# Journal





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#### **Editorial**

Questions about some New Zealand orchids after the recent publication of the "Catalogue of Australian Orchidaceae".

by Ian St George, Dunedin

Volume 1 (1989) of *Australian Orchid Research* is devoted entirely to the "Catalogue of Australian Orchidaceae" by MA.Clements (see notice elsewhere in this issue), a huge undertaking. A number of New Zealand orchids are mentioned and some questions arise

#### 1. Orchids listed as shared by New Zealand and Australia

Acianthus viridis J.D.Hook. [the genus Townsonia is deleted]

Caladenia alata R.Br. [includes C. carnea var. alata (R.Br.) Doming C. minor var. exigua Cheesem.; C. exigua Cheesem.; C. catenata var. exigua (Smith) Drucel

Caladenia carnea R.Br. var.carnea [includes C. catenata (Smith) Druce forma carnea; C. carnea R.Br. var.bartlettii Hatch]

Caladenia catenata (Smith) Druce [includes C. alba R.Br.; C. carnea R.Br. var .alba]

Caladenia iridescens R. Rogers [synonymous with C. carnea var minor forma calliniger Hatch]

Caladenia lyallii J.D. Hook. [regarded as synonymous with *C. alpina* R. Rogers] Caladenia minor J.D. Hook. [includes *C. carnea R.Br. var. minor* (J.D. Hook.) Hatch; *C. variegata* Col.; Petalochilus calyciformis R.Rogers; Petalochilus saccatus R. Rogers; *C. carnea* R.Br. var .pygmaea R.Rogers] Caleana minor R.Br. [the genus Paracaleana is deleted]

Calochilus campestris R.Br. [though NZ plants resembling this species are *C. herbaceus*, and it is doubtful if *C. campestris* ever occurred here]

Calochilus robertsonii Benth.

Chiloglottis cornuta J.D.Hook.

Chiloglottis formicifera Fitzg. [though regarded as extinct in NZ this century]

Chiloglottis gunnii Lindley

Corybas macranthus (J.D. Hook.) H.G Reichb.

Microtis parviflora R.Br.

Microtis unifolia (G.Forst.) H.G.Reichb.

Prasophyllum nudum J.D.Hook.

Prasophyllum pumilum J.D.Hook.

Pterostylis foliata J.D.Hook.

Pterostylis furcata Lindley [P. micromega J.D.Hook is listed as a synonym, but remains in common usage as the preferred name in NZ; also listed as synonyms are P. polyphylla Col., P. falcata R.Rogers; the same plant was called P. furcata Lindley var typica by Hatch]

Pterostylis plumosa Cady.

Spiranthes sinensis (Pers.) Ames. [S. novae-zelandiae J.D.Hook. is listed as a synonym; but the authors state that "...there may be more than a single taxon involved"]

Thelymitra carnea R.Br.

Thelymitra cyanea (Lindley) Benth.

Thelymitra decora Cheesem. ["Molloy has confirmed that plants found in the Australian alps are this taxon"]

Thelymitra malvina M.Clements, D.Jones et Molloy, sp.nov. [Thelymitra nuda sensu Fitzg., Austral. orch.l(5);(t2)(1879) non R.Br.(1810) "FitzGerald's plate is an excellent representation and clearly shows the diagnostic features of the new species. It was also figured in Nicholls (1969) as T. nuda (plate 31). This striking, tall slender species can be readily distinguished from all others by the presence of the smooth, narrow, yellow mid-lobe to the column and the pink to mauve globose hair tufts on the lateral staminodes. T. malvina is an inhabitant of tall forests in well structured clayloams and is usually solitary. A recent discovery in New Zealand (by Doug McCrae). The name refers to the mauve hair tufts"] Thelymitra matthewsii Cheesem.

Thelymitra pulchella J.D.Hook. ["Recently confirmed (1987) by B.Molloy as an Australian species from examination of living material collected in the Australian alps"]

#### 2. New Zealand species listed as not shared

Bulbophyllum pygmaeum (Smith) Lindley [considered a NZ endemic] Bulbophyllum tuberculatum Col. [considered a NZ endemic - the plants from Australia and previously identified with B. tuberculatum are indeed referable to B. argyropus]

Cyrtostylis oblonga J.D.Hook. [considered a NZ endemic, once erroneously placed as a synonym of *C. reniformis* R.Br. - see below under *C. reniformis*]

Orthoceras novae-zeelandiae (A.Rich.) M.Clements, D Jones et Molloy, comb. nov. [a new combination for what is now considered a NZ endemic, confirming Lindley's opinion that his O. solandri, and Hatch's opinion that his O. strictum R.Br. forma viride, were distinct from O. strictum, and using the specific name from Richard's Diuris novae-zeelandiae; synonyms are O. solandri Lindley, O. rubrum Col., O. caput-serpentis Col. and O. strictum R.Br. forma viride Hatch. Orthoceras is currently being revised by Jones and Clements; meantime the plant known as O. strictum is listed from Australia and New Caledonia]

Pterostylis tristis Col. [considered a NZ endemic; once erroneously placed as a synonym of *P. mutica* R.Br. which is now considered an Australian endemic] Thelymitra longifolia J.Forst. et G.J.Forst. [considered a NZ endemic; the authors state that "...it is doubtful if this species occurs in Australia"]

#### 3 Other species listed as not shared

- Corybas aconitiflorus Salisb. [an Australian endemic the similar NZ species *C. cheesemanii* (J.D.Hook. ex Kirk) Kuntze is distinct and is considered a NZ endemic]
- Corybas unguiculatus (R.Br.) H.G.Reichb. [an Australian endemic the authors state that *C. matthewsii* (Cheesem.) Schltr. is "here considered a NZ endemic"; no mention is made of *C. carsei* Cheesem.]
- Prasophyllum patens R.Br. [an Australian endemic the similar NZ species has been tagged P. aff. patens by others]
- Pterostylis cycnocephala Fitzg. [an Australian endemic the similar NZ species has been tagged P. aff. cycnocephala by others]
- Thelymitra ixioides Sw. var ixioides [an Australian endemic the similar NZ species *T. aemula* Cheesem. is listed as a NZ endemic; another similar NZ species has been tagged *T.* aff. ixioides by others]

Interestingly, a number of species, which we believe are common to both countries, are not listed as shared.

Calochilus herbaceus Lindley - see C. campestris above

Calochilus paludosus R.Br.

Cryptostylis subulata (Labill.) H.G.Reichb.

Cyrtostylis reniformis R.Br. [the NZ names C. rotundifolia J.D.Hook, C. oblonga J.D.Hook. var. rotundifolia (J.D.Hook.) Cheesem. and C. macrophylla J.D.Hook. are, however, listed as synonyms]

Gastrodia sesamoides R.Br.

Pterostylis nana R.Br. [listed by the authors as an Australian endemic - the similar NZ species once known as P. puberula J.D.Hook. is "considered a NZ

endemic", though *P. nana* is regarded meantime in NZ as a species common to both countries]

Pterostylis nutans R.Br. [NZ is excluded from the distribution, perhaps because the species is regarded as extinct here; P. mathewsii (sic) Cheesem. from NZ is listed as a synonym however]

Thelymitra pauciflora R.Br. [by the exclusion of NZ from the distribution, it appears that the authors consider this species an Australian endemic - three old NZ names (*T. colensoi* J.D.Hook., *T. cornuta* Col. and *T. sanscilia* Irwin ex Hatch) are listed as NZ endemics]

#### 4. Conclusions

New New Zealand names to be noted are *Orthoceras novae-zeelandiae*, and *Thelymitra malvina*. Apart from these, it would be premature to change currently used names.

# **Original papers**

#### Annual Taupo native orchid weekend, 1989

by Max Gibbs, Taupo

The 1989 Taupo Orchid Society annual Native Orchid field trips once again proved a great success. They were well attended with over fifty people doing the Kinloch to Kawakawa Bay track on the Saturday and about 130 people joining us at Iwitahi Native Orchid Reserve on the Sunday. The two trips had been intended to be a contrast in character with the Saturday trip investigating a scenic walking track in the narrow lake shore reserve along the northern end of Lake Taupo.

The weather was fine and hot and the turn around point was set at the 2.5km halfway marker post at the top of the track. Typical of many scenic walking tracks the path was well formed and if only considering the views offered from the many vantage points, the walk would have taken about an hour each way. However, the area was rich in orchids which were growing out onto the track in many places and consequently the tail enders took somewhat more than 3 hours to reach the turn around point.

After walking along the beach to the start of the track orchids were found within a few metres of the start of the formed path. Onion orchids and sun orchids abounded and it was easy to overlook *Gastrodia minor* which also grew on the edge of the path. With

the long warm spring many of the orchids were very early and had finished flowering. Unfortunately most of the Pterostylis species were at that stage although some still presented superb flowers. The best time to see these orchids would probably be the middle of November.

In total twenty-two native orchid species were found although many were only in leaf. The following is a list without reference to abundance although the most common orchid would have to be *Pterostylis banksii*.

Acianthus fornicatus (L), Caladenia sp. (narrow leaf), Chiloglottis cornuta (L), Corybas macranthus (L), Corybas trilobus (L), Dendrobium cunninghamii (L), Earina autumnalis (L), E. mucronata (very long stems lm+), Gastrodia cunninghamii (buds), Gastrodia minor (F), Microtus unifolia (F), Orthoceras strictum (buds), Pterostylis alobula (L), P. banksii (F normal form and a short almost white form, habitat?), P. cardiostigma (F), P. foliata (L), Pterostylis sp. (aff. montana), P, patens (F), P. trullifolia (L), Thelymitra decora (F), T. longifolia (F), T. pauciflora (F).

A barbecue was held on the Saturday evening at De Brett thermal pools and afterwards Doug McCrae presented a slide show and talk on his recent visits to the Australian native orchid areas. A very enjoyable evening.

The Sunday visit to the Iwitahi Native Orchid Reserve saw many familiar faces and a lot of new ones also. Again the weather was fine and by splitting the 130 or so people into five or six groups it was possible to wander through the reserve without trampling the plants. Work with the *Chiloglottis gunnii* had borne fruit literally as seed pods were found on the plants under wire enclosures and some even on plants in the open. *Aporostylis bifolia* was in abundance and just opening as were the small *Caladenia catenata* forms. Thelymitra decora and T. pauciflora were fully open on the road side in the intense sun making a brilliant display. A pale green form of the bearded orchid *Calochilus robertsonii* was also found together with hundreds of the normal plants in full bloom.

We lunched amongst the *Calochilus robertsonii* at the Iwitahi Outdoor Education Centre before moving off along an unbelievably dusty road to an area of pines soon to be logged. There it was suggested that people interested in trying to grow some of the native orchids might collect specimens. This was possibly a mistake with many people taking it as cart blanche to collect native orchids without thought as to whether the species taken were likely to survive or what they would do with them. This was pointed out to me by Frank Hudson and I record his point of view. He is right, of course, and I must stress that you should not collect native orchids from the wild unless they are in imminent danger of destruction. This is one such case and the number of orchids removed was in fact extremely small relative to the vast populations under the pines in that area. Their loss will be nothing compared with the total destruction of the remaining orchids when the trees are felled.

A more important point for native orchid enthusiasts to remember is that native orchids collected from one area should only be planted out in reserves not into the wild in other areas as the artificial location of given species will cause problems for botanists studying the habitats and distribution of those species.

A side excursion into the Kaimanawa State forest took a small group of us to Clements Mill in search of an unusual Thelymitra species which had been found by the son of Taupo Orchid Society member Jean Trainor. This species had very large blue flowers with few spots, no back to the column and what appeared to be two leaves. Actually the leaf and the first stem bract were both about 40cm long giving the appearance of two leaves. Some plants were found in the area but all were different. Bruce Irwin suspects that they are possible natural hybrids but I will leave that up to the experts. I dare say we will have a report on that orchid sometime in the not too distant future.

As a post script two more orchid species have been found at Iwitahi. *Gastrodia sesamoides* and *Corybas oblongus*, both occurring in reasonable numbers within 40m of the entrance to the reserve block.

On behalf of the Taupo Orchid Society, I would like to thank everybody who came and made the field trips a success. It has been suggested that in 1990 a live- in field trip at Iwitahi be run (to recover more orchids into safe areas) and possibly a native orchid conference in 1991. More on that later

#### Conservation comment

by Doug McCrae, Auckland.

I trust that those of you who visited Iwitahi and Kawakawa Bay in December enjoyed the experience. This type of informal "get-together" for members of the Group from throughout the country is a valuable and necessary part of our activities. Thanks once again to Max Gibbs and the other members of the Taupo Orchid Society for facilitating further successful field days.

One point became clear to me on this trip. That was the reality of the finite nature of the agreement between the Taupo Orchid Society and Timberlands (BOP) for the Iwitahi Orchid Reserve - expiry due in 199... Only a permanent reserve would ensure that a full representation of the orchid flora of this unique area would be adequately preserved.

In the short term other factors threaten this temporary "holding paddock". Serious windfall has already occurred in the Reserve and will be exacerbated by the felling of all the surrounding blocks in the near future. The microclimate/microhabitat will also be altered dramatically with consequent exposure to the elements.

In the longer term a potentially more serious threat to Iwitahi and other forest orchid habitat is the sale of native and exotic forest assets to international interests. This course could have disastrous results. Conversely, private companies may desire a good public profile and could be approachable if good cases for conservation areas are presented.

Should the Iwitahi Reserve deteriorate measurably, an alternative site should be sought. An eminently suitable substitute would be the Taupo Botanical Gardens. A number of species have found these gardens to be a good home and microhabitats exist there for almost all those present at Iwitahi.

The answer to the problems associated with the conservation of orchids and their habitat is to raise public awareness. The Taupo Orchid Society has done a fine job in publicising the threat to orchid habitat in its area.

The Native Orchid Group's main aims are the study and conservation of our orchids. Any person or group, anywhere in the country, who perceives a serious threat to a rare species or important local habitat should contact the Conservation Officer, NZNOG, 15 Glendon Ave, Avondale, Auckland 7.

At Iwitahi, one of our members - Frank Hudson - was disturbed by the removal of orchid tubers from the pine blocks soon to be felled. Frank suggested that a bad example may have been set. Visitors who were not members of the NOG might get the impression that the NOG condones the removal of plants from the wild.

At the start of the day, prior to dispersal of the groups to various blocks, Max Gibbs informed the gathering that the orchid habitat would be devastated in the near future. He suggested that those who wished to do so could remove plants.

Representatives of all the known species in the area either grow naturally or have been transplanted into the Reserve, so no threat exists in this regard. Most, if not all the enthusiasts present, would have had a clear understanding of the limited future of Iwitahi as an orchid habitat. One could debate whether success, or the lack of it, in growing their prizes would encourage those who did remove plants to make further collections from the wild in protected or other areas.

The Native Orchid Group discourages such activity. It is unlawful under the Native Plants Act to remove plants from protected areas. If plants are to be removed from private land, the prior permission of the landowner must be obtained.

The removal of orchid species to parts of the country where they have not been known to exist naturally has some implications. The orchid flora of New Zealand is imperfectly known. The Group's current Mapping Scheme is addressing the question of distribution of species, but to date is incomplete. Many species require further botanical study. The distribution and habitat of any particular orchid is an important part of such study. Orchid species introduced to a "new" area could foul attempts to obtain accurate distribution patterns.

Even though plants can be grown in a greenhouse, fine orchid seed can disperse in the wind and be carried to shrub or bush areas where it may find suitable habitat in which to establish. This may not be such a problem in the few areas where the flora is fairly well known and the "odd" record could be regarded with skepticism.

Both individually and through the Native Orchid Group, we must strive to heighten public awareness of the beauty and charm of New Zealand's orchids and the threats to their continued existence.

Members' views and comments on the conservation aspect of orchids are welcome - Ed.

### Thelymitra decora in Otago

by Ian St George, Dunedin

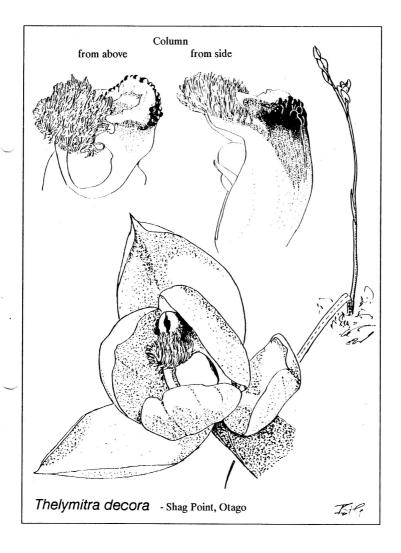
Thelymitra decora was not one of the Otago Thelymitras that I had learned about. In fact Moore and Edgar gave its distribution as "N., S., Marlborough-Nelson coast", and the only Thelymitras recognised as Otago plants were T. cyanea, hatchii, longifolia, and pulchella.

There are others here - Mark Hanger reported *T. pauciflora* from Southland in Newsletter 28 (p4), and I wrote about finding *T. formosa* (Newsletter 29: 14) and *T. pauciflora* (Newsletter 33: 8) in Otago.

In early December 1986 I was wandering about Shag Point (Ecological District 69) when I came across an intensely blue, unspotted and unstriped *Thelymitra* that I had never seen before. Its cilia were white, and the dark brown post-anther lobe of the column quite warty with tubercles. I sent it to Brian Molloy who was interested - it matched plants he had found on Banks Peninsula, similar to *T. decora*, but with some differences. The tubercles were more prominent than in the northern T. decora, the usual spots were absent, and the flower barely opened. He tagged it *Thelymitra* aff. *decora* until a definitive identification could be made.

I took my slides to Iwitahi in 1987, and was reasonably but quite firmly told that this was *T. decora*, despite the absence of spots. Bruce Irwin recalled, in fact, seeing the species near Middlemarch when he was living in Otago.

In 1987 and '88 I did not see an open flower, but this year there it was again, several plants, one with a single spot on each of the petals. Certainly *T. decora* (Brian Molloy agrees), extending its southern range, another new *Thelymitra* for this vast and largely unexplored (at least as far as orchids are concerned) area south of the Waitaki.



#### Notes

- The Newsletter is now renamed the New Zealand Native Orchid Group Journal, to recognise its increasing status as the vehicle for original papers on native orchids, as well as the newsletter carrying news and views for the Group.
- It was good to see the native orchid stamp issue if it has just a small effect in bringing to popular attention the beauty of our orchids, it will have achieved a good purpose.
- ■Tim Funnell writes (1 February), "We went back to the East Coast (Ecological District 9) to where we found what I thought was Pterostylis graminea var. graminea. I have since found out that this plant was P. banksii.... Also found there was Earina mucronata and Thelymitra longifolia. Just out of Opotiki at Hukutaia Domain (E.D.14) Drymoanthus adversus was found in a couple of places.... On the Hastings side of Norsewood at Anzac Park (E.D. 29) Earina mucronata was found growing prolifically on the bushline. A wonderful sight when in full bloom. Trevor Williams, myself and our wives went for a walk through Waipatiki Reserve (about 50km north of Hastings). Found growing there were Pterostylis trullifolia, P. alobula, Acianthus sinclairii and Cyrtostylis reniformis. And just south of Waipatiki Reserve at Tangoio Forest my wife and I found Earina mucronata on a couple of very hollow cabbage trees. In Newsletter 29 I wrote about finding some *Microtis* at Matata and listed them as *M. parviflora*. From information read I am a little confused as to whether it is M, parviflora or M. unifolia." ■ Doug McCrae reports an extensive colony of Corybas cryptanthus at Te Paki (E.D.3)
- and Gastrodia cunninghamii at South Hokianga (E.D.5).

Thirteenth World Orchid Conference, 5-17 September 1990, Auckland. Registration to PO Box 12-442, Auckland.

#### Australian notes

■ The second ANOS Conservation Badge is now available at A\$6 (including postage) from The Secretary, ANOS, POB 106C, Clarence St, Sydney 2000. It depicts Pterostylis gibbosa.

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■Bob Bates writes in the Journal of the Native Orchid Society of South Australia (March 1990, 14 [2]: pl5), "Caladenia minor Hook.f. This is the name which applies to most of the South Australian plants previously referred to as C. pusilla or C. carnea var. pygmaea. This information was given to us in 1988 by Doug McCrae from New Zealand and verified by Clements. It remains to be determined if true C. pusilla occurs in South Australia or, indeed, if it differs from C. minor."

- ■Reg Angus writes in the ANOS Warringah Group's January 1990 Bulletin: "Many of you will be familiar with the *Mimosa* species, commonly referred to as, the 'sensitive plant' which folds up its leaves when brushed.... This is apparently achieved by the plant supplying alkaloid salts to tendon-like tissue causing it to contract immediately, thus closing the leaves.... Many plants close their petals when the sun is obscured, viz. *Thelymitra* species....In *Caleana minor* the weighted end travels through nearly 180°, an absolutely herculean effort.... Anyone out there able to shed any light on the operation?"
- ■Reg also reports, "An interesting session watching one of the very small native bees trying desperately to scrape the yellow cilia from *Thelymitra ixioides* thinking it was pollen; but the bee was so small it did not come in contact with the anther or pollinia.... I then located what was probably the same native bee species happily scraping pollen from a *Stypandra glauca* and filling his pockets, so this suggests that the *T. ixioides* is fooling larger native bees into believing it is *Stypandra*...."
- ■Terry Searle writes (in the ANOS Geelong Group's December 1989 Bulletin) on a visit to Bundjalung, NSW: "I was delighted to find Caladenia alata flowering on the edge of a swamp along with Thelymitra purpurata and T. malvina, closely related to T. nuda, with beautiful pink hair tufts on the column arms."

This is the *Thelymitra* tagged as "Pink whiskers" and reported by Doug McCrae from Aupouri (E.D.4) and Hokianga (E.D.5). It has now been described as "*Thelymitra malvina* M.Clements, D.Jones et Molloy" in Clements MA. Catalogue of Australian Orchidaceae. *Australian Orchid Research* 1989. 1: 1-160 - see above - Ed

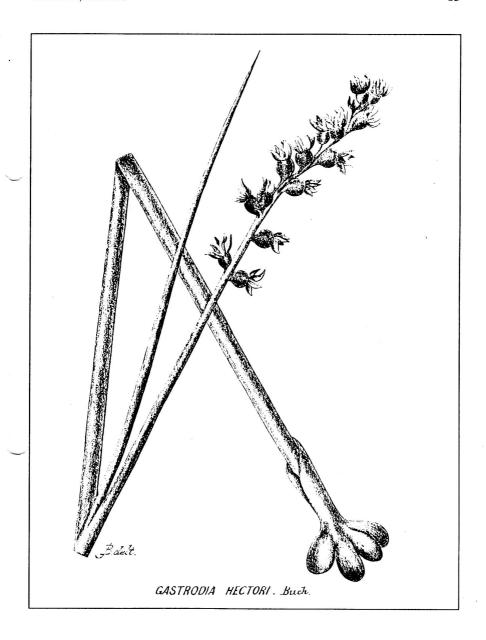
First Australasian Native Orchid Conference and Show Go to this important event if you can possibly make it. It promises to be excellent with orchid tours before and after the conference, photographic and botanical art competitions, lectures and exhibits. Write to Anna Rousch, Wollongong Uniadvice Ltd, University of Wollongong, POB 1144, NSW 2500, Australia.

## Historical reprint

#### John Buchanan 1818-1898

This Scots pattern designer arrived in Otago in 1852 and sent back to Kew what James Hooker described as the best collections of plants received from Australasia. He explored much of the interior, often in the company of Dr Hector, and his "Sketch of the botany of Otago" was a major paper. The Hocken Library has a number of his diaries, and they give a vivid picture of the hardships of collecting.

Buchanan's major botanical work was in response to Sir George Grey's request that N.Z. grasses should be catalogued and evaluated for their fodder potential. The illustrations for The indigenous grasses of New Zealand (1877) were made by inking the plants and pressing them direct onto the lithographic stone, the detail to be filled in later.



He was prolific. Sketchbooks in Dunedin, Wellington and Auckland are full of beautiful natural history and topographical drawings. His watercolour "Milford Sound, looking North-West from Freshwater Basin" has been described as one of the masterpieces of New Zealand landscape painting. He was chief illustrator for the *Transactions of the New Zealand Institute*, and drew and/or engraved many of the lithographs for its first nineteen volumes - "JB del." appears on most. One of his sketchbooks in the Alexander Turnbull Library contains copies of the W.H. Fitch drawings of N.Z. orchids from Hooker's *Flora Novae- Zelandiae*. A sketchbook in Dunedin has a watercolour dated 25 November 1862 and labelled "wet banks of creek under shade of trees, North side, North East Valley. Nematoceras (?triloba)". It is *Corybas rivularis*.

He described *Thelymitra cyanea* (as "Epiblema grandiflorum"), Calochilus paludosus, Bulbophyllum tuberculatum (as B. exiguum) in the Transactions - and a curious orchid he collected near Picton and called

Art. XXIX.—On some New Native Plants.

By J. Buchanan, F.L.S.

[Read before the Wellington Philosophical Society, 19th January,

1887.]

Plates XIV.-XVIII. *Gastrodia hectori*, Buell.

Root tuberous, stem and spike of flowers 18 inches high, closely sheathed for % of its length by a long leaf, 1/3 of the loaf being free, a short outer sheath at bottom encloses the base of the sheathing loaf. Scales none, Racemes 31/4 inches long. Flowers 13, close-set, brownish-yellow, of an 2/10 inch in length, seed-vessel black, or dark brown, orbicular.

The present species was collected several years ago in Marlborough district, near Picton, and has also been seen on the Conway River. The species of *Gastrodia* are probably abundant, but their dark habitats, in dense bush country,

Gastrodia hectorii - Cheeseman identified it as Prasophyllum patens.

# New Zealand Native Orchid Group

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Plus a subscriber whose letter, postmarked from Gisborne, didn't give the name.