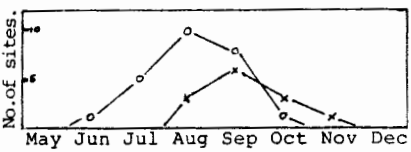
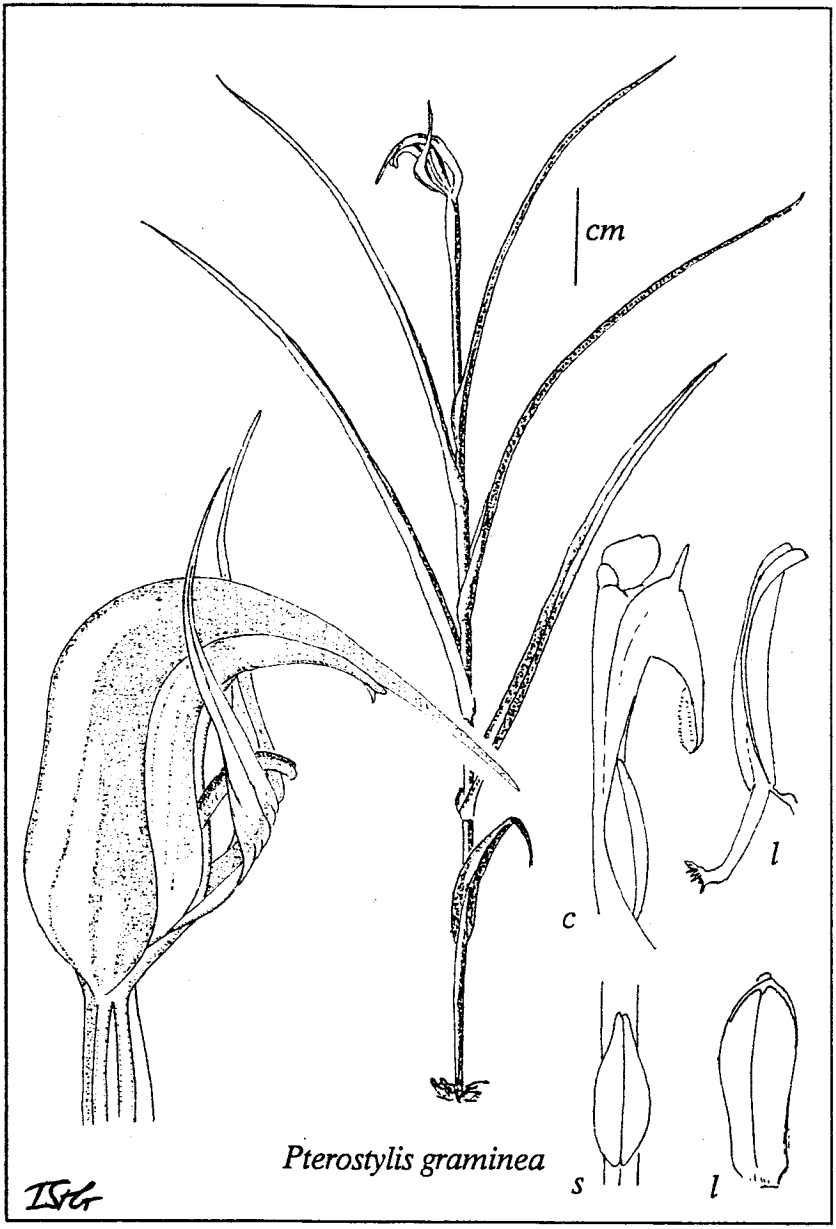


Fig.1 Monthly patterns of flowering in P.graminea var.rubricaulis (o) and P.graminea var.graminea(x) in Rodney District during 1985-90.

"When I got home I decided that I had better check that I was right about the flowering times. *Flora of NZ Vol.II* gives the months 7-10 for *P.* "rubricaulis", and 9-1 for *P. graminea*. My own records, kept 1985-1990, and mostly from Rodney district, show the pattern illustrated in the figure.

"The flowering times overlap significantly, but *P.* "rubricaulis" definitely appears first.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Pterostylis graminea
ISG

H.B. Matthews noted that it is the common type up north, and E.D. Hatch stated that it appears to be 'hooked' on kauri. As most patches of bush in the north have some kauri trees growing in them, *P.* "rubricaulis" is very common here. *P. graminea* is not seen so often, and tends to be found mostly in tea-tree scrub."

References

Hatch E.D. Two Pterostylids that appear to be 'hooked' on kauri. *Auckland Botanical Society Newsletter* 1983. 38 (1): 10-11.

Moore L.B., Edgar E. *Flora of New Zealand Volume II.* 1970. 145-146.

Australian notes

¶ P. Lavarack writes (Native Orchid Society of Queensland's *Native orchid bulletin*, 1992; 23 (10): 100) on the conservation of orchids (and we need to be reminded repeatedly),

"Orchids are one group of organisms which suffer more than most from the ravages of people. They are for the most part small, easily detached, and portable, fairly easily cultivated and often produce most attractive flowers. These attributes make the plants sought after by those who want to grow them and by those who want to exploit them commercially. In some national parks it is now difficult to find certain orchids along the walking tracks while they may be quite common a little further away in the forest. This is an example of the collecting and 'smuggling' done by individuals rather than those interested in profit and may reach quite serious proportions in the more developed parks. However a more serious problem in conservation is probably posed by some commercial collectors in less well developed parks and on other property - some privately owned, but the bulk of it Crown land.

"The sale and propagation of native species is to be encouraged but not at the expense of naturally occurring populations. Any commercial grower is now capable of growing and propagating native species either vegetatively or by seed. To take such orchids from the bush in bulk is not only illegal but also indicates laziness or poor growing conditions...."

¶ On the subject of conservation, Christopher French has this to say (in the West Australian Native Orchid Society and Conservation Group's Bulletin of May 1992) - *I have modified details of the text to make it fit N.Z. - Ed:*

"Now is the time to start thinking about arranging orchid rescue digs on those blocks of land in your area that are about to be developed.

"Thousands of plants are being destroyed each year by ongoing development and we can do a little bit by saving some of them... or even transplanting them in areas known to be secure.

"If you see a 'FOR SALE' sign go up in your area, then take the following steps -

"- Take note of the telephone number on the sign.

"- Call the developer and ask to speak to the manager, or to the person whose name appears on the sign.

"- Explain that you are from the orchid group, (and) that you wish to conserve our native orchids....

"- Ask if there is any possibility of receiving written permission from the owner of the land to be developed.

"If you have gotten this far, then there is a good chance that permission will be forthcoming. If the response is positive then send a letter to the developer along the following lines -

Dear Mr/Mrs

As discussed on the telephone on ..... (date) the New Zealand Native Orchid Group (NZNOG) is seeking permission to rescue native orchids from the currently vacant land at ..... (address). To our knowledge this land does not contain any declared rare or endangered orchids, but there are ..... (number) of species of orchid growing on the land.

If granted permission the members of NZNOG will conduct rescue digging to remove some of the orchid plants, preventing their destruction. There will be no financial gain to any group member as a result of this.

... I have attached a suggested 'written letter of permission' which I would be extremely grateful if you would ask the landowner to sign and return to me.

signed.....

"ATTACH LETTER AS FOLLOWS:

NZNOG
c/o (your address)

Attention Mr/Mrs (your name)
.....

Dear Mr/Mrs (your name).....

I hereby give authority to the New Zealand Native Orchid Group to dig and remove whole orchids from the vacant land at ..... (insert address details of land).

Yours sincerely,

.....

Please note: if there is a more accurate description of the location of the land, could you please insert it above, or if possible add a marked-up plan.)

"When you get the signed letter back from the developer, make several copies and distribute them amongst members of the Group".

¶ Owen Andrews writes (ANOS Victorian Group *Bulletin* 1992 [July]: p11) on "What to do with your terrestrials in July",

"... You should have in:

"**January** - potted tuberoids... and watered early autumn-flowering plants.

"**February** - started watering all but *Caladenia*.

"**March** - started watering *Caladenia*.

"**April** - continued watering. Collected leaf/litter mould for next year's potting mix.

"**May** - sown seed around emerging plants and kept alert for pests.

"**June** - eased up on watering and watched out for pests and rotting.

"**July** - in the coldest month of the year watering should be reduced to once every two or three weeks. Watch out for plants rotting from too much water and the odd pot which will dry out. Water early in the day so plants can dry off before night. Look carefully for diseases and remove infected plants or pots to avoid infecting your whole collection.... If you have sown seed around parent plants (in April/ May) then keep the top of the pot moist with frequent light sprays and try to avoid making the main mass of the pot soggy. Maintain constant vigilance against the nasties - snails, aphids, caterpillars and scale.... frequent night forays with a torch will do wonders in catching the chompers.

"Tasks in the following months will be -

"**August** - delights of flowering plants...

"**September** - seedlings should be apparent. Adjust watering to temperature. Multiplication by tuberoid removal.

"**October** - careful watering, seed setting and collection.

"**November** - reduce and cease watering....

"**December** - repot colony-forming terrestrials."

(Advice for NZ should not differ too much - but see Doug McCrae's chapters in the NZNOG book advertised at bargain rates in this issue - Ed)

¶ How to seal cut edges of shadecloth? Flame it with a blowtorch. "With the flame vertical to the plane of the material and with the side of the flame just touching the edge, the material can be quickly sealed by moving the torch along the cut edge".

¶ Helen Richards reports in the ANOS Victorian Group *Bulletin* of August 1992, "The main population of *Caladenia rosella*, the rare and endangered Victorian *Caladenia* which the Royal Botanic Gardens, Melbourne, is endeavouring to grow from seed, has been severely decimated by White Winged Choughs which dig up tuberous plants and eat the tuber for food.... 35 plants have been dug up, with only about 20 plants confirmed as remaining."

Conservation policy

Australasian Native Orchid Society

What follows is adapted from the conservation policy of the Australasian Native Orchid Society at its 1988 AGM. The address of the Conservation subcommittee is 23 Yeramba Cres, Terrigal, NSW 2260, Australia.

1. The establishment of a tuber bank. This would reduce the pressure on wild populations of orchids, and might eventually provide stock for repopulation.

2. The election of a conservation officer to monitor conservation activities and to act as contact for the Australasian Native Orchid Society.

3. Groups need to monitor the conservation behaviour of their members, and to monitor the plants brought to meetings and displays.

4. Members should be involved in "rescue digs", relocation of plants to "safe" areas, and such hands-on activities.

5. Groups should become more self-reliant in local matters of conservation.

6. Discretion should be used about divulging the sites of rare and endangered species.

7. People with access to rare and endangered species should try to make seed available to those with the expertise to use it.

8. People with expertise should make their expertise available to others.

9. Species breeding programmes should mass-produce seedlings for members and others.

10. Groups should let other Australasian Native Orchid Society affiliated groups know what they are doing in conservation.

11. Groups should encourage and foster people interested in researching improved methods of growing and multiplying native orchids.

12. Groups should compile lists of the species most critically endangered by exploitation and changes in the use of land. Local bodies should be informed of the seriousness of the situation.

13. More native orchids should be placed on the protected flora lists.

14. Accurate slide programmes should be available for use by Australasian Native Orchid Society affiliated groups.

15. Group members should be constantly educated about native species.

Furthermore the Australasian Native Orchid Society has formed a Conservation Committee, which made (among others) the following recommendations to the Society Council in January 1992:

1. That commercial orchid breeders be encouraged to approach large-chain retailers, with a request that they stock nursery-bred native orchids (complete with cultural notes) instead of unsatisfactorily mounted, bush collected plants which are regularly sold through these outlets.

2. That the exhibition of bush collected plants growing on their wild hosts should be discouraged at shows and meetings.

3. That the sale of bush collected plants should be discontinued at all Australasian Native Orchid Society affiliated group functions.

4. That groups be prepared to make submissions to development authorities when orchids are threatened.

5. That groups embark on public education programmes.

Mapping scheme

The New Zealand Native Orchid Group's Mapping Scheme is supported by the Lottery Science Research division of the Lottery Grants Board.

A genius at the Wellington School of Medicine's audiovisual department is writing a computer programme that will convert the written records to individual species maps with shading in the Regions where each species has been reported.

But listen: it's getting very late, and I need the reports of orchids you have seen since 1972.

This year is the last for the Mapping Scheme, and there are still a few places that are under-reported. I *know* you have been there, and I know you saw orchids there.

So: jot down on a bit of paper all the orchids you saw, write the number of the Ecological Region at the top and your name at the bottom, and send it to the Editor.

If you do that you will be rewarded by seeing your name in print when the distribution maps are published. But better still, you will feel virtuous, and that is its own reward.

If you don't do it, the Mind Police will find you, and will subtly alter your brain so that henceforward you will always be a follower and not a leader.

Historical reprint

Banks and Solander had collected, and Sydney Parkinson had drawn, what we know as *Drymoanthus adversus* on Cook's first voyage, but it was Hooker who described *Sarcochilus adversus* first.

The Australian orchidologist Allan Dockrill thought that our plant was more like the Australian *Drymoanthus minutus* than any *Sarcochilus*, so renamed the species *Drymoanthus adversus*.

Dockrill wrote his monograph *Australasian Sarcanthinae: a Review of the Subtribe Sarcanthinae* (Orchidaceae) *in Australia and New Zealand*, and A.N.O.S. published it in 1967. Excerpts follow.

SARCOCHILUS *R.Br.*

Members of the genus *Sarcochilus* R.Br. Prodr. 332 (1810) are epiphytes or lithophytes with short or rather elongated stems, the bases of which are covered by scarious leaf bases. Roots smooth, rather thick and fleshy. Leaves not numerous, close together, ± flat or rather thick & channelled, ovate, obovate, or linear and in most species ± falcate. Inflorescences racemose. Flowers few or many, rather small or of moderate size and showy, fragrant, lasting several days. Sepals and petals free and ± equal, lateral sepals joined, at least in part, to the column foot. Labellum articulate at the apex of the column foot, shallowly saccate, trilobate, spurred in front; lateral lobes large, ± erect; mid-lobe attached to the top of the spur near its orifice, very small, usually fleshy with the thickening continuing down the wall of the spur; spur rather short and sometimes not well developed, never cylindrical, fleshy or hollow to varying degrees; disc with a large, ± erect, fleshy, longitudinally grooved callus (to the extent of making the callus double headed in some species) and there are also two swellings or calli on the walls of the sac, one at the base of either lateral lobe, opposite the large discal one. Column short with a well-developed foot. Rostellum rather small. Anther 2-celled, rostrate. Pollinia 4 in two closely appressed pairs, members of a pair unequal; stipe not greatly elongate nor very broad; retinaculum of moderate size, usually attached to the ventral surface of the rostellum.

A genus which is almost exclusively Australian. Most of the species extending from New Guinea to India which have been recognised as *Sarcochilus* have, on serious study, proved to belong to other genera (refer Holttum, Kew Bull. 14, no. 2:263 (1963) for a treatment of those occurring in Malaysia). Seventeen species have been recognised as occurring in Australia and one in New Zealand but seven of these have been erroneously included and these, together with some controversial species will be discussed....

Sarcochilus adversus *Hook. f.*

It is difficult to understand why this species was placed in the genus *Sarcochilus*. The column-foot is not at all developed and the labellum is not articulate on the apex of a column-foot but is immovably joined to the base of the column, lateral lobes of the labellum are wanting rather than being well developed, long and slender and there is no frontal spur or large double-headed discal callus. However, the labellum is saccate and there are two very well developed, dark green thickenings or calli, one on each wall of the sac near the apex, almost touching each other. The presence of four pollinia, absence of pronounced column foot, lateral lobes of the labellum and spur, and labellum which is immovably joined to the column, saccate and lacking discal calli, places this species very close to *Drymoanthus minutus* W. H. Nich.. Compare Pls. 3 & 4. The large thickenings on the apical walls of the sac certainly leave cause for doubts about the advisability of including the present species in Nicholls' genus, but these thickenings are not discal calli and if they were joined (and as it is

they are almost touching each other) and the resulting apical portion a fleshy mass, it would be similar to the apical portion of the labellum of *D. minutus*. It should be borne in mind that several other genera of *Sarcanthinae* e.g. *Pteroceras* and *Saccolabium* and *Sarcochilus*, have some species with hollow spurs or mid-lobes, and others with fleshy ones. Therefore a new combination *Drymoanthus adversus* (Hook. f.) Dockr. has been given on page 32....

DRYMOANTHUS *W. H. Nick.*

Members of the genus *Drymoanthus* W. H. Nich., Vict. Nat. 59: 173 (1943) are small epiphytes with short stems and ± flat leaves. Inflorescences short and racemose. Sepals and petals free and ± equal. Labellum immovably attached to the base of the column, concave, fleshy, neither trilobate nor spurred; there are no appendages on the disc but the apex of the labellum may be fleshy or have two fleshy thickenings, one on either wall, which almost touch each other. Column short with tooth-like wings; foot absent. Pollinia 4 in two pairs sessile on a slender stipe of medium length; retinaculum of medium size.

A genus of 2 known species, one occurring in the eastern tropics of Australia and the other in New Zealand.

KEY TO THE SPECIES OF DRYMOANTHUS

Apex of labellum fleshy ..... *D. minutus* — 1.

Apex of labellum not fleshy but having a large thickening on either wall ..... *D. adversus* — 2.

1. D. minutus *W. H. Nich.*, Vict. Nat. 59:173 (1943).

Distribution: Eastern tropical Queensland; the Seaview and Bellenden Ker Ranges.

Flowering Period: Mainly 12-2.

Illustration: Pl. 4.

2. D. adversus (*Hook. f.*) *Dockr.* **comb. nov.**

Basionym: *Sarcochilus adversus* Hook. f., Flor. Nov. Zel. 1:241 (1853); Hatch, Trans. Roy. Soc. N.Z. 78, Pt. 1:104 (Feb. 1950).

Equivalent Synonym: *Sarcochilus breviscapa* Col., Trans. N.Z. Inst. 14:332 (1882).

Distribution: New Zealand, also Stewart and Chatham Islands.

Flowering Period: 10-11.

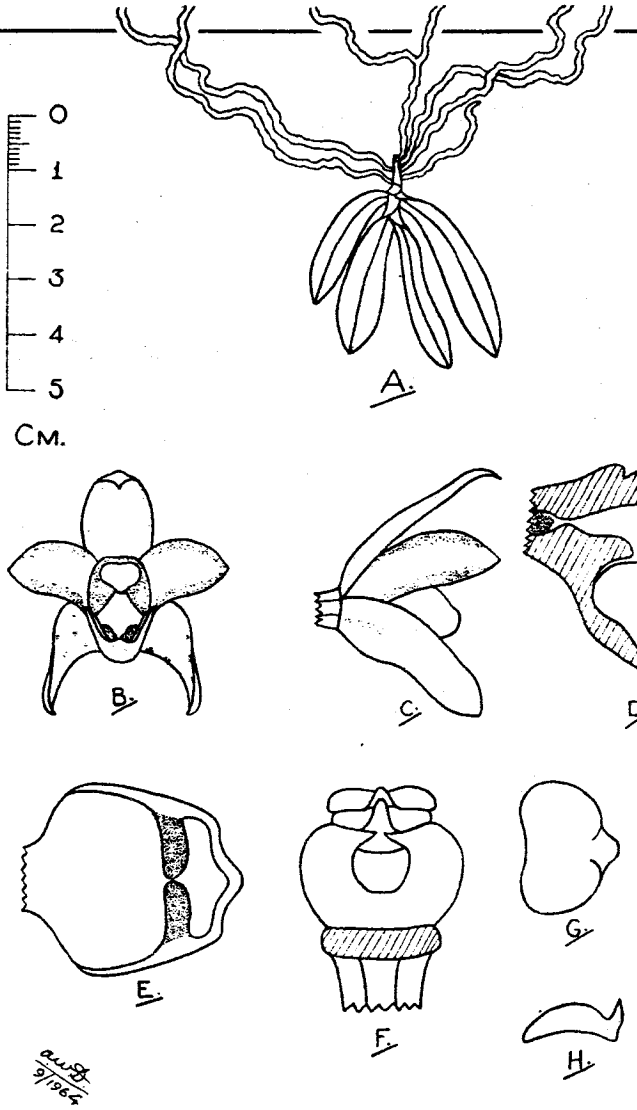

Plate 3 **DRYMOANTHUS ADVERSUS** *(Hook. f.) Dockr.*

A. Plant ..... to indicated scale
B. Flower from the front ..... to scale x 10
C. Flower from the side ..... to scale x 10
D. Median logitudinal section of column and labellum ..... to scale x 20
E. Labellum from above ..... to scale x 20
F. Column from the front ..... to scale x 20
G. Anther from above ..... to scale x 20
H. Anther from the side ..... to scale x 20
I. Pollinarium from the front ..... to scale x 20
J. Pollinarium from the side ..... to scale x 20
K. Inflorescence ..... to indicated scale

Native orchid weekend, 1992

Date: 12-13 December
Venue: Iwitahi Outdoor Education Trust camp, S.H. 5 (Taupo-Napier highway)

A live in camp is being organised for the above weekend by the Rotorua Botanical Society, led by Bruce Irwin.
Daytime activities will be arranged for both days, beginning at 10 a.m. on Saturday, with a session on Saturday evening. This Bruce feels will be the most important part of the weekend; he asks that as many people as possible bring items to present during the evening: photos, slides, drawings, research work, plants, anything - however insignificant you may feel it to be - that may be of interest.

Taupo Orchid Society is assisting largely by organising the accomodation. The camp has been booked for Saturday night. Cabins sleep three to five in single beds. You will need to bring your own bedding, e.g. sleeping bags or blankets and sheets, pillows if you prefer your own (pillow slips if you want to use the camp pillows), towels and toiletries.

Tea, coffee, milk and sugar will be available all weekend. You will have to bring your own food for breakfasts and lunches. A stove and toasters are available.

A barbecue meal will be provided on Saturday evening. You are welcome to bring something for the happy hour before the barbecue.

Remember *Iwitahi is over 600 metres (2300 feet) above sea level and can be very cold (frosts have been recorded at this time of year) so bring plenty of warm clothing and bedding.*

Costs will be: accomodation adults $12, children $7. Barbecue $10 including one free drink. An honesty box system will operate for further drinks.

Please notify Ken Scott, 80 Taharepa Road, Taupo, no later than 1 December, of your intention to attend. For further information, phone Ken in the evenings on 07-3787496. (Accomodation could be arranged for Friday night but prior arrangements would have to be made with Ken Scott).