

Pterostylis banksii
var. patens
 'The small green orchid'

watercolour
 Nancy M. Adams
 Egmont National Park
 Handbook 1970

N.M.A.D.M.S.

THE SMALL GREEN ORCHID*

(THE LUCY CRANWELL LECTURE 1987)

given by Edwin D. Hatch on 3 October 1987 at University of Auckland

To tell this tale I shall have to go back nearly half a century — 46 years — to the beginning of 1941. After a series of misadventures I was regraded medically, tossed out of the Second NZEF, transferred to the quartermaster's section, and sent up to Waiouru for the duration.

We were housed in sheds that slept 40! This was not up my alley and I soon looked round for something more peaceful. There was an ammunition store included in my responsibilities, which had a sort of office built into one corner. I dragged my cot into this room, ratted some packing cases from the store, and made myself a table and a stool, and a rack of shelves. I got hold of some empty bran sacks, dyed them green, made curtains for the windows and the shelves, and mats for the floor. I sent home for my typewriter, my camera and my books, and there I stayed, surrounded by live ammunition and a barbed wire entanglement, for 4½ years! I also made a plant press on the old Kew model, which intrigued those who drifted in for a chat.

When not on duty, I studied accountancy and pored over the plant life of the plateau with the aid of Cheeseman 1925 and Allan's 1940 Naturalised Flora.

About this time I joined both the Auckland and the Wellington Botanical Societies as a country member. Marguerite Crookes was working on her famous revision of Dobbie's Ferns and I was pleased to be able to help her with local, particularly alpine material, and genera like Ophioglossum and Botrychium which were rare in the north.

I mated up with J.E. Attwood of Ohakune, and sometimes spent the weekend with him, botanising round the western base of Ruapehu. Jack was a veritable Encyclopedia Botanica Ruapehu, and could give a name to almost every plant we stumbled over. I learnt a lot from him.

I had an army issue push bike attached to the store, and I rode this, in every direction, North, South, East and West, by road and across country, as far as it would go. Ohakune and Taihape were routine trips, and I once got as far as Turangi along the old Desert road. We also had at the store a 4 wheel drive, four square GMC and would from time to time, take it over the Whangaehu ford and up into the Rangipo desert, ostensibly deer stalking, which the army approved -- good rifle practice! It was as good as a tank and go almost anywhere. We paid the stores 3d (2½¢!) a mile for the use of it. Hertz would love this!

I wandered all over the central mountains and also explored the Kaimanawa ranges, and the headwaters of the Moawhango and Rangitikei rivers.

On Christmas Day 1941 I found an orchid in the Waiouru hills I had never seen before, and which didn't appear to be in the Manual. It turned out later to be Pterostylis patens, one of Colenso's early ones, which Cheeseman had dropped. This made me look more closely at the alpine orchids generally, and by the time the next summer was over I had specimens of several apparently undescribed forms. They included Pterostylis patens, montana, micromega and humilis, and Prasophyllum

* Pterostylis banksii var. patens (Col.) Hatch -- the one that set the cycle in motion!

suttonii. I sent these down to Botany Division, which was then on the Terrace in Wellington. After some weeks, they were returned to me, still unidentified, with a note from H.H. Allan saying that Botany Division were not currently working on the orchids, but that they badly needed revision, and suggesting that I get in touch with H.M.R. Rupp in Sydney, who had at one time worked with H.B. Matthews on the trans-Tasman orchids. No one knew where Rupp was to be found but I had a copy of Nicholls' Gems of the Bush, which Marguerite Crookes had given me some time before. I wrote a note to Rupp and sang Allan's song and enclosed it in a letter to W.H. Nicholls. I then sent the whole to the Melbourne newspaper (the Sun News-Pictorial) which had published Nicholls' book. Incredibly the system worked. The newspaper sent the letter on to Nicholls. He wrote to me full of enthusiasm and continued to help and advise until his death in 1951. He also sent my note on to Rupp, who wrote to me with if possible even greater enthusiasm. Rupp had a revision of the N.Z. orchids half completed but Matthews had unfortunately gone blind and the project had lapsed. He had corresponded for while with Lucy Cranwell who had the Matthews herbarium in the Museum at Auckland, and they had together solved several problems, notably Townsonia viridis. But Lucy's main interests were of course in the fossil pollens, and in any case she would soon marry and go to the States. I agreed to give Rupp what help I could and we started work.

When home on leave I would spend part of my time in the herbarium at AK, studying the orchid collections, and arguing the pros and cons with Lucy Cranwell, and sometimes Marguerite Crookes, who was often there, working on the ferns. Lucy was always most helpful. Both she and Rupp had a strong bias towards the then unpopular theory of Gondwanaland, which seemed (apart from wind dispersal which was obvious) to be the only way to account for the distribution of many of the southern orchids. H.H. Allan in the meantime, kept a fatherly eye on the project, lending me books and offering advice. Allan told me that while he was in general tied to his desk, he had a group of farmers, foresters and bush carpenters (people like Attwood and Frank Bartlett), who lived in God-forsaken places and were out and about 365 days of the year, and who sent him anything that was interesting or unusual. I can't recall that I ever found anything of interest for him.

The orchids were not my only interest. I made a collection of native conifer seeds and seedlings for the University of Adelaide; I collected midge galls for Dr Cottier at the Plant Diseases Division; and I developed an enduring interest in fossil botany.

I had prepared a paper summarising Rupp's conclusions, and submitted it to the Royal Society of N.Z. It was returned rejected, with a note from the referee that -

'while Mr. Rupp's opinions are worthy of consideration, there is no indication that he gave permission for their publication at what appears to be a very early stage in a very complicated study'.

Rupp was not amused, and suggested a joint paper, to be published in Australia. This Linnean Society paper was actually written by Rupp, and the name Aporostylis coined by him. I commented to him once that the column of this plant had caused much confusion -- he replied -- 'good idea, let's call it confusing column', hence Aporostylis, from the Greek aporein, to be uncertain. This paper, which formed the basis for so much that followed, was actually the work of a number of people -- Rupp,

Nicholls, H.B. Matthews, Lucy Cranwell, Marguerite Crookes, H.H. Allan, and myself who danced to all their tunes. (Matthews of course was dead).

Rupp and I were in a sense strange bedfellows. He was rising 70, I was 24. When I sent him a copy of my engagement notice from the Herald, he wrote back congratulating me on my son's engagement! I didn't have the nerve to tell him the truth.

I have never got to the bottom of H.B. Matthews. One tale describes him as an accountant, living in Remuera as a neighbour of Cheeseman's and this may well be true. He was the son of R.H. Matthews, and the grandson of the Joseph Matthews who founded Kaitaia. He and his father both collected for Cheeseman who named several orchids for them. Corysanthes and Thelymitra matthewsii for R.H.; and Pterostylis matthewsii (which Rupp later equated to P. nutans) for H.B.

H.B. Matthews corresponded originally with Dr R.S. Rogers of Adelaide. From this early Australian collaboration came Pterostylis humilis and the aberrant genus Petalochilus, which has since been written off to Caladenia carnea. Matthews also began an orchid revision of his own, which never got beyond the MS stage. Miss Crookes gave me a copy of this also, and so enabled me to avoid a lot of potholes I would otherwise have surely tumbled into.

While I was still in Waiouru I had occasion to go to Dunedin. By coincidence I ran into H.H. Allan on the Wellington-Lyttleton ferry. We talked, naturally, a lot of botany and he gave me an introductory note to George Simpson. I found Simpson fascinating and he went to no end of trouble to help me. He took me up to the Hocken Library and arranged for them to photostat a series of papers I needed. He introduced me to Ella Campbell, then lecturing at the Otago University. Ella also was most helpful and we have kept in touch after a fashion ever since. George Simpson's office in Crawford Street was really something. He was of course a builder, but apart from the expected and familiar plans and specifications, there were odd pots of Celmisia 'which just might be different', hanks of tussock suspended from nails in the wall, trays of germinating Carmichaelia seed, dried twigs of Dracophyllum and various specimens drying in newspaper under building blocks in the corner. His home up in Roslyn was much the same. The garden was given over to orderly rows of Carmichaelia plants which he studied on a daily basis. He showed me a group of plants which Lucy Moore had sent down to him from Anawhata, and which he later described as Carmichaelia aligera. It was George Simpson who convinced me that no revision could be carried out unless all the species concerned were grown in cultivation and studied and compared with their counterparts in the wild. I have applied his technique to the orchids with some success, in spite of their mycorrhizal cussedness. I began growing them first in jam tins in the ammunition store in Waiouru!

Simpson also persuaded me to look for Logania depressa, which had not been found since its original discovery in 1847. On my way north I dropped off at Botany Division and Allan showed me one of the actual Colenso specimens which had come from Kew. Simpson wrote out for me in his own hand, the relevant pages of In Memoriam, and I worked out Colenso's route as best I could from this. I ate Gaultheria berries in the desert; I slept among the mosses in the Fagus wood. I fell into the Moawhango river, but I never did find Logania. I even wrote an ode to the blasted weed — I was very young.

100 springtimes it has blossomed forth
100 little summer suns have thrilled its frozen leaves
100 autumns cast its seed upon the unrelenting sand
100 winters covered beneath the snow
no one has seen it

how apt that ancient verse -
'full many a flower is born to blush unseen
and waste its sweetness on the desert air'

Having completed his task the Reverend Rupp retired from the N.Z. scene, although he continued to take an interest in what we were doing until his death at 84 in 1956. His place was taken by W.H. Nicholls, then working on his Orchids of Australia, who encouraged me to write up all the N.Z. orchids, which I did with varying success in a series of papers in the Transactions of the Royal Society of N.Z. from 1945 to 1952. These were illustrated (except for the last on Thelymitra) by my father, who although he had by this time only one eye, still had some skill with his pen.

A digression here. Nicholls' illustration of Cryptostylis subulata is of interest to us because this species was later found in N.Z. The plate was included in an advertising brochure for the 1951 edition of the Orchids of Australia, but was for some unknown reason omitted from the published book. Nor was it included in David Jones' edition of 1969. So that the only copies of this plate which now exist are in the possession of those who, like myself, kept the prospectus.

By this time the snowball principle was beginning to operate, and material was coming to me. Dr Allan had taken to sending me anything in the orchid line that came his way, and through him Alick Dockrill got in touch with me, which led later to another new combination, Drymoanthus adversus.

Allan also sent me a water colour sketch of Pterostylis alobula which had been sent to him for identification by a young New Plymouth horticulturist named Owen Gibson, and thereby hang several tales. Bruce Irwin was at this time working as a cartographer for the Lands and Survey Department in New Plymouth, where he met Owen Gibson's father who was an enthusiastic mountaineer. The 3 of them spent much time wandering about Mount Egmont, the 2 younger men drawing and painting anything that took their fancy. The orchid drawings came my way, and this was my first experience of Bruce Irwin's fantastic skill with a pencil. He subsequently illustrated several papers for me, and I was delighted to be able to name in their honour the Egmont orchid Pterostylis irsoniana.

Labour Day weekend 1949 saw Bruce and Owen trundling their motor bikes around the far north, and on their way home they stopped for lunch in the Dome Valley, south of Wellsford. Naturally they scrabbled in the scrub by the side of the road, and naturally they found a group of Corybas seed heads in the moss hummocks under the manuka. The average person would have said 'Ah! Corybas cheesemanii' and passed on — but not these two. I have already described in some detail, the history of the discovery of Corybas cryptanthus, and there is no point in repeating it, but the short of it is that instead of going on home to New Plymouth they diverted to Laingholm, and arrived mid-evening on our doorstep with specimens and sketches and many tales to tell. They were old friends



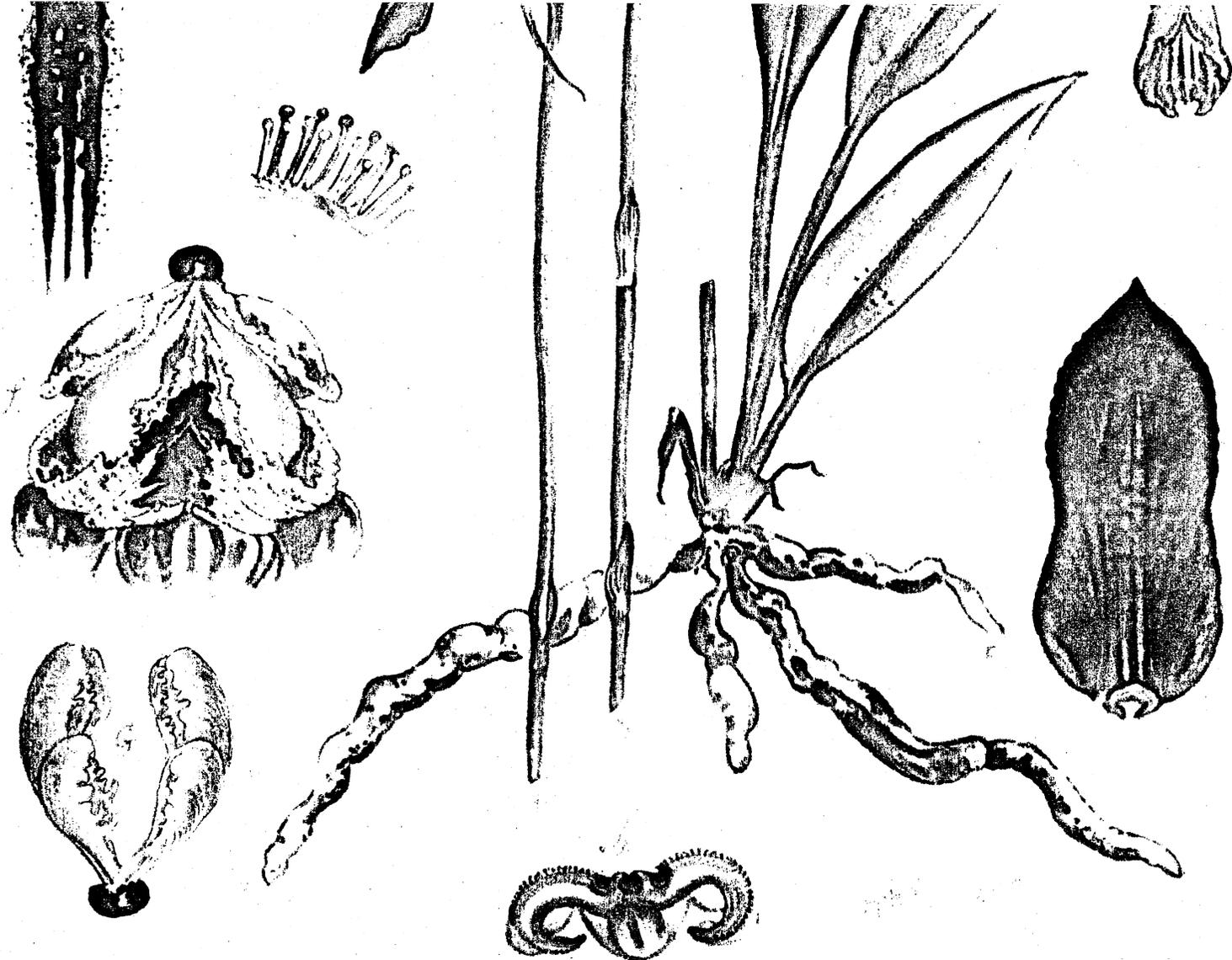
Pt. micromega
 bogs - Tangiwai
 1.1944

Pt. furcata
v. linearis
 Murimotu
 bogs -
 12.1944
 not furcata
 possibly
 warrants
 specific
 rank ?

E. D. HATCH
 MAY 1947

SPECIMEN PLATE





Cryptostylis subulata

never published



Pterostylis irsoniana
Mt Egmont
watercolour
J. Bruce Irwin

and had stayed with us before, so they were sure of a welcome, a feed and a bed. We sat up half the night chewing over their find. The fact that the plant was saprophytic and had no chlorophyll explained the absence of a leaf — it didn't need one. The lack of tubers suggested that the rhizome was perennial. The position of the floral bract suggested that the plant flowered beneath the surface of the moss and litter. What we needed was a flower, and after several abortive attempts, already described in the history I have mentioned, we were successful. The publication of Corybas saprophyticus, as I wrongly called it at first, brought a letter from Dr L.A. Garay, of the University of Toronto, of whom more later. He wanted me to write a paper on the subterranean orchids of Australia and N.Z. for the Brazilian journal Orquidea. This I did, Garay translated it into Portuguese, and it was duly published.

I have also written up the history of the discovery of Yoania australis, which won't bear repeating, but I must again praise the perspicacity of Elizabeth Kulka and Ross Beever, who first found this plant and recognised it as something unusual and undescribed. Ella Campbell studied the fungus association of Yoania australis at the type locality in the Atuanui State Forest and found that the orchid was epiparasitic on the taraire by way of the puffball fungus Lycoperdon perlatum, and it has been assumed (probably correctly) that this symbiosis also occurs in the other taraire forests where the orchid has been found. Ross however, considered that the orchid was attached to the fungus rather than to the taraire, and it was probable that the Yoania might be found in association with trees other than taraire, providing the fungus was present. His opinion was vindicated by the discovery a couple of years ago, of Yoania australis in coastal forest in NW Nelson, where there was no taraire at all. It was of course Dr Garay who finally identified this orchid as a Yoania, although I couldn't altogether agree with him. Nor have we heard the last of this yet.

I had lost Garay, who had disappeared from Toronto, and I used again the tactics I had employed in searching for Rupp. I wrote to Garay, and enclosed the letter in one to Lucy Cranwell, who was certain to know everything worth knowing about things botanical in the States. Sure enough Lucy ran Leslie Garay to earth in the Oakes Ames herbarium at Harvard University, and from then on we had a rough idea where we were.

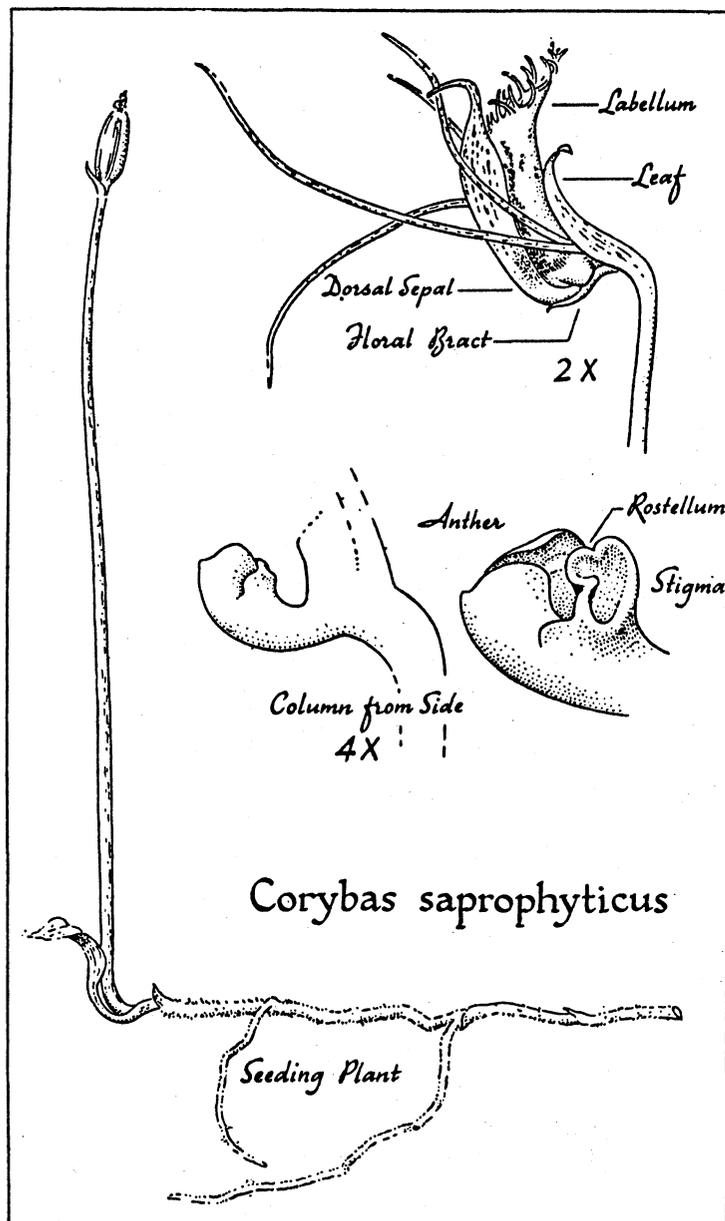
This brings me to the publication of Flora 2 in 1970, and the end as I thought of my orchidaceous potterings. I have had, through lack of time, to omit mention of many people who gave me considerable help. I must however record my gratitude to Betty Molesworth and Dr Cooper, during their time as botanists at AK. Also to Phyllis Hynes; and Frank Bartlett of Silverdale.

The important discoveries made by Mark Clements at Kew, and in various American and European herbaria, have still to be worked up. I have already published a clarification of Corybas rivularis and Caladenia iridescens, and helped Mark to describe the orphan Corybas acuminatus. It seems probable that 2 endemic N.Z. genera will still have to be described, and there remain a long string of lesser ends to tie off.

I found my first orchid, Corybas trilobus, on the school track here in Laingholm, 60 years ago. You could perhaps call me persistent!

REFERENCES

- Beever, R.E. & J. 1974. Yoania australis in the Waitakeres. Auck. Bot. Soc. Newsletter, March p.1.
- Campbell, E.O. 1970. The fungal association of Yoania australis. Trans. RSNZ 12: p.5.
- Colenso, W. 1884. In Memoriam pp.41-43. Napier.
- Hatch, E.D. 1953. Orquideas subterranneas. Orquidea 15: January p.4. Rio de Janiero.
- Hatch, E.D. 1983. History of the discovery of Yoania australis. NZ Native Orchid Group Newsletter 6: June p.5.
- Hatch, E.D. 1983. Comment of Corybas cryptanthus. ibid 7: September p.3.
- Lamb, K.P. 1960. Check list of NZ plant galls - Zooecidia. Trans. RSNZ 88: p. 121.
- Rupp, H.M.R. & E.D. Hatch. 1946. Relation of the orchid flora of Australia to that of NZ. Proc. Linn. Soc. NSW 70: p.53. Sydney.
- Simpson, G. 1945. A revision of the genus Carmichaelia. Trans. RSNZ 75: p.231.



Wellington Bot.
Soc. Bull.,
27 August 1954
drawing
J. Bruce Irwin