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Is this Wairarapa plant
Orthoceras strictum?

Science is one thing, wisdom is another: Sir Arthur Eddington 1882-1944.

Is *Orthoceras strictum* in NZ? and is *O. novae-zeelandiae* endemic?

1769-70 Daniel Solander wrote a description of "Ophrys cornuta" from Queen Charlotte Sound [1]. Sydney Parkinson sketched it and FP Nodder engraved it (Fig.1). The floral bracts are short.

1810 Robert Brown formally described *Orthoceras strictum* from the Grose River area, NSW [2].

1826 Allan Cunningham found what he took to be *O. strictum* at Bay of Islands.

1832 Achille Richard described *Diuris Novae-Zeelandiae* from Queen Charlotte Sound [3]; Lesson painted it (Fig.2) and Eleonore Sophie Rebel engraved it in Paris (Fig.3). The illustrations show a short floral bract; the labellum tip was acute, with inflexed margins.

1837 Allan Cunningham included *Orthoceras strictum* among the plants he listed from around the Bay of Islands [4], and cited Richard's *Diuris Novae-Zeelandiae* and Solander's *Ophrys cornuta* as synonyms.

1840 Lindley described *Orthoceras solandri* from a Wangaroa specimen collected by Richard Cunningham [5]; he wrote, "That this is distinct from the New Holland species I entertain no doubt; its very short bracts and smaller and narrower flowers sufficiently attest that".

1853 Hooker agreed [6].

1864 Hooker said Cunningham's specimen was not *O. strictum,* but wrote of *O. solandri*, "bracts large, spathaceous, exceeding the ovary" [7].

1871 Cheeseman included *O. solandri* in his list from Titirangi [8].

1873 Bentham wrote, "The NZ plant does not appear to me to differ in the slightest particular" [9]—i.e. from *O. strictum.*

1877 RD Fitzgerald illustrated the Australian *O. strictum* (Fig.5)[10].

1881 Cheeseman included *O. solandri* in his list from Nelson [11].

1886 Colenso described *O. rubrum* from Hawke's Bay [12], stating that Richard's *Diuris Novae-Zeelandiae* "is very distinct from this species". He remarked on differences in colour, its being more slender, and its general appearance. In the description he noted an acute tip to the labellum, and a floral bract that was "broad, sheathing, membranaceous, ovate-acuminate, acute, 9-10 lines long, 3 lines broad, many nerved, not keeled".

1890 Colenso described *O. caput-serpentis* from the Moawhango River (Fig.4)[13]. It had a "rounded, thickened and slightly concave" labellar tip, and a green floral bract "1 inch long, broadly ovate, ½ inch wide near the base, much and suddenly acuminate, shorter than flower".

1896 Cheeseman included *O. solandri* in his list from North Cape [14].

1906 Cheeseman had by now read Bentham and lumped all *Orthoceras* into *O. strictum.* He wrote, "Bracts acuminate, the lower ones usually exceeding the ovary", and labellar "middle lobe… ovate" [15].

1946 Rüpp & Hatch listed *O. strictum* among orchids common to Australia and New Zealand [16].

1951 Nicholls illustrated the Australian *O. strictum* (Fig.6)[17]; he wrote that the erect floral bracts were 2-4cm long, and the labellar tip "truncate"; he included in his watercolour a small green Victorian form with short bracts.

1963 Hatch described *O. strictum* forma *viride* [18]*:* a robust, earlier flowering green form.

1970 Moore lumped all the NZ taxa into *O. strictum* [19].

1989 Clements, Jones & Molloy agreed with

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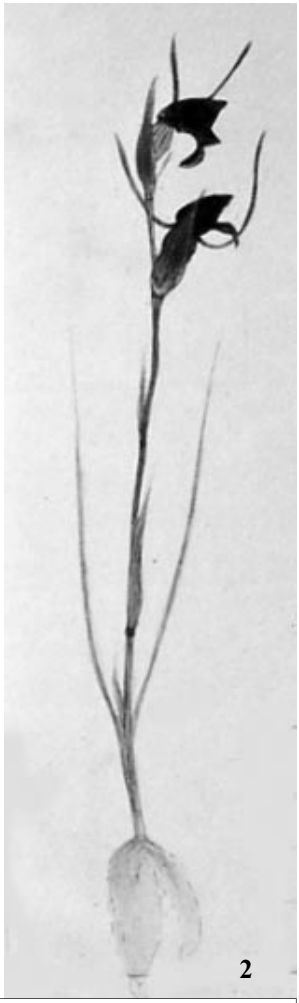

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Left to right

Fig.1: Nodder's engraving of Parkinson's sketch of Solander's "Ophrys cornuta".

Fig.2: Lesson's watercolour of *Diuris Novae-Zeelandiae*.

Fig.3: Miss Rebel's engraving of Richard & Lesson's *Diuris Novae-Zeelandiae*.

Lindley [20]: the NZ plant was different and endemic; they made a new combination, *O. novae-zeelandiae* which included *O caput-serpentis, O. rubrum, O. solandri* and *O. strictum* forma *viride.* The distribution of *O. strictum* was confined to Australia and New Caledonia. They remarked on the possibility of "several undescribed taxa".

The features that distinguish the two are

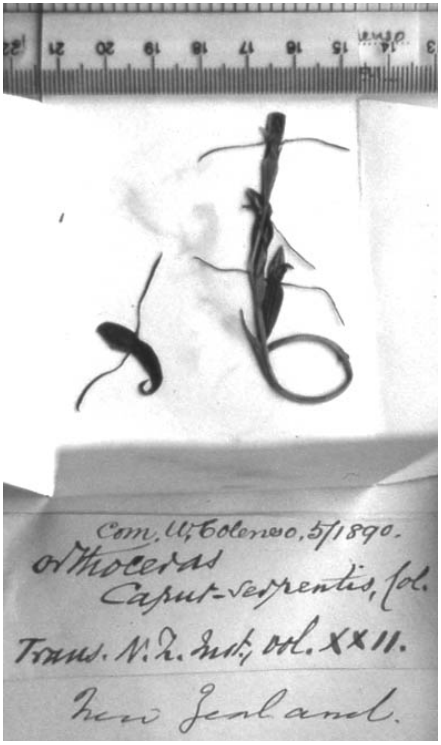


Fig.4: *Orthoceras caput-serpentis.*

said to be the sharp point to the labellar midlobe, the tall floral bract, and the generally more robust habitus of *O. strictum cf. O. novae-zeelandiae.*

Backhouse & Jeanes reported Nicholls' plants with short floral bracts and rounded labellar tips from Victoria [21 & photograph in their CD]; (you can see a photo from the same site at http://home.vicnet.net.au/~seana/meetings/kangaroobie/creek/creek.htm). Jones *et al* published a photograph that looks like *O. novae-zeelandiae* from Tasmania [22].

Goodger wrote [J60 p20-21] that of the 26 slides of Orthoceras in his collection, 24 had pointed labella, and some had long bracts.

Eric Scanlen photographed a flower with all the appearances of *O. strictum* at Te Paki in 2001 (Fig.7)[J78 colour plate]. In the same issue I wrote about a Wairarapa flower with a similarly long floral bract and pointed labellar midlobe (cover photo this issue)[J78 p30]; the height of the floral bracts decreased from the lowermost flower upwards, as Cheeseman had noted in 1906.

Conclusions: I think

1. *O. novae-zeelandiae* can have sharp or rounded labellar tips.
2. New Zealand plants with long floral bracts seem always to have sharp labellar tips.
3. The height of the floral bracts (for different flowers on the same stem) is more or less uniformly short for *O. novae-zeelandiae*, but often varies in plants with long bracts.
4. *O. novae-zeelandiae* (or an undescribed taxon very like it) is present in Victoria and Tasmania.
5. *O. strictum* is present in New Zealand; if not, the robust long-bract taxon is unnamed (*O. rubrum* and *O. caput-serpentis* appear to have short bracts).

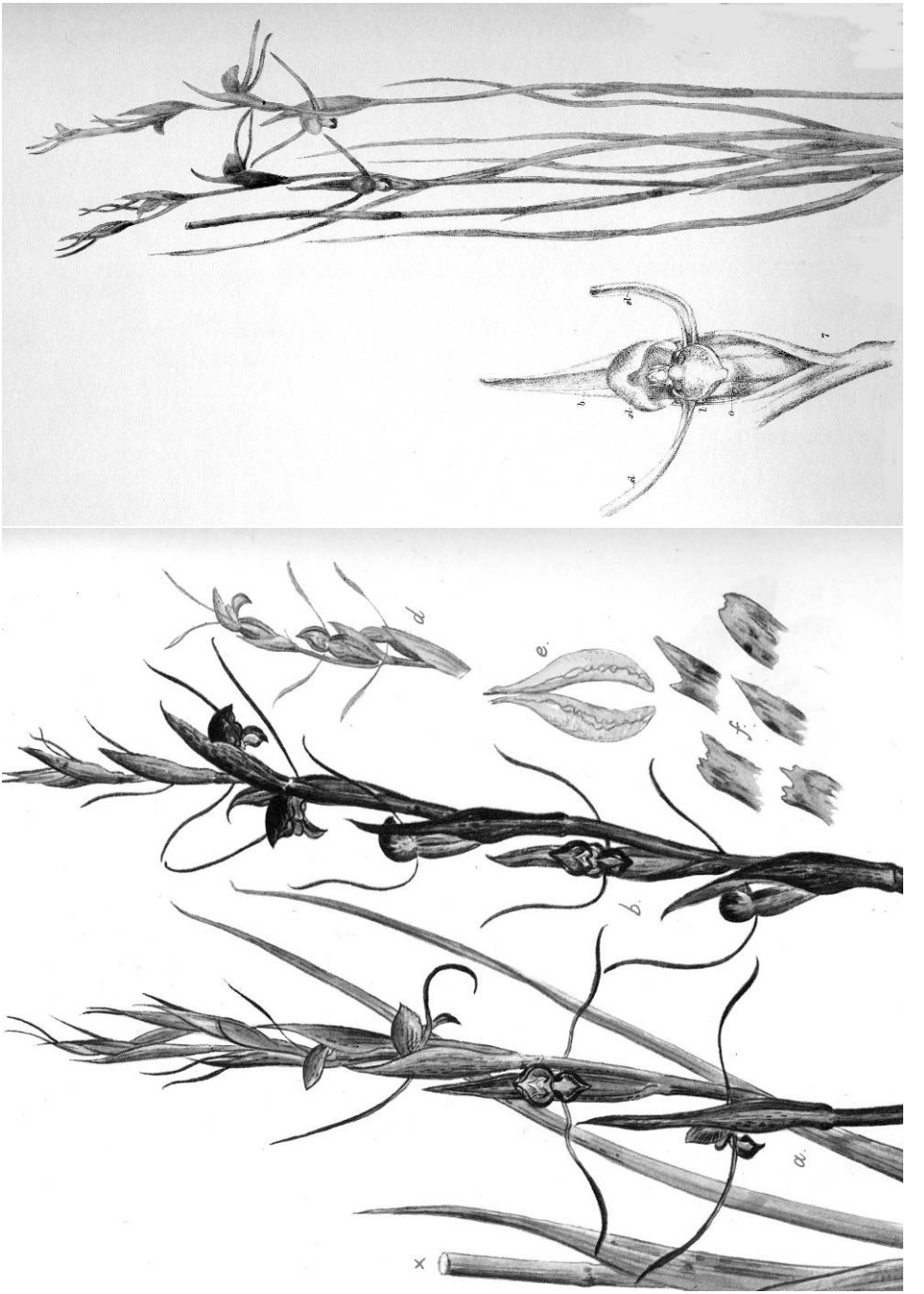
References

1. Solander D.C. *Primitiae Florae Novae Zelandiae sive Catalogus Plantarum in Eahei no Mauwe & T'avai Poenammoo.* Unpublished manuscript. 1769.
2. Brown R. *Prodromus Florae Novae Hollandiae et Insulae Van-Diemen.* London, J.Johnson et Sectos. 1810
3. Richard A. and Lesson A-P. *Essai d'une Flore de la Nouvelle-Zelande.* Paris. 1832 .
4. Cunningham A. Florae Insularum Novae Zelandiae Precursor: or a specimen of the Botany of the Islands of New Zealand. Published serially in *Companion to the Botanical Magazine* 2: p367, and *Annals of Natural History* vol 1-4. 1838-9.
5. Lindley J. *The Genera and Species of Orchidaceous Plants.* London, Ridgeways. 1840.
6. Hooker J.D. *Flora Novae Zelandiae* 1. Reeve, London, 1853.
7. Hooker J.D. *Handbook of the New Zealand Flora.* London. 1864.
8. Cheeseman T.F. On the Botany of the Titirangi District of the Province of Auckland. *Trans.N.Z.I.*

Figures opposite →

Fig.5 (above): RD Fitzgerald's watercolour of *O. strictum* (round-tip labellum?)

Fig.6 (below): WH Nicholls's watercolour of *O. strictum*. Note the "golden-green flowers from Sassafras, Vic." in the upper right corner (*O. novae-zeelandiae?*).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1871; 4: p279: pp270-84.
9. Bentham G. and Baron F.von Mueller. *Flora Australiensis: a Description of the Plants of the Australian Territory* vol 6. London, L.Reeve & Co 1863-78.
10. Fitzgerald R.D. *Australian Orchids* 1 (3). Sydney. 1877.11. Colenso W. A Description.... *Trans.N.Z.I.* 1886; 18: p256.
11. Cheeseman T.F. Contributions to the Flora of the Nelson Provincial District. *TNZI* 1881: 320-1.
12. Colenso W. A Description of some Newly-discovered and rare indigenous plants...*Trans.N.Z.I.* 1885; 18: p273.
13. Colenso W. A Description of some Newly-discovered Phaenogamic plants, being a Further Contribution.... *Trans.N.Z.I.* 22: p490.
14. Cheeseman TF. On the flora of the North Cape district. *TNZI* 1896. 29: 376-7.
15 Cheeseman T.F. *Manual of the New Zealand Flora.* 1st edition. Wellington, Government Printer. 1906.
16. Rupp H.M.R and Hatch E.D. Relation of the orchid flora of Australia to that of New Zealand, with the description of a new monotypic genus for New Zealand. *Proc.Linn.Soc.N.S.W.* 1946; 70: pp53-61.
17. Nicholls W.H. *Orchids of Australia* Parts I-III. Melbourne, Georgian House. 1951 .
18. Hatch E.D. Notes on New Zealand orchids - II. *Trans.Roy.Soc.N.Z.*1963; Bot 2: pp185-9.
19. Moore L.B. with illustrations by J.B.Irwin. In Moore L.B and E.Edgar. *Flora of New Zealand* volume II. Wellington, Government Printer. 1970 pp102-167.
20. Clements MA. *Australian orchid research. Catalogue of the Australian Orchidaceae.* Australian Orchid Foundation and Reed Books, Essendon, 1989.
21. Backhouse G, Jeanes J. *The orchids of Victoria.* Miegunya Press, Melbourne, 1995.
22. Jones D et al. *The orchids of Tasmania.* Miegunya Press, Melbourne, 1999.

Fig.7: (above) Eric Scanlen's photo of *O. strictum,* Te Paki, fl. 6Nov00
Fig.8: *O. strictum*, Adelaide Hills, South Australia.

What's in a name? that which we call a rose by any other name would smell as sweet.

By the same token, that which we called a *Caladenia* should be just as attractive whatever we called it.

So what's in a name? a lot's in a name is what. We place great emotional stock in the familiarity of our own names, and we resist change.

So it is with our other familiars, and among our familiars are our orchids.

But name changes for orchids have always been with us. Dan Hatch wrote, "You say people are objecting to the new generic names—how far back do you want to go? To George Forster in 1786 and *Epidendrum autumnale*? Or Forster's *Ophrys unifolia* in the same paper?" [J91 p26].

Our Group has lost a dozen members this year. We usually lose and gain 3 or 4, but this has been the biggest loss (actually the only nett loss) since I have been involved. One departing member wrote, "It's all getting too complicated".

Taxonomists are good at names; many of the rest of us are not; we have had to struggle to learn the complexities of the Linnaean Latin constructions, and now that we have, we do not take kindly to new ones.

Of late there certainly have been plenty of new ones—our cherished *Caladenia*, *Corybas* and *Pterostylis* have all endured upheaval, and there are others, and more on the way.

But just because a name has been published does not mean we have to use it. There is no obligation or compunction for us to use the new names. We have done so because the reasoning of those advancing the new names seemed sound, and we thought we were moving with the times.

But few of the editors of other ANOS-affiliated societies have adopted the new names. Several Australian herbaria have not adopted them, and argument is raging among botanists across the Tasman as to how best to manage the "competing classifications". These are the professionals, and they are unable yet to give the amateurs consistent guidance.

Now Hopper and Brown have published on the subject [1—see "Australian notes" this issue] reducing most of the new genera in the *Caladenia* alliance to subgenus rank, retaining the name *Caladenia* for the majority, including the New Zealand species in *Petalochilus* and *Stegostyla*. A further paper [2] suggests a similar treatment for *Pterostylis* and alerts readers to a planned paper detailing the reasons. The authors concluded, "There are no formal taxonomic hindrances to orchidologists retaining use of broad concepts of *Caladenia, Pterostylis* and other Australian genera if this is preferred over the recent description of narrowly circumscribed genera…. we recommend retaining broad concepts that uphold monophyly as the best approach to dealing with this extraordinary, complex and challenging situation…".

A conservative approach does seem wise. Our adoption of the new generic names in the *NZ Native Orchid Journal* may have been hasty, and to promote discussion I will propose at the NZNOG AGM in December that the Journal reverts to using the generic names *Caladenia* and *Pterostylis* for NZ species in those alliances. The situation with *Corybas* and *Nematoceras* is a little different, and I would propose to keep the new names in *Corybas* in the meantime.

WHAT DO <u>YOU</u> THINK?

References

1. Hopper SD, Brown AP. Robert Brown's *Caladenia* revisited, including a revision of its sister genera *Cyanicula*, *Ericksonella* and *Pheladenia* (Caladeniinae: Orchidaceae). Australian Systematic Botany 29 April 2004; 17 (2): 171-240).
2. Hopper SD, Brown AP. Robert Brown's *Caladenia* and *Pterostylis* revisited. *The Orchadian* 2004; 14 (8): 366-371.

How could Cunningham have sent *T. longifolia* to Kew in 1822?

Thomas Duncanson would have been remembered as an important botanical artist had he not had a mental breakdown [1]. But because he did, and could not publish his work, little is known about him.

He had been a gardener at the Royal Botanical Gardens in Edinburgh, but came to Kew, and in 1822 was employed by WT Aiton drawing the new plants for Aiton's proposed second volume of the *Epitome of Hortus Kewensis*. This he did for four years until his breakdown in 1826. The three hundred illustrations he executed in that time are in the Kew collection. They are expertly done, beautifully coloured, clear and crisp.

One watercolur in the collection makes him especially interesting for us. Number 64 is of *Thelymitra longifolia*. It is annotated in ink "*Received in 1822 from New South Wales from Mr Cunningham*" - as are a number of the illustrations (Allan Cunningham sent many plants from Australia back to Kew). In a second hand, in pencil, is "?*Bond. Thelymitra forsteri? June 1823*".

Under this is a pencilled note in a third hand, initialled by Robert Allen Rolfe, Director of Kew at the turn of the century:

"The name written here, 'Thelymitra forsteri' should refer to a New Zealand plant. The date pencilled 'June 1823' should indicate the date the drawing was made - presumeably from a plant at Kew. Allan Cunningham in Hook. Comp. Bot. Mag. ii. 376, enumerates Thelymitra forsteri Sw. as N. Zealand, Northern Island, shores of the Bay of Islands in open fern-lands - 1826, A. Cunningham…. The ink record seems to have been done later, when a large collection of such drawings was made up, probably in part from memory, and may not be correct (from various sources), for the specific name is correct, and I see no evidence of this form growing in Australia."

Rolfe was suggesting that the *Thelymitra longifolia* must have come from Cunningham's visit to New Zealand in the spring of 1826 rather than from New South Wales in 1823. If that were true, Duncanson had already gone mad, and the drawing must have been made, as the pencil writer queried, by his successor, George Bond—of whose drawings 1,700 remain at Kew [2].

Clements recently stated "it is doubtful if this species occurs in Australia" [3], and Jones didn't think it did either [4]. The plant certainly looks like *T. longifolia* (though the vestigial middle lobes of the column are unusual for *T. longifolia*).

Was it an Australian plant sent by Allan Cunningham in 1822 and painted by Duncanson when it flowered in the English summer of 1823? if so it probably isn't *T. longifolia.*

Was it a NZ plant sent in 1822? if so by whom? D'Urville collected plants from NZ in 1822, but the French were still smarting from their defeat seven years earlier at Waterloo, and it is unlikely he sent any of his specimens to Kew. Colenso arrived in New Zealand much later, in December 1834.

Was it a NZ plant sent by Cunningham in 1826 to flower at Kew and then be painted by Bond? That seems likely, and if so Cunningham's other plants may be similarly among the subjects of Bond's drawings at Kew. It's an exciting possibility.

***Thelymitra longifolia*, illustration, page 13**

Watercolour attributed to Thomas Duncanson, but probably painted by George Bond.

References

1. Daniels, Gilbert S. *Artists from the Royal Botanic Gardens, Kew.* Pittsburgh, Hunt Institute for Botanical Documentation, Carnegie-Mellon University, 1974.
2. Blunt W. *The art of botanical illustration.* Collins, London, 1950.
3. Clements M.A. *Catalogue of the Australian Orchidaceae.* Australian Orchid Research, 1989. 1: 140.
4. Jones, David L. *Native orchids of Australia.* French's Forest, Reed Books, 1988. p 297.

notesetcetc

Isaias M Rolando wrote (22 Apr), "Tengo el penoso deber de comunicar a la Comunidad de Orquidofilos amigos de todo el mundo la triste desaparicion de nuestro gran capitan en Aguas Calientes, Macchu Picchu Pueblo Hotel: MOISES QUISPE. Be known that our Great Captain at **The Macchu Picchu Pueblo Hotel Orchid Garden** is not anymore with us. A big land slice went down through Aguas Calientes and **Moises Quispe** is in the list of missing persons. A lady saw him going back to the place where the rocks and land were going down to the Urubamba river. Adios, Good By our good orchid friend".

We received the following spam on the internet recently, "we have known your sales information we will introduce this to our friends we need a long and friendly cooperation. if you need the raw material of gastrodia please contact us! **Gastrodia elata powder** is a new product deloped by our company,which is the effcient composition extracted from the flesh the gastrodia elata .the coloru is light yellow and it is widely used in the fields of medicine chemical industry and food. orders are welcome! GAatrodia elata is the precious pharmacy plant and has the history of two thousand years.gastrodia elata cure the high pressure,headache and dizzness, limbs numbness and baby convusion etc. just because it can strength the indentiy of the optic nerve,in the recent years it always be the health pharmacy for the aviator. becises it has the specal effciency for the old dull-witted so this increase the its output and the average price has reach the highest level of the history." *Hmm. special efficacy for the dull-witted, eh? must get some – Ed.*

DNA studies are not solely the tool of splitters. *Nature* 425, 172 - 175 (11 September 2003) carried a paper called "Extreme **reversed sexual size dimorphism in the extinct New Zealand moa** *Dinornis*" by Michael Bunce and others: "The ratite moa were massive graviportal browsers weighing up to 250 kg that dominated the New Zealand biota until their extinction approximately 500 yr ago. Despite an extensive Quaternary fossil record, moa taxonomy remains problematic and currently 11 species are recognized. Three *Dinornis* species were found throughout New Zealand and differed markedly in size (1–2 m height at back) and mass (from ~34 to 242 kg). Surprisingly, ancient mitochondrial DNA sequences show that the three species were genetically indistinguishable within each island, but formed separate North and South Island clades. Here we show, using the first sex-linked nuclear sequences from an extinct species, that on each island the three morphological forms actually represent just one species, whose size varied markedly according to sex and habitat. The largest females in this example of extreme reversed sexual size dimorphism were about 280% the weight and 150% the height of the largest males, which is unprecedented among birds and terrestrial mammals. The combination of molecular and palaeontological data highlights the difficulties of analysing extinct groups, even those with detailed fossil records."

Oops! he was Donald Petrie, not David [J91 p18], and George Forster spelt his name with an e, not as Georg [J91 p26].

Ice cream is threatening Turkey's orchids. BBC News reports, "Several rare orchid species found only in Turkey are facing extinction - because of the Turks' love of ice cream made from salep - a flour produced from the tubers of dried, wild orchids growing in the mountains of south-eastern Turkey. It is so popular that part of the city of Istanbul has become known as the "ice cream district".

But "The orchids in Turkey are under very serious threat," botanist Ozdemir Ozhatay told the BBC. "For this reason it is forbidden to export - but they are still using it in Turkey for the ice cream."

Local shepherds have also offered evidence that the flower is in steep decline in the country. "Everyone here depends on ice cream," one told Outlook. "We sell the milk of our goats, and collect orchids. But the flowers are more and more difficult to find - more and more ice cream producers are using them, and it is disappearing. You have to go higher and higher into the mountains to find them."

Environmentalists are now calling for a total ban on the use of salep in ice cream, but such drastic action appears to have little support among the ice cream fanatics in Turkey. "For a very long time, we have been eating ice cream - why should we stop?" said one. "(If it is banned) we will just eat illegal ice cream."

Factory owner Mehmet Kumble, whose family firm uses up to three tonnes of salep, or twelve million flowers, every year, said he had no plans to cut back on production. "It gives the ice cream its unique strength and special taste," Mr Kumble added.

See http://news.bbc.co.uk/1/hi/sci/tech/3126047.stm for more.

Orchid Spectacular Freemantle 13–19 September 2005

Conference and tours.
The registration form can be accessed at http://members.iinet.net.au/~emntee/Reg.htm

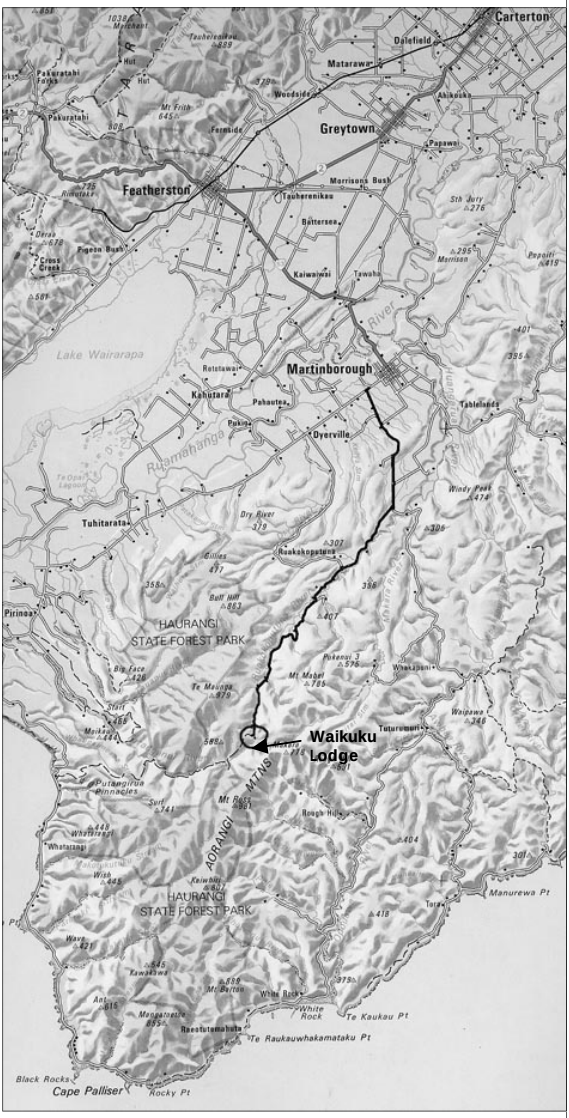
Whoopsie. One of those slightly embarrassing moments. Well, two of them perhaps. I printed the photo of an alpine Mt Holdsworth plant at upper right [J86 p32] and labeled it as *P. australis,* and perhaps it is. But actually I think it is ***P. areolata***.

Pat Enright sent me to Paraparaumu to examine a *Pterostylis* that he thought looked a bit unusual. I told him it was *P. banksii*: it's the photo at lower right, the plants with the long, wide, arching leaves. "Long, wide, arching leaves"! Ping! isn't that a characteristic of ***P. auriculata***? Well, yes, I have to say it is. And apart from Colenso's and my Catlins sites, it has been found on Kapiti Island (by Peter de Lange), little more than a stone's throw from Paraparaumu.

Is "Paraparaumu" the umu (oven) for cooking parapara (fern roots, or orchid tubers)?

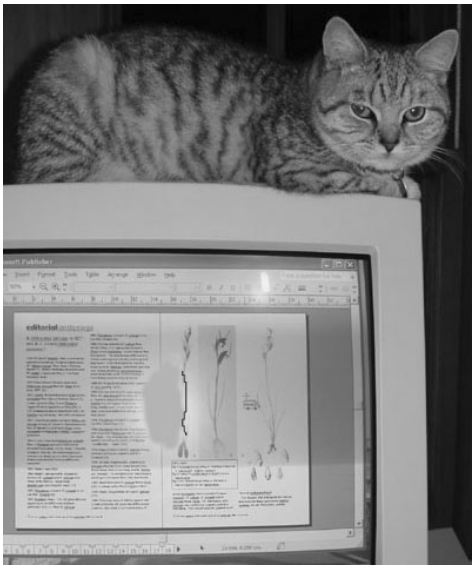
—an orchid oven?

Field trip, Haurangi State Forest Park, southern Wairarapa, 27 and 28 November 2004



We have reserved Waikuku Lodge, 32km S of Martinborough, above the headwaters of the Ruakokopatuna ("the river of native trout and eel") for the weekend of 26-28 November 2004, as base for an orchideous exploration of the northern reaches of the Park. The lodge was formerly a farmhouse, built in 1921 from locally milled timber. It sleeps 29 on mattresses in communal bunks, and has 2 electric stoves, 2 fires, a fridge, a coal range, 3 showers, and flush toilets - but no bedding and no utensils. We plan to explore different tracks on Saturday and Sunday. This is home to a range of *Pterostylis, Thelymitra* including *T. nervosa* in various colours, *Caladenia, Gastrodia, Corybas, Orthoceras,* etc. If you would like to come, be aware this is not high luxury, and be prepared to bring all your bedding, plates, cups and cutlery. A bulk order of groceries will be made, and participants are asked to offer suitable large utensils for group cooking by volunteers. Send $25 for registration and accommodation to NZNOG, c/- Ian St George (22 Orchard St, Wadestown, Wellington). First in, first served: financial members get preference but interested friends of members will be welcome if there is space. If you would like to stay longer at the lodge, please pay an extra $8 a day when you register, and Ian will make arrangements with DoC in Masterton. If you would like greater opulence in one of the many vineyards of Martinborough, or at the famous Martinborough Hotel, please make your own arrangements, but please pay $10 registration for the field trips, and be aware the intervening 32km can be traversed at little over 50kph. **DEADLINE 20 Nov.**

Rémy Souche has just announced the publication of his ***Les orchidées sauvages de France***, in the collection *Grandeur Nature*, Pelican, Vilo editions, ISBN 2 7191 0642 9: format 23 x 31.5 cm, 340 pages, 1220 photographs, on 170G satin paper, for sale at €45.50. Text and photographs Rémy Souche, 7 Route des Cévennes, 34380 St Martin de Londres, 04 67 55 79 20, remy.souche@wanadoo.fr.



The editor, Claude, at work on this issue of the *Journal*

The Council on Botanical and Horticultural Libraries has awarded the 2004 CBHL Annual Literature Award to ***Slipper Orchids of Vietnam*** by Leonid Averyanov, Phillip Cribb, Phan Ke Loc, and Nguyen Tien Hiep. The award is given annually to both the author and publisher of a work that makes a significant contribution to the literature of botany or horticulture.

We still have a few copies of Bruce Irwin's highly-acclaimed booklet of his early NZ native orchid paintings available at $32.50. from the editor.

Iwitahi 2004

10-12 Dec.

same time, same place: book with Sue and Robbie Graham 141 SH1, Waitahanui, Taupo, 07 3770469, info@wildwoodgallery.co.nz

NZNOG AGM

Iwitahi
11 December 2004
Agenda in December Journal

The Column

Petalochilus aff. *pusillus*

5: front; **6:** back; **7:** plant in bud with habitat.
See page 13.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Hunting *Thelymitra colensoi,* finding *T.* aff. *pauciflora* variants & *T.* "Ahipara"

Thelymitra "bee" was the only taxon available for the specimen hunters on 23 Oct 03 after the DoC permit-to-collect a range of unnamed taxa from Te Paki for Dr Brian Molloy, had bogged down in red tape. The moral learned was to apply for the permit at least six weeks ahead of time and say goodbye to your $250, nonrefundable fee. The Column didn't improve the shining hour by then referring to the *permit* as a *deterrent,* in emails to DoC officials. Brian had persuaded Landcare to supply the fee so that hunt has now been put forward to Oct 04.

Meanwhile, Elizabeth Mackenzie was happy for us to collect three stems of *T.* "bee" [J74:13 & colour page 1] for classification purposes if it showed up in quantity this year at her Hatfields Beach property. Well it didn't, as it hasn't in the previous two years, much to the disappointment of Brian Tyler, Allan Ducker, and the Column.

However, not 20m from the *T.* "bee" site, on 23 Oct 03, Brian T saw a solitary and tiny *T.* aff. *pauciflora* (?) about two thirds the normal size in both stem and flower, sky blue with *yellowish* tepal tips, sporting no black saddle on an all white column (Fig. 1) but with the requisite split yellow, postanther lobe and flowering three weeks ahead of regular *T.* aff. *pauciflora*. For a while, the Column searched out details of *T. colensoi* Hook.f. but it lacked the necessary long anther and despite being small, it was twice too big!

Allan had seen slender, few flowered plants (but never open) on road edges from Mangamuka to the NW fringes of the Waitakeres. He showed the Column videos of a column or three rotating slowly on his vidcam turntable. The flowers were pauci blue and had rose pink columns with *coral pink* saddles. Allan's *T.* "coral column" has to be a different taxon and it has a greater claim to being *T. colensoi* than Brian T's find because it is widespread and has a *long anther*; unlike regular *T.* aff. *pauciflora*.

Forestry Research, Whakarewarewa, 29 Nov 03. Allan and the Column, on a visit with Chris Ecroyd to his *Paracaleana minor* colony, spotted a cluster of *T.* aff. *pauciflora* (?) in a bark-garden, slender, pink stemmed with closed, orchid pink tepals. Inside each bud, a rose pink column with the mandatory split yellow p.a. lobe and a red saddle but only an inconspicuous anther so it varied a little from Allan's Mangamuka to Waitakere taxon. Those, rarely opening, mini *T.* aff. *pauciflora* meet many of the criteria for *T. colensoi* (except Hooker's "yellowish" and tiny 8.5mm breadth) but the jury is still out. More info please.

After the 23 Oct 03, E. Mackenzie country

Key to figures

Fig.1. *T.* aff. *pauciflora*(?) white column; no dark saddle from Elizabeth Mackenzie's at Hatfields Beach**,** early flowering on 23 Oct 03.

Fig.2. flat open *T. carnea* column surrounded with water from recent rain, Wilks Rd. 23 Oct 03. Yet shy opening is said to save the column from rain(?)

Fig.3. Flat open, *T.* aff. *pauciflora* yellow top, at the Wilks Rd site 19 Nov 03. The most widespread form in ER 9 and most likely the form that Cheeseman reintroduced in error as *T. pauciflora*.

Fig.4. *T.* sp. aff. *pauciflora* 2, Backhouse & Jeanes (?), orange top with up to 32 florets on robust plants. Yellow top plants also abounded with no in-betweens at Wilks Rd, 19 Nov 03.

Fig.8. *Petalochilus* "nitida rosea" 29 Nov 2002, Moki Rd, with brighter pink tepals than the Te Paki form. Four basal, margin, calli to a narrower midlobe, set it apart from *P. variegatus*.

ramble, complete with open *T.* aff. *ixioides* and a few *T. intermedia,* the trio checked Wilks Road, Silverdale where Allan knew of good habitat. Long abandoned road works had become a reedy bog. Hordes of *T. carnea* with some flowers flat open in the heat (Fig. 2) with recent rain-water on their columns; yet they are notorious for staying shut in order to protect the pollinia and stigma from the wet? *Stegostyla atradenia* was also open nearby but no coral columned *Thelymitra* were among many robust *T.* aff. *pauciflora* here in bud.

So, on a hot 19 Nov when the regular *T.* aff. *pauciflora* (yellow tops, Fig. 3) were opening in droves at 11am, Allan pointed out a few of his similar taxon, opening with a more purplish flower and a bright orange p.a. lobe (orange tops, Fig. 4). They were interspersed with yellow tops in two areas with no apparent hybrids. One healthy orange top with 32 florets was about 500mm tall. This is not R. Brown's "few flowered" *T. pauciflora*, is it? The flowers and description closely match Backhouse & Jeanes' *T.* sp. aff. *pauciflora* 2, on David McConachie's CD. The best yellow tops were smaller with up to 12 florets per stem, sometimes with three open at once. Only an occasional flower opened on the robust orange tops whilst one plant, only 300 tall, sported four open flowers at 12 noon. Brian Tyler reported from Grays Rd near Levin, 21 robust orange tops each with five to eight flowers, and most of them open it would seem from the picture.

Allan also spotted a robust but solitary and multiflowered, baby pink *Thelymitra* with three of the top four florets open; all three had different columns (?).They all had white cilia on the column arms ruling out ubiquitous *T. carnea* now in seed. The top column had a curiously folded p.a. lobe which the other two lacked. There are photos and video records. Mutated *T.* aff. *pauciflora* maybe?

Historic note. Hooker first put *T. pauciflora* on the NZ map, then realising his error, replaced it with *T. colensoi* but what he had, wasn't *T. pauciflora* R. Br. that Cheeseman later reintroduced, also in error but for a different taxon. Cheeseman's plant, now *T.* aff. *pauciflora,* had a split yellow postanther lobe, not Robert Brown's emarginate (shallowly notched) one. Argument still rages over Brown's 1810, three line, coded Latin diagnosis for *T. pauciflora* but we can leave the Aussies to that one; it's their orchid and it is due for redefining into self and insect pollinated taxa for starters.

All that aside, Allan's find of the year was five *Thelymitra* in a soggier place, with flowers closed like oysters despite the heat and the columns looked like those of *T.* "darkie", even if the blue tepals were too pale, the purplish stems were also too pale and the three bracts were not a bright enough green for *T.* "darkie". *T.* "Ahipara", weren't they? never reported, to the Column's knowledge, outside of the far north. Tipping over a seedling tea-tree to let the sun beat on the cluster of five had no opening effect on this taxon. The only open flowers ever reported were in a car boot, during Peter de Lange's "great translocation" [J67:**24**] from Ahipara to Lake Ohia etc.

Conclusion

1. There are widespread, slender *Thelymitra* from Mangamuka to Whakarewarewa, which could be *T. colensoi.* The most likely taxon, with purplish blue to orchid pink tepals, opens rarely, has a pink column with a reddish saddle and sometimes has the long anther described by Hooker. It favours road edges and is easily mistaken for a stunted *T.* aff. *pauciflora*; hence no specimens have been sent to Brian Molloy for DNA profiling!
2. The solitary pale blue, early opening, slender form from Hatfields Beach could be a contender for *T. colensoi* if more ever show up.
3. The orange top, robust, *T.* aff. *pauciflora* from Silverdale and Levin displays different traits from the regular yellow topped form and could be Backhouse and Jeanes' *T.* sp. aff. *pauciflora* 2. DNA profiling will tell.
4. *T.* "Ahipara" has shown up at Wilks Rd., ER9.

Petalochilus surprises in ER24 Taranaki

Gary Penniall wasn't getting much mileage from telling people about his unexpected orchid finds in Taranaki or even showing them wilted specimens so he got out his camera and photographed, most proficiently, a clutch of new records for ER24, Taranaki. The Column thought they were worthy of mention as detailed below.

Petalochilus* aff. *pusillus (**Figs. 5,6,7**, p13) flowers from 13-26 October above a steep, Moki Road, batter slope. The site is a 2-5m wide, mossy to grassy, east-west ridge, about 100m long, open with some manuka to the south and patchy shade to the north. These 8mm wide flowers (5 min. to 10 max.) have rounded sepals like *P. bartlettii* but without the tiny apiculi at the tip. Outside, the tepals have a red midrib and crowded, red, sessile glands, a bit like *P.* aff. *chlorostylus* and *P.* "nitida rosea" but with an added cluster of stiff white hairs near the tips. The red cheeks on the anther are reminiscent of *P.* "nitida rosea" but the blunt little connective is more like a *Stegostyla.* The six pairs of yellow topped disc calli with four biggies clustered behind are all *P. minor* but the yellow midlobe is a blend of the trough of *P. bartlettii* and the broad triangle of *P. variegatus*. Possibly an hybrid of those multiple taxa (?) but it has rounded petal tips, unique in NZ *Petalochilus*. Add in the green stem, shading up to crimson, also crimson stripes on the sepals, shading down to green half way down the ovary and you have a rather eye-catching species-in-waiting, don't you think? Ian St George tagged it from specimens he saw [J82:15] on the Puffer track, Kaitoke, and at Kaimaumau. The Column has a close replica from the Shenstone Block, Te Paki, filed as *P. bartlettii.* This is the mystery taxon that the Group first called *Caladenia minor* in Field Guide 1. Not quite that but getting close.

***Petalochilus* "nitida rosea"** from HB Matthews' manuscript, is a "northern counties" denizen, "in vicinity of kauri trees" never since recorded south of Waitiki Landing so Gary shot it (**Fig 8**) at Moki Road, definitely out of kauris, albeit with tepals a brighter pink but the four marginal calli are there at the base of the yellow midlobe, the dorsal sepal has the proper speckles inside and all the other characters fit. Flowering from 5-29 November.

Petalochilus variegatus Col (**Fig 9**) the big pink of Iwitahi. Gary found 29, with only two still flowering on 29 Nov 2003 in ER24, Waitiri Track, Omoana. He caught these on film despite the uproarious yarns being swapped by his incorrigible field party of Glyn Wren, Margaret Menzies and Ina McLellan. Flowering was from 5-29 November. Apart from its slightly wider midlobe and scattered disc calli, this one is difficult to separate from *P.* "nitida rosea" in a key where, according to botanical dogma, colour differences and size are excluded. Colour and sizewise, the difference is simple; *P. variegatus* is bigger, has pink anthers, bright green ovary, bud and column back. *P.* "nitida rosea" has dark cerise anthers, 3 maroon stripes down the sepal ridges of the green ovaries, maroon midrib and sessile red glands on a pale green bud, column red barred across the base with a maroon crown. Both have pink speckles inside pale green dorsal sepals. Gary also had some half sized specimens there with the requisite stray calli and an unheard of dark red bar under the labellum. Let us call it *P. variegatus* "slender".

Petalochilus* aff. *variegatus (?) Disputed by some, close to *P. variegatus* but lacking the stray disc calli, has more white on the mid midlobe and sometimes has plain pink inside the dorsal sepal instead of the pink-speckles-on-pale-green. Those with a plain pale pink dorsal sepal also have the maroon column crown at Iwitahi. On 19 Dec 2003 Gary shot one (**Fig 10**) of the latter on Waitiri Track, brighter pink tepals than Iwitahi specimens, also more white again on the midlobe, maroon column crown okay but dark cerise anthers like *P.* "nitida rosea", 47 km due north at Moki Road. Structurally, Gary's had one basal marginal callus to the midlobe (like *P.*

Petalochilus variegatus "slender"; the red bar under the labellum shows here as a black line on this flower half the size of normal *P. variegatus*.

"speckles") but otherwise it had yellow, glandular margins to a broad midlobe like *P.* (aff.) *variegatus*. The Column favours *P.* aff. *variegatus* for this one, has anyone got a better answer?

***Petalochilus* "chloroleuca"**, also tagged in HBM's 1928 manuscript, is a 1-3 flowered taxon akin to *P. minor*. It was caught by Gary also on that prolific Waitiri Track, 23 & 29 November (**Figs 11,12**). The Column has spotted twin flowered ones at the Shenstone Block but Gary's are tri-floral classics. Henry had them as common north of Auckland but they are hard to find now and Gary's find seems to be a first for ER24. They have heavy red barring to almost solid colour inside labellum wings and the column, matching Henry's description as do the midlobe's "3 long calli on each side with a glandular fringe to the point."

— continued on page 29

Fig.14. *Gastrodia* "long column"

3 Jan 04 Urenui; showing labellum held high, domed anther and little points on pollinia just showing against the rostellum plate. The finger-print of sepal veins is a useful identifier.

Key to figures on page 19

Fig.9. *Petalochilus variegatus* 29 Nov 2003 Omoana, note the stray calli crowding the disc, rivalling *Stegostyla lyallii*; green dorsal sepal with pink speckles and white in the base of the broad midlobe.

Fig.10. *Petalochilus* aff. *variegatus* 19 Dec 2003 Omoana. Only 5 pairs of disc calli. This form has the maroon crowned column, dorsal sepal all-pink and the midlobe all-white bar the yellow, marginal glands.

Fig.11. *Petalochilus* "chloroleuca" 23 Nov 2000 with the characteristic 3 flowers/buds.

Fig.12. *Petalochilus* "chloroleuca" 29 Nov 2003 Moki Rd, strongly coloured inside column wings and column.

Fig.13. *Petalochilus minor* 29 Nov 2002 Moki Rd, showing the colourful labellum; otherwise all green, even showing through the white tepals.

Fig.15. *Petalochilus* aff. *chlorostylus* 18 Dec 2003 at Pukeiti showing red and green ovary, red glanded dorsal sepal and palest pink tepals on this specimen.


9


10


11


12


13


15


16


17


18

First row

Second row

Third row

Bee orchid (*Ophrys apifera* Hudson)

Most British botanists would maintain that they "know a Bee Orchid when they see it", but I hope to show that, while in essence that is true, the diversity at varietal level is astonishing, with at least nine colour or morphological forms.

The Bee Orchid is widely distributed across England, the coastal areas of north and south Wales, and in scattered localities across Ireland, especially in the limestone area of the Burren. It is now absent from Scotland. In England and Wales it is a plant of well drained calcareous soils, in diverse habitats such as grassland, scrub, sand dunes, and limestone pavement and quarries. It readily colonises new habitat such as the verges of new roads and motorways, and industrial waste ground where weathering has led to a basic substrate. In these sites it can suddenly appear in considerable numbers (**Figs. 16, 17)** , thereafter declining slowly as competitive vegetation takes over.

The Bee Orchid flowers in June, the spike 15-50cm high rising from a rosette of five to six greyish-green, strap-shaped leaves which are often withered at the tip. There are two sheathing stem leaves and long, leafy bracts. Most plants bear two or three flowers, rarely as many as ten. The three pink sepals each have a prominent green central vein. The upper petals are shorter, brownish in colour, with their margins rolled inwards.

The labellum is convex and three-lobed, the two lateral lobes forming furry brown humps, while the central lobe is velvety in texture, yellow at the base and marked with dark brown bands. The appendage at the tip of the central lobe folds back underneath as the flower opens.

The column is prominent and beaked, the two yellow pollinia lying inside pouches with their caudicles running down in two grooves. Soon after the flowers open, the caudicles dry and shrink, dragging the pollinia out of their pouches so that they swing downwards under their own weight and land squarely on the stigma. This is clearly visible in the close-up photograph of the normal form, and occurs on nearly every occasion so that, while apparently adapted by mimicry for pollination by bees, the Bee Orchid is usually self-pollinated. Most plants are monocarpic, although there is a record of a plant flowering for eight consecutive seasons, and maturity is reached in five years from seed.

Hybridisation is very rare, although the hybrid with the Fly Orchid (*Ophrys insectifera*) has been recorded near Bristol and in west Sussex, and the hybrid with Late Spider Orchid (*Ophrys fuciflora*) has been recorded unreliably from Kent.

Var. *atrofuscus*

In this colour variety the entire labellum is a dark chocolate brown colour devoid of markings. Recorded in west Sussex for the first time in 2001, it may have previously occurred in Hertfordshire (**Fig. 18**).

Var. *belgarum*

Named after the Roman name for Winchester where it was first discovered in 1998. The flowers are small, lacking the furry side lobes of the labellum and marked with a yellow band across the middle of the labellum. Since it was first described, it has

Ophrys apifera*: p.19 *bottom row: *O. apifera, O. apifera. O. apifera* var. *atrofuscus.*
p. 20 *1st* row: *O. apifera* var. *belgarum*, *O. apifera* var. *friburgensis,*
***2nd row*:** *O. apifera* var. *bicolor,* var. *chlorantha,* var. *trollii.*
3rd row: Peloric forms 1 and 2.

been recorded widely across southern England from Somerset to Essex, and north to Northamptonshire (**Fig. 19**).

Var. *friburgensis*
First recorded in Wiltshire in 1984, the site was destroyed. Subsequently it was found in Somerset, where it still flourishes. The two upper petals are sepalloid, giving the flower an appearance reminiscent of a tiny Cymbidium (**Fig. 20**).

Var. *bicolor*
A rare colour variety where the labellum is divided horizontally into a pale yellow basal half and a uniform red-brown distal half. Recorded from Warwickshire, north Essex and Dorset (**Fig. 21**).

Var. *chlorantha*
The flowers lack the usual red-brown pigmentation, having a greenish-yellow labellum and white sepals. Recorded from Sussex, Middlesex, north Essex and south Yorkshire (**Fig. 22**).

Var. *trollii*
This variety, known as the 'Wasp Orchid', is distinguished by a labellum lacking the furry side lobes, having a very long, pointed central lobe barred across with brown and yellow. Long known from Gloucestershire, it has also been recorded in Dorset, Surrey, Suffolk and Nottinghamshire (**Fig. 23**).

Peloric form 1
Known only from one site in East Sussex, this form was first described and photographed in 1919 on the chalk downs near Lewes. It continued to appear in most years until 1940, when the area was ploughed in response to wartime government instructions for farmers to grow more food! I refound it in 1969 and 1971, but it has not flowered since. It is a bizarre form, lacking the 'bee' labellum, which is replaced by a plain pink structure like a sepal (**Fig. 24**).

Peloric form 2
A strange variety where the petals are replaced by sepals, a process known as homoesis, which gives the flower a spurious symmetry. I found it for the first time in Britain in 1990, when ten plants flowered in a sand dune nature reserve in Glamorgan in south Wales. It flowered again in 1993 (**Fig. 25**).

Many of these records of varieties have surfaced as the result of articles published in the botanical press, when readers recognised from the photographs that they had also seen the "new" strange variety. Subsequently orchid enthusiasts have taken to looking more closely at what they find, and we now realise just how much variety exists within this species in Britain. Albeit, they are all still Bee Orchids, and do not merit more than varietal status.

Bibliography

Edmondson T. (1979) *Ophrys apifera* Huds. in artificial habitats. *Watsonia* **12**: 337-8.

Ettlinger DMT. (1988) A new variety of *Ophrys apifera* Hudson. (Orchidaceae) *Watsonia* **22**: 105-107.

Hill DA. (1978) A seven year study of a colony of bee orchids (*Ophrys apifera* Hudson). *Watsonia* **12**: 162-3.

Hilton T. (1900) *Ophrys apifera* Beachy Head. Pale-coloured Bee-orchis. *Sci-Gossip* N.S **VII**: 54.

Lang DC. (1989) A guide to the wild orchids of Britain and Ireland. Oxford University Press.

Lang DC. (2001) Wild orchids of Sussex. Pomegranate Press.

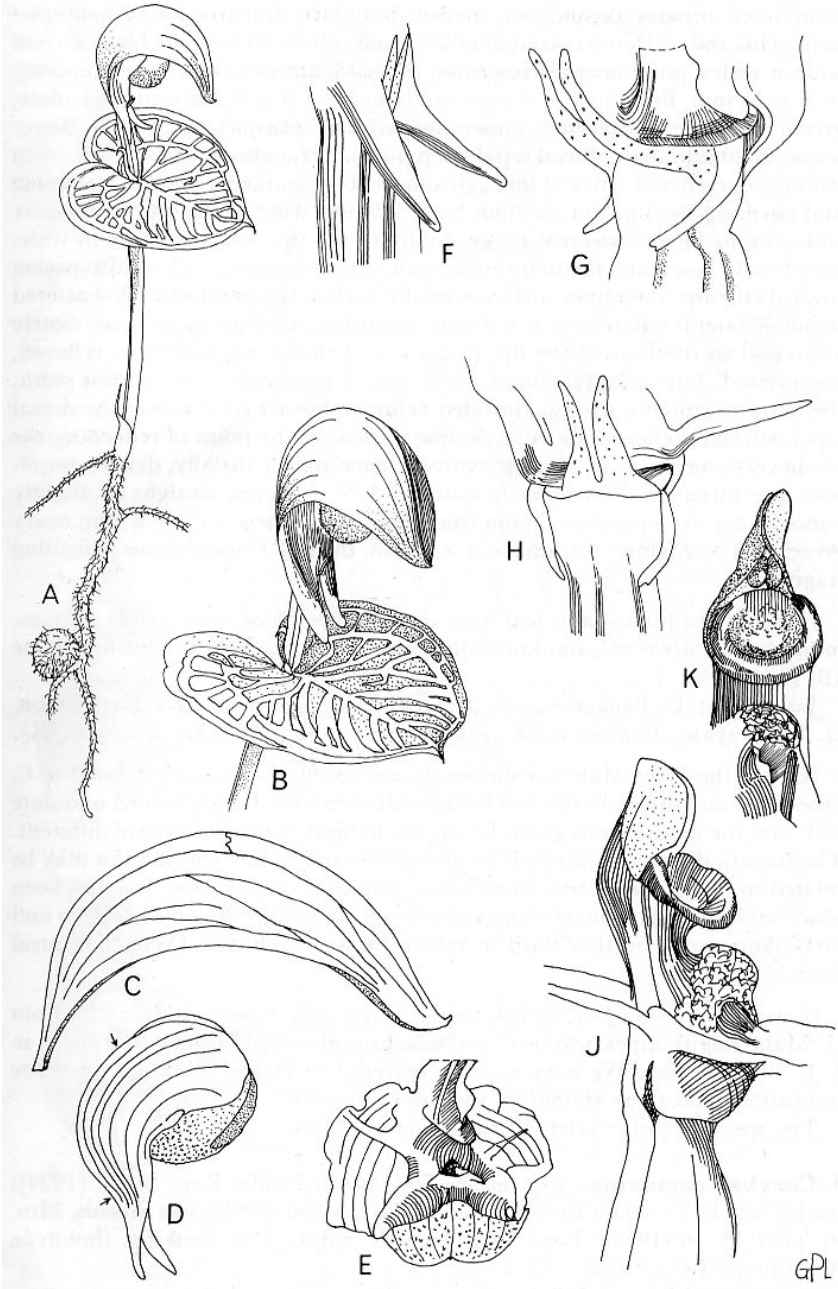
Preston CD, Pearman DA, Dines TD. (2002) New atlas of the British and Irish flora. Oxford University Press.

Summerhayes VS. (1951) Wild orchids of Britain. Collins.

Wells TCE, Farrell L. (1984) Bee Orchid Survey. *Watsonia* **15**: 172-3.

Willis AJ. (1980) *Ophrys apifera* Huds. x *O. insectifera* L. a natural hybrid in Britain. *Watsonia* **13**: 97-102.

Wilson M. (1980) The flowering habits of *Ophrys apifera. Orchid Rev*. **88**: 94-6.



Corybas imperatorius: drawing by GP Lewis, from Dransfield J, Comber JB, Smith G. *Corybas west of Wallace's Line: a synopsis of Corybas (Orchidaceae) in West Malesia and Asia*. Royal Botanic Gardens, Kew, 1985.

Y'all want fries with that?

—gleanings from the Net on selling immortality in the form of a specific epithet….

"A colleague of mine, who is in the process of naming several newly discovered parasitic helminths, just auctioned off the specific epithet of one at a church auction. While the goal is admirable (to raise funds for charitable purposes), I am disturbed by the possibility that individuals could do this for simple profit. There is something here that smacks of the unethical, but it's hard to put my finger on it. Many species have been named to honor individuals, including benefactors whose largesse provided support for the field work involved. But in those cases there was no explicit guarantee of the right to any name; i.e., it was always possible that no new species would be discovered. These auctions are different because the new species is already documented and waiting to be named. My own view is that the systematics community should discourage such practice."

"Raises the issue of "consumer protection" too: what happens if a supposed new species is found to be a variation of a previously existing one? Does the name-buyer get his/her money back? Ultimately, the commercialization of scientific names is a small scandal if it raises funds and awareness that, in some way, however indirectly, help protect the rapidly disappearing biodiversity that we are trying to document.
'Do you offer a guarantee with the name, sir?' 'If I don't like the organism assigned to my name, can I exchange it for another kind?' 'Can I have one of the paratypes? Oh, that'll be extra? How much extra?'"

"It seems to me that consideration of the ethics involved with *selling* scientific names at auction forces a distinction between terms such as Patronomy and Partnership vs. others, such as Prostitution and Pandering. If systematic biology has been lowered to a position that forces this type of activity, then I guess it's an ethical path to follow. Seems to me it's a sad comment and also, if it becomes 'accepted', another potential spam-generating element for the nomenclatural system."

"Just another symptom of the increasingly mercenary (and hence ugly) world of human affairs …. "

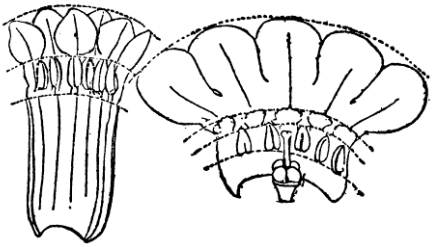
"I would like to know what is the price of new name of new species, if you talk to name a beetle for 20 bucks is making thunderstorm in coffeecup."

"This is absolutely right. The thing that has most offended me about this whole names-for-money thing is the way paying miniscule amounts for the 'right' to specify the names cheapens taxonomy. The Canadian Museum of Nature recently 'sold' one of Bob Anderson's weevils for $500. If these sales are to be held, the sums the names are sold for should at least be enough to pay for the discovery, description, and publication of the name, and cover curatorial care of the type series for a few decades."

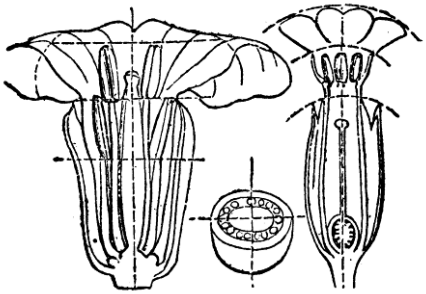
"While I agree with the uneasiness of many people commenting on this issue, I think it should not be restricted to the 'sale of names'. The idea which strikes me in this move by the Audubon society is that somebody will take the patronage for a highly endangered species. In doing so, she or he should be interested in preserving the continued existence of this species. Quite correctly, somebody pointed out that a species named smithii does not really belong to a person after which it was named. However, if the action extends beyond the auction, the patronage may be more than just the buying of a name. Judicious use of name-patrons may help in the protection of some species. I prefer living species with a name sold at an auction to extinct species in museums or books."

This is the final part from Walter Hood Fitch's articles first published in the Gardeners' Chronicle, 1869.

Analysis.—In drawing analyses of flowers, their size should be regulated by that of the drawing in which they are to be introduced, as small dissections added to a large plate appear trying, and if they are to be of use in explaining the structure they should always be sufficiently magnified to exhibit unmistakably and correctly the smallest peculiarity that may be of interest.



K. Dissections of
(i) Angular Solomon's Seal;
(ii) Forget-me-not



L. Dissections of
(i) Wallflower; (ii) Cowslip

In some earlier works on botany, the dissections are often represented of even less than the natural size, and are placed, perhaps judiciously, so as almost to escape observation: an instance of bad taste or timidity, which is not so common in later productions of the pencil or press. If analyses are intended to be useful, they should be large enough to be sufficiently explanatory even in respect to their hairs, glands, etc. There is a general tendency in first attempts at dissection to represent the portions too small, on the same principle, possibly, that schoolboys are rather partial to small handwriting, under the impression that errors are not so easily detected. It requires some judgment to hit the happy medium.

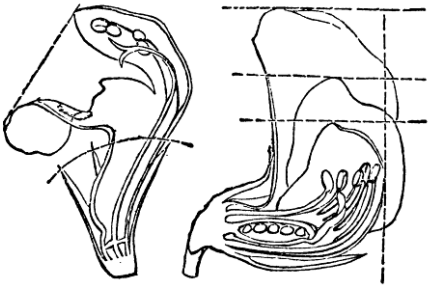
For general purposes a flower shown cut open through the middle is sufficient, but for scientific enlightenment much more is requisite: and the beginner, if he wishes to perfect himself in these matters, should consult some botanical work, for it is not my object in these notes to give a lecture on structural botany.

If a Forget-me-not be the subject of study, the beginner should first faintly define the contour, then mark of the relative position and size of the stamens, and notice whether they are betwixt or opposite the lobes of the corolla, as in Figure K(ii).

When the ovary is represented as cut open, to show the arrangement of the ovules, it is advisable to cut the corolla also in half verticality and treat it as in the former case. Cruciferous plants, such as the Wallflower, will be found easier to render if treated as in Figure L(i); the lines there marked across as a test of the distance and size of the parts, may be put in or imagined. In making sections of the ovary, it will save much trouble and use of india-rubber if they be treated as in the section given below; if there are many compartments this circle should be divided systematically, by lines radiating from the centre, and it is possible thus to make them all of the same dimensions. The right-hand figure in this diagram shows how the structure of the Cowslip may be shown.

Irregular flowers, such as those of the Mint or Dead Nettle, may be represented neatly di-

vided vertically with but half the parts remaining, as in the following cut, or spread open like any regular flower. It must be remembered that, however unequal the lobes of the corolla may be, the stamens or filaments almost always spring from between them, and it is a certain test to draw a faint line from the base of each filament to the cleft of the lower. The filaments in such flowers are often attached low down in the tube, and if this precaution be not taken, a botanist might have some reason to doubt the correctness or botanical knowledge of the draughtsman. Figure M (i) will, perhaps, be of service in illustration of my observations.



M. Dissections of irregular flowers: (i) Labiate; (ii) Pea

Papilionaceous, or Pea-flowers are often represented, for scientific purposes, with all the parts separated, but it is a good and concise method to show a lower cut vertically in half through the ovary, so as to explain the relative position of the parts, the number of ovules in the seed-vessel, etc. (Fig. M (ii)).

The foregoing remarks may be serviceable to those who are ambitious of testing their patience, and correctness of eye, by dissecting flowers. Indeed, one of the best exercises of the former virtue with which I am acquainted, is the analysis of a dried flower, from an herbarium specimen, perhaps very small, worm-eaten and gluey, and having no apparent analogy to any known plant.

After treating of the inside of flowers, it may be well to allude to the various coverings of the outside, and of plants generally, viz., the hairs, down, and down, and spines with which they are sometimes clothed. Let not the botanical artist who would earn a character for careful observation and correct representation, regard these as trifling matters, for they have caused more schism in the botanical world, perhaps, than their apparent importance would justify—ay, even to the bandying between opposing parties of opprobrious epithets, such as "hair-splitters" and "lumpers". It is best to steer a middle course between the contending factions, for an artist, if judicious, should have no bias either way—he is generally regarded as a neutral person.

Hairs, however, if very obvious on a plant, should certainly be rendered, and not in a slovenly manner. The angle they form with the part covered should be noted, as well as their general form, whether glandular or stellate, etc. : if they are represented at all, they should be done correctly. The artist will see that it is safest to be correct to a hair, and if he wishes to educate and refine his eyes in this respect, I could not recommend more suitable subjects for the purpose than the British Roses and Brambles, two groups of plants greatly indebted to acute British botanists for their numerous subdivisions, and which, without the aid of particularly correct drawings, it would be very difficult to define.

The few hints that I have given, if applied practically, will, I hope, induce the beginner to proceed systematically in flower drawing, as he should do in any other pursuit. Then, by dint of zealous application, he may become qualified even to draw a dried specimen from the herbarium— an effort which will test his judgment, and call forth all his knowledge of perspective and adjustment.

It is not absolutely desirable (as some by their works would seem to imagine) that a drawing should exhibit any amount of evidence that it has been made from a dried specimen, but it is a curious fact that in drawings made from such materials some latent manifestation is seldom wanting, though he acute botanical critic would not hesitate to

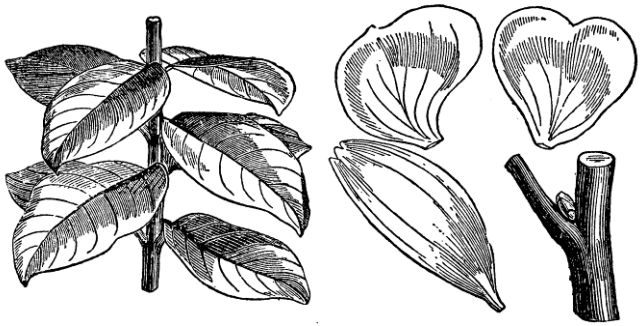
whom he should award credit for bad taste or ignorance—the plant or the artist. Sketching living plants is merely a species of copying, but dried specimens test the artist's ability to the uttermost; and by drawings made from them would I be judged as a correct draughtsman.

Shading.—Having delivered myself of these truisms, and my humble opinion thereon, I shall venture to say something about the shading of plants, premising that I do not allude to the artistic treatment of which they are susceptible, but rather to theoretical shading.

In drawings with a background all the shades require to be proportionally deeper than in those on white paper, and various effects of light and shade may be rendered which should be charily indulged in when the background is white, for in the latter case the tone may be as light or dark as suits the taste of the artist. In strictly botanical drawings a background is seldom given, and in most cases all the shading necessary is just enough to give unmistakable form to the parts, which should be all treated as if opaque. The transparency of the flowers may be slightly rendered, but the translucency of the leaves should never be attempted.

As a general rule in shading with pencil or with brown or black, if the drawing is to be coloured, the shading should be faintly put in, and any attempt to supply the place of actual colour by tinting all the surface of a flower or leaf should be avoided as a useless waste of labour, and consequently in bad taste. I make an exception in the case of dark-coloured fruits or stems; they may be tinted and shaded deeper with good effect.

In using the lead pencil it is of course necessary to produce the effect of shade by a series of touches, and unless the leaves be small, the lines should never be made in the direction of the midrib, but should follow the direction of the veins as shown in the left hand cut.



N. The shading of (i) leaves; (ii) petals and stem

If the artist should have occasion to lithograph or draw for wood-engraving, he will find the advantage of proceeding in this manner, as the lines answer a double purpose, and impart both shade and texture. In the shadow of one leaf on another (an effect which should always be rendered in a coloured or highly-shaded drawing) the lines may be hatched, as it is technically termed, i.e., crossed diagonally. In flowers the touches should blend with the visible or suppositious venation, for the shading, however finely done, if the lines be not systematically arranged, will never give the proper effect of shading. To make the lines of the shading harmonize with the venation may appear a very simple thing, but if the reader will test his skill in that respect, I venture to predict that he will discover it to be one of the most difficult exercises of the pencil.

Stems, or any cylindrical portions of plants, should be treated as in the instance of the right hand figure in the foregoing cut—a reflected light should be left on the shaded side; this will suggest that a section would be circular, but were the shading deepest near the outline of the stem, it would appear compressed, and a section would be oval. I have heard it remarked that reflected lights are an artistic refinement in botanical drawings for scientific purposes, but as it is certainly effective and natural an artist may safely give the paper on which he draws some credit for reflection.

Threatened and uncommon orchids of New Zealand

From PJ de Lange *et al* (Threatened and uncommon plants of NZ. *NZ Journal of Botany* 2004; 42: 45-76), who presented a reappraisal of the conservation status of the indigenous New Zealand vascular plant flora, using the classification below. **Appendix 1** lists New Zealand threatened and uncommon vascular plants, and **Appendix 2** lists taxonomically indeterminate plants († denotes indigenous taxa found naturally outside New Zealand; ‡ denotes an addition to this list [*cf.* de Lange *et* al. 1999]). ***Qualifiers***: EW Extinct in the wild; CD Conservation dependent; DP Data poor; RC Recovering; ST Stable; SO Secure overseas; TO Threatened overseas; HI Human induced; RF Recruitment failure; EF Extreme fluctuations; OL One location; PD Partial decline; IE Island endemic.

Orchids listed in appendix 1 and 2

Extinct: no NZ orchid is regarded as extinct.

Acutely threatened

1. Nationally critical (7)

Anzybas carsei CD, HI, RF, EF, OL
Linguella puberula HI, EF
Pterostylis micromega CD, HI, EF
Thelymitra sanscilia DP, EF
Calochilus aff. *herbaceus* SO, EF
‡*Microtis* aff. *unifolia* DP, OL
Thelymitra "Ahipara" CD, DP, HI, EF

2. Nationally endangered (0)

3. Nationally vulnerable (1)

Prasophyllum aff. *patens* CD, DP

Chronically threatened

1. Serious decline (3)

Drymoanthus flavus
†*Plumatochilos tasmanicum* SO, HI, EF
Pterostylis paludosa EF

2. Gradual decline (0)

At risk

1. Sparse (14)

Adelopetalum tuberculatum
Anzybas rotundifolius
†*Calochilus paludosus* SO, EF
†*C. robertsonii* SO, EF
‡†*Corunastylis nuda* SO, EF
‡†*C. pumila* SO, EF
‡*Hymenochilus tanypodus* EF
‡*H. tristis* HI, EF
Pterostylis cernua EF
Stegostyla atradenia
‡*Thelymitra formosa* DP, EF
T. tholiformis EF
Townsonia deflexa
‡*Thelymitra* aff. *ixioides* DP, SO, EF

2. Range restricted (14)

‡†*Petalochilus alatus* DP, TO
‡*Pterostylis silvicultrix* IE
‡*Thelymitra* "darkie" EF
‡*T.* "rough leaf" EF

Non-resident native

1. Vagrant (4)

‡†*Chiloglottis trapeziformis* EW, SO
†*Simpliglottis valida* SO
†*Paracaleana minor* SO
†*Pterostylis nutans* SO

2. Coloniser (4)

†*Cryptostylis subulata* SO
†*Diplodium alveatum* SO
†*Thelymitra malvina* SO
†*T. matthewsii* TO

Data deficient (14)

Nematoceras rivularis
‡*Pterostylis auriculata*
P. irwinii
P. porrecta
‡*Nematoceras* aff. *rivularis* "rest area"
‡*N.* aff. *rivularis* "whiskers"
‡*N.* aff. *rivularis* "Kaimai"
‡*N.* aff. *rivularis* "Kaitarakihi OL
‡*N.* aff. *trilobus* "pygmy"
‡*N.* aff. *trilobus* "Rimutaka"
‡*N.* aff. *trilobus* "Trotters"
‡*Pterostylis* aff. *graminea* "sphagnum"
Spiranthes aff. *novae-zelandiae* "Motutangi" HI, EF
‡*Thelymitra* aff. *longifolia* "Whakapapa"

Appendix 3 lists plants previously listed but no longer considered to be threatened. It contains no orchids.

The authors note, "The exact status of specimens of *Chiloglottis*, collected by R. H. Matthews near Kaitaia between 1901 and 1914, and attributed to *C. formicifera* Fitz. by Cheeseman (1901) and Moore (in Moore & Edgar 1970) has been problematic. Although these specimens have many features of *C. formicifera*, they are more similar to *C. trapeziformis* Fitz. where they were placed by Molloy (in de Lange & Murray 2002). Recently this decision has been questioned (Scanlen 2003). On the latest advice, the Australian authority on the genus, D. L. Jones (pers. comm.) who has examined Matthews' material, has placed these specimens within *C. trapeziformis*. It should also be noted that *bona fide C. trapeziformis* is known from New Zealand based on recent gatherings made near Hokio beach during 2001 (de Lange & Murray 2002).

"The Column" —*continued from page 19*

Petalochilus minor classic blooms (**Fig 13**) all-green-outside, white tepals inside and a red barred labellum with toothed margin to the midlobe, at both Waitiri Track (29 November 2003) and Moki Rd. (29 November 2002) confirm that this species is alive and well in ER 24.

***Gastrodia* "long column"** (**Fig 14**) at Hickman Rd Urenui (just out of ER24 in ER 25 Egmont) 18 or more flowering, 1-31 January. They are scented and look just like the *sensu stricto* form of Hugh Wilson's from Stewart Island (as does the Owhango taxon, J67:21) but they don't produce seed either. In the open on the south side of native bush and in dappled shade, Gary's will be getting too much light like those in the bark gardens at Invercargill which also didn't set seed. The curious pattern of erect buds, dropping to plumb flowers, show in the pics but confirmation is needed of flowers in *deep shade*, rising again as numerous erect seed capsules, just to be sure. Gary has been following their erratic flowering pattern for some years, from none, to a few to numerous tubers sprouting forth. So it seems that they only flower when conditions suit; like all the other *Gastrodia*.

ER 25, Egmont turned on a nice ***Petalochilus* aff. *chlorostylus* (Fig 15)** for Gary on 18 December 2003 at Carrington Rd. Pukeiti, all dark red stemmed with the typical dark red sepal ridges up the ovary, and green petal wedges between. Crowded, sessile, red glands on the sepals added to the toothed margins of the midlobe, confirm this taxon of Bruce Irwin's.

Gary's splendid photography and his penchant for native orchids, is an example to anyone with a reasonable single lens reflex camera who needs evidence to convince the doubting Thomases about their orchid finds. Get some extension tubes (or a good digi camera) and a flash gun and show them exactly what you have found and keep the fresh evidence for as long as it takes.

Gary is struggling against the odds at this time so our prayers, hopes and earnest best wishes are with him.

australiannotes

Caladenia revisited

Hopper SD, Brown AP. Robert Brown's *Caladenia* revisited, including a revision of its sister genera *Cyanicula*, *Ericksonella* and *Pheladenia* (Caladeniinae: Orchidaceae). Australian Systematic Botany 29 April 2004; 17 (2): 171-240.

"Nomenclatural confusion has been generated regarding the large Australasian terrestrial orchid genus *Caladenia* following publication from 2001 onwards of three major treatments of Caladeniinae. Here, we review concepts for *Caladenia* and allied genera in the subtribe, we revise three sister genera of *Caladenia* (*Cyanicula*, *Ericksonella* and *Pheladenia*), and we present an annotated nomenclatural checklist with many new synonymies and some new combinations. A revised circumscription of ten genera in the Caladeniinae is presented, including both *Adenochilus* and *Eriochilus*, which have recently been segregated as monogeneric subtribes by others. We argue for retaining *Caladenia* in the broad sense, largely reflecting Robert Brown's original concept, differing only in the recognition as genera of *Cyanicula*, *Pheladenia*, and *Leptoceras*, as well as two monotypic genera not known to Brown but later described as species of *Caladenia* (*Praecoxanthus* and *Ericksonella*). Thus *Caladenia* remains a large Australasian genus of terrestrial orchids with 243 species and six subgenera. This approach maximises nomenclatural stability while ensuring that hypothesised monophyly is upheld in the light of molecular phylogenetics analyses. The valid type for *Caladenia* is *C. carnea*, while that for *Caladenia* sect. *Calonema* is *C. longicauda*. The genus *Jonesiopsis* and generic combination *Phlebochilus* (Benth.) Szlach. were validly published. These conclusions call into question many recently erected taxa and combinations of other authors. Synonyms of *Caladenia* include *Arachnorchis*, *Calonemorchis*, *Drakonorchis*, *Jonesiopsis*, *Petalochilus*, *Phlebochilus* and *Stegostyla*. *Pentisia* is a synonym of *Cyanicula*. *Calonema* (Lindl.) Szlach. and *Calonema* (Lindl.) D.L. Jones and M.A. Clem. are invalid generic combinations as the name *Calonema* had already been used for a fungal genus.

"New taxa described herein include *Ericksonella*, *Cyanicula* subgenus *Trilobatae*, *C. aperta*, *C. ixioides* subsp. *candida*, × *Cyanthera* and × *C. glossodioides*. New combinations include *Caladenia* subgenus *Stegostyla* (D.L. Jones and M.A. Clem.) Hopper and A.P. Br., *C. graniticola* (Hopper and A.P. Br.) Hopper and A.P. Br., *C. saccata* (R.S. Rogers) Hopper & A.P. Br., *C. orientalis* (G.W. Carr) Hopper & A.P. Br., and *C. villosissima* (G.W. Carr) Hopper & A.P. Br., and *Ericksonella saccharata* (Reichb.f.) Hopper and A.P.Br."

Terrestrial Study Group – Mt. Buffalo report

Dick Thomson**,** *Australian Native Orchid Society (Vic.) Bulletin* Vol. 36, 8 March 2004.

An enthusiastic group met on the weekend before Christmas to search again for the elusive *Prasophyllum suttonii*. This species name exists because of a plant that was found and described in 1902 at Mt Buffallo, but it has not been recorded since.

Given the lack of success with previous efforts to locate the orchid, much research was undertaken prior to the excursion…. This time we arrived with Park Rangers, local experts, threatened species officers and lots of enthusiasm.

The weather welcomed us with a day of rain, and as we drove up the mountain the waterfalls across the fire ravaged rocks were spectacular as was the devastation from the January 2003 bushfires. Some of the mountain sides and the plateau were still totally bare, while others areas had good regrowth and a few areas were in spectacular flower.

Back to the search. The morning was spent searching potential habitat areas near the Chalet. Finally a *Prasophyllum* was located but it was only *P. brevilabre*. Further searching failed to locate more plants, so we

returned to a shelter in the car park to dry off and share lunch with some hang glider people who were also hoping for a weather change.

After lunch we ventured to the known *Prasophyllum* locations near the skiing areas. This time we found lots of *Prasophyllum* leaves, a flooded creek to log and rock hop across, and lots of tall wet grass ... but no sign of *P. suttonii*. A further search around Lake Catani located *Prasophyllum* leaves, some flowers of *Diuris montana* and a few *Pterostylis monticola.* No doubt the most exciting event of the weekend was Michael Duncan's attempt to out sprint a wombat. The result: a dead heat as they stood looking at each other.

Sunday greeted us with sunshine. After discussion, a search was undertaken along the old road from Lake Catani to the Chalet. Again without success, but flowers of *Chiloglottis valida* and other *Prasophyllum* spp. were located. After lunch we again searched the area near the Chalet, this time extending to Mansfield's Lookout. Many flowering plants of *Prasophyllum brevilabre* were found. A special treat, but not *P. suttonii*.

What of *Prasophyllum suttonii*? As a non-expert I suggest that, given the description of the plant and flower, it is most likely to be a hybrid between *P. brevilabre* and another montane *Prasophyllum*.

Alpine orchids and fire

by Dick Thomson**,** *Australian Native Orchid Society (Vic.) Bulletin* Vol. 36, 8 March 2004.

Over the last decade, Marion and I have been studying the summer flowering alpine orchids around Kiandra. The area was extensively burnt in the fires of January 2003.

While it was good to see the orchids that survived the fire, the spectacular mass-flowering of other species such as Yellow Billy Buttons (*Craspedia* sp.) and Bulbine Lillies (*Bulbine glauca*), the Pink Trigger Plants (*Stylidium graminifolium*) and the White Prickly Star-Wart (*Stellaria pungens*) was a sight to behold. But the most beautiful were the half metre high pale mauve mist of the Pale Vanilla Lily (*Arthropodium milleflorum*) rising up the hillside among the black trunks. *Thelymitra cyanea* produced strong, mostly multiple, flowers on the majority of remaining plants. It appears that at least 95% of the plants had been destroyed when the sphagnum bogs were burnt.

Thelymitra nuda (alpine form) flowered in normal numbers. It is interesting to note that this orchid produced no flowers and very few leaves last year, in the drought that preceeded the fire, and had its flowers and some leaves destroyed by a heavy snows falls in the previous season. *Thelymitra decora* appeared to have flowered as normal, although the small numbers make it difficult to be confident in this prediction.

Caladenia alpina flowered in normal numbers and there appeared to be a much heavier seed set. *Pterostylis monticola* was much reduced in numbers with only a few flowers. Plants seemed to be distressed by the extra sunlight they were receiving.

Chiloglottis valida was severely reduced. Plants that remained were close to the edges of rocks or in the compacted soil of walking tracks. No flowers were seen. *Pterostylis cycnocephala* (alpine form) seems to have been much reduced, although the very dense regrowth of grasses made it difficult to locate plants.

Dipodium roseum was not found flowering in lower altitude areas that were burnt. *Gastrodia procera* and *G. sesamoides* were not seen flowering in the burnt areas but flowered in non-burnt areas - sometimes in unburned patches within the burned area.

Diuris monticola seemed to be flowering in average numbers. The alpine prasophyllums were flowering in their usual numbers. In a heavily burnt area we also located a dozen plants of *Prasophyllum brevilabre* that had not been seen in the past decade.

Searches failed to locate plants of *Arthrochilus huntianus*. The suspicion is that it is destroyed by fire and needs to recolonise from seed blown from unburnt areas.

this issue

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