

The  
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Native  
Orchid  
Journal



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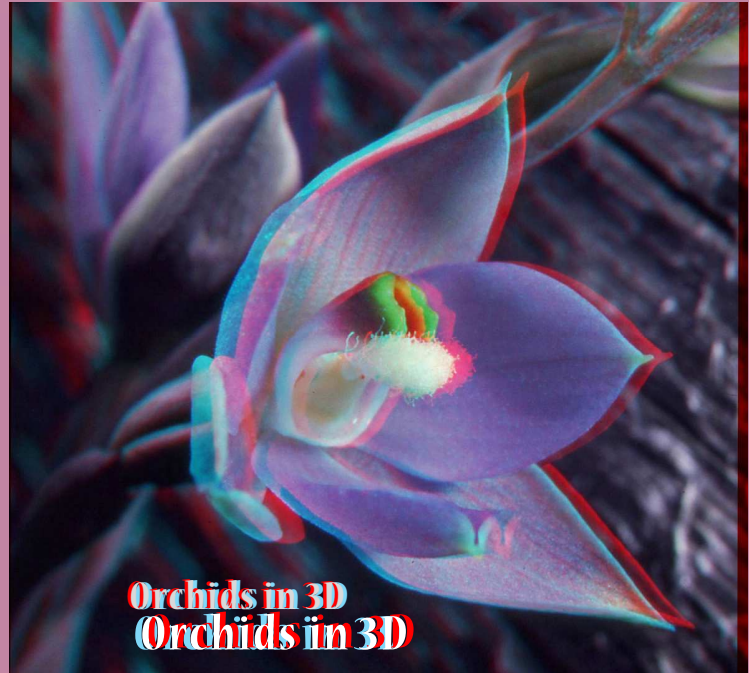
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If you don't have 3D glasses for viewing these 3D images, please contact the editor: [istge@yahoo.co.nz](mailto:istge@yahoo.co.nz)

## From the Chair: Gael Donaghy



Kia ora tatou

Spring has well and truly sprung here in the Bay of Plenty, with strange patterns in plant flowering and fruiting in the garden. Last season's drought, the warm winter, and the one brief early cold snap are all possible factors.

The orchids too seem to be flowering early.

In this edition you will find some good reading about a mystery Thelymitra: a winter flowering that has been found in Day's Bay and Great Barrier Island (pp 8—9). It seems to be like the Australian Winter Flowering Orchid *Thelymitra hiemalis*. This orchid may be a hybrid but no possible parents flower this early. Some people have suggested that this is a freak resulting from an abnormality in development, but this is dismissed by others as it appears in different locations. To add depth to an understanding of this winter flowering orchid, there is an article from Carlos (p 5) and an ANOS paper (pp 12–13).

Understanding nature is never easy, and identifying hybridism is even more complex. Some groups of plants in NZ are known for

"adaptive radiation" meaning that there are many species that have evolved because of the varied habitats available in this geologically young country - Hebes are a good example of this. So I'm wondering if extreme factors, or maybe combinations of factors, such as those caused by global warming, are driving the selection of hybrid forms in our orchids?

So how do these "thought experiments" translate to observations of orchids in the wild? My experience this spring with *Corybas* led to study of Carlos's paper in which he named five new taxa from the *Corybas trilobus* aggregate. I have struggled to identify those *Corybas* I have seen, because of variation in the field. I thought I had *C. vitreus* nailed, with its distinctive green dorsal, often notched, clamped tightly over the labellum, and flower angled towards the leaf. Then I find a similar orchid, with a dorsal sepal which has a small mucro and which extends beyond the labellum. The flower is also upright rather than nodding. Some *C. vitreus* flowers are very small, and some quite large (almost as large as *C. macranthus*). How do we come to terms with variation like this? ie, what is the range of natural variation within *C. vitreus*? This is an important question, because we need to have an idea of the range of variation in a species if we are to understand or perhaps to come to terms with hybrids.

Ian has neatly outlined some ideas on hybridism for us in his Editori- al on p 14. I'm hoping those of you who can make it to Pukenui will bring your thoughts and your photos of possible hybrids (on a memory stick) so we can all share them.

A new  
orchid  
in NZ?



Photograph by Andreas Zeller

# DNA study helps to identify mystery winter-blooming sun orchid (*Thelymitra*) from Eastbourne

Carlos Lehnebach and Lara Shepherd, Museum of New Zealand Te Papa Tongarewa Wellington. Email: CarlosL@tepapa.govt.nz

Finding a sun orchid (*Thelymitra*) blooming in the middle of winter is unusual and the news of such a discovery quickly spread over social media. Photos of this orchid and suggestions about its identity and origin were shared on Facebook, Twitter, iNaturalist and The Eastbourne Herald (page 7, 24 July 2020). This plant was variously suggested to be a hybrid, a mutant or an extremely rare Australian species known as the winter sun orchid (*Thelymitra hiemalis*) (**Fig. 1**).

The mystery sun orchid (**Fig. 2**) was found in the Eastbourne Hills growing by the side of a track. Unlike other sun orchids, this plant had only a few flowers, all held on a single stunted spike. But the most unusual feature of this sun orchid was that its flowers remained wide open independent of weather conditions (other sun orchids only open on warm, sunny days). One of the flowers of the Eastbourne plant remained open for well over a month while others wilted very rapidly or failed to open.



◀ **Figure 1:** Winter sun orchid (*Thelymitra hiemalis*) from Australia. Photo by Reiner Richter. Photo 28165558, (c) Reiner Richter, some rights reserved (CC BY-NC-SA). (<https://www.inaturalist.org/photos/28165558>)

**Figure 2 ▶ :** Mystery winter-blooming sun orchid (*Thelymitra*) at Eastbourne (East Harbour Regional Park, Wellington). Photo by CA Lehnebach (1 August 2020).



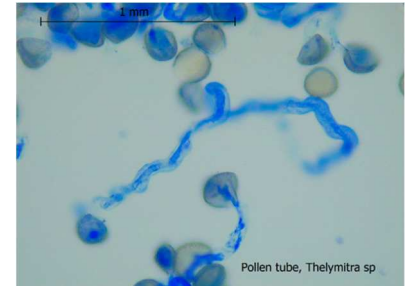
After obtaining permission from the Greater Wellington Regional Council to sample this sun orchid we collected two leaf fragments (about 30 mm long) and one flower. We used the leaf fragments to extract DNA and the flower to measure the size and shape of the sepals and petals and investigate pollen viability. Our DNA analyses showed this plant is a close relative of three other species of sun orchid found nearby (*Thelymitra longifolia*, *T. nervosa* and *T. paucifolia*). We also compared the genetic profile of the Eastbourne orchid with those of other sun orchids from NZ and Australia stored in the online data based GenBank and found an additional match to *T. ixioides*, represented by a sequence from a plant collected in Australia.

A close examination of the flower of the Eastbourne plant showed the column (**Fig. 3A, B**) and sepals (**Fig. 3C**) were normal in shape and size (about 15mm long × 5mm width) compared to other sun orchid flowers but the petals were not (**Fig. 3D**). This flower had two large petals (>15mm long) and one small petal (<10mm). The small petal was also narrower than the two larger petals (ca. 3mm v/s 5mm). Normally, in most sun orchids the three petals are of similar size and shape. We also examined a second flower at the site and noticed it only had sepals; all three petals were missing. This flower did not open and wilted very quickly.



**Figure 3:** A dissected flower of the winter-blooming sun orchid (*Thelymitra*) discovered in Eastbourne. A: Details of hairs (cilia) and post-anther lobe. B: Frontal view of column with pollinia and stigma. C: Sepals. D: Petals. White bar = 5mm. Photos by CA Lehnebach.

Finally we studied the pollen grains under the microscope and observed that many of them had formed a pollen tube (**Fig. 4**, stained blue for contrast). This means the pollen is viable. Similar to many other sun orchids, the flower self-pollinated and the fertilisation process was underway.



**Figure 4:** Pollen grains of the winter-blooming sun orchid (*Thelymitra*) observed under the microscope. The long, thread-like structures are pollen tubes. The sample was stained blue to improve contrast.

Based on the genetic results and the abnormalities observed in the flowers we believe this plant could be a distorted form of *T. nervosa* (which is very common at the site) or a fertile

hybrid between *T. longifolia* and *T. nervosa* or *T. paucifolia*. Unfortunately, there are no genetic sequences of the Australian winter sun orchid available on the GenBank data base for comparison but an image of a type specimen (MEL 0650595A) available on line at the Australasian Virtual Herbarium site (<https://avh.ala.org.au/occurrences/search?taxa=Thelymitra+hiemalis>) clearly shows the differences between both plants (e.g. plant size, length of the spike and floral bract, and arrangement of the flowers). It is interesting to mention here that *T. hiemalis* has also been referred to as a hybrid or a mutant in Australia (see *editorial* following this).

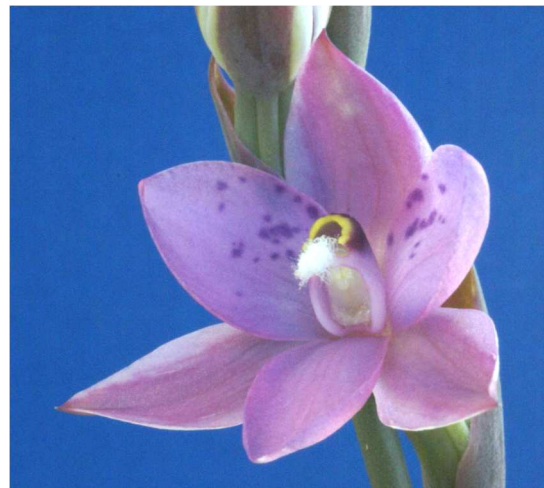
So why is this sun orchid flowering in the middle of the winter? Well, besides genetic factors, flowering of orchids seems to be strongly influenced by environmental signals such as temperature (Wang *et al.* 2019). It is likely that the unusually warm winter we have had this year has confused the internal clock of this orchid and triggered flowering. We have looked into all the records of sun orchids collected in New Zealand available online at the Australasian Virtual Herbarium (<https://avh.chah.org.au/>) and specimens at Te Papa and the earliest flowering specimens we could find was a specimen of *T. nervosa* collected near Waiotapu in September 1921 (<https://collections.tepapa.govt.nz/search/SP003827/results>). Most recently, Jack Warden reported finding a sun orchid flowering also in September but on Great Barrier Island. His plant has some resemblance with the Eastbourne orchid (see *editorial* and <https://inaturalist.nz/observations/33247098>). However, because of the malformations observed in the spike and flowers (missing petals and size differences plus continuously open flowers) it is very likely a warm winter is not the only factor behind this unusual plant. It would be interesting to follow the fate of this plant. Will the flowers form fruits? Will it flower next year in the middle of the winter? Will it form mutant flowers again?

#### Acknowledgements

Thanks to Greater Wellington Regional Council for granting permission to sample this plant and Ian St. George and Michael Szabo for sharing their thoughts and information on *T. hiemalis* with us. This study was supported by the Australian and Pacific Science Foundation Grant APSF19047 to Lehnebach & Shepherd.

#### References

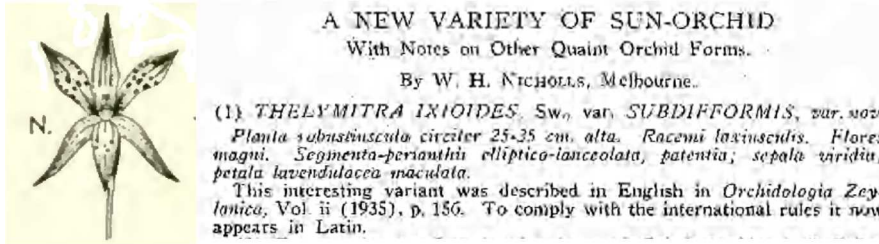
Wang Shan-Li, Viswanath Kotapati Kasi, Tong Chii-Gong, An Hye Ryun, Jang Seonghoe, Chen Fure-Chyi. 2019. Floral induction and flower development of orchids. *Frontiers in Plant Science*: 1258. URL=<https://www.frontiersin.org/article/10.3389/fpls.2019.01258>



*Thelymitra nervosa*—Ed.

# Editorial: *Thelymitra hiemalis*

In 1935 the Melbourne orchidologist WH Nicholls described a new variety of *Thelymitra ixiooides* he called var. *subdifformis* in *Orchidologia Zeylanica* ii: 156. Then (to comply with the rules) in 1946 he described it in Latin in *Victorian Naturalist* 61: 207:

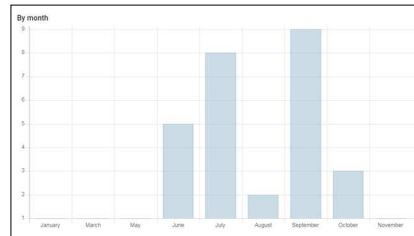


He had painted it in 1934 and in 1969 published the painting in his *Orchids of Australia*. ▶

In 1998 David Jones and Mark Clements, regarding the plant as a true species, named it *Thelymitra hiemalis* in *Orchadian* (see <https://id.biodiversity.org.au/name/apni/178883>).

There is a good account, with photographs, at <https://bie.ala.org.au/species/https://id.biodiversity.org.au/name/apni/178883>. It begins, “*Thelymitra hiemalis*, commonly called the winter sun orchid, is a species of orchid that is endemic to Victoria. It is a winter flowering orchid with greenish sepals and blue or mauve petals with large, irregular, darker spots.”

The plant is known from only a few areas of southern Victoria and is regarded as “endangered”. A report from Tasmania appears rather dubious and many of the Google photographs purporting to be *T. hiemalis* do not match. Australian records show two peaks (June/July and September).





When the NZ discovery was posted on the Facebook native orchid page, Jack Warden posted an image of a similar orchid he had photographed on Great Barrier Island in September.



There are two Latin words for winter, each with a slightly different flavour: *hiemps* = winter, stormy weather, chill, alienation, coldness; *bruma* = winter, winter solstice, shortest (day). Hence the specific orchid epithets *hiemalis*, *brumalis*.

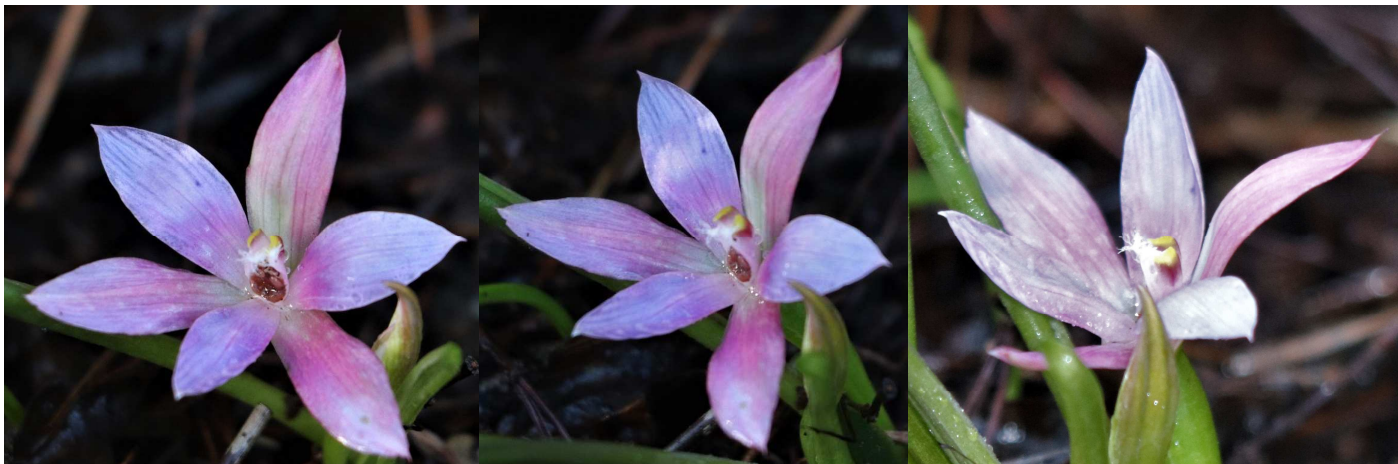


How should we explain these disjunct appearances? is this a true species? Jones and Clements stated in their description, “Nicholls (1935) originally considered this to be a teratological form.... Backhouse & Jeanes also suggested that this taxon may represent a freakish development of *T. ixioides* var. *ixioides*. These theories are not supported by the recorded seasonal local proliferation of the taxon....”

On the other hand Michael Duncan posted this on the Facebook page, “In Aust, we have *T. hiemalis*, a winter flowering mutant or freak form of the spotted sun orchid. It's thought to be a leaf that mutates to become a flower stalk, leading to very early flowering, weird looking flowers, and a leaf that looks more like a bract. All known plants in Victoria have varied flower morphology. You might have something similar.”

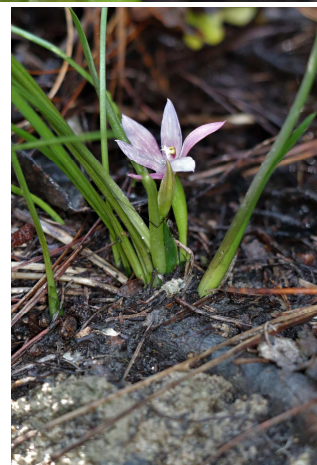
Yes, I think we have.

If so, do these plants arise after geographically and temporally separate events causing similar structural transformations in some individuals in discrete populations of *Thelymitra ixioides* in Australia and *T. nervosa* in New Zealand? and if so what might those events have been—cross fertilisation? cosmic irradiation? viral infection? herbicides? *manus Domini Dei*?



The winter flowering *Thelymitra* at Day's Bay, Wellington, early July 2020; photographs by Michael Szabo, reproduced with permission.

You can read Michael's account on page 7 of the July 2020 *Eastbourne Herald* at <http://theeastbourneherald.impress.ly/#!read-the-herald-online> .





◀▲ A plant from Brisbane Ranges NP, Victoria, open on 30 Sept 2014: detail of photographs by Cathy Powers.

A somewhat similar specimen from near Beaufort, Victoria, open on 28 April 2011: detail of photographs by Cathy Powers. ▼▶



## Sunnyside up by Ian Taylor & Gordon Leckie. *First published in the ANOS Victorian Group's Bulletin, August 2020; 53(2): 10–11.*

On a hot sunny north wind day, with pollinators swarming, Gordon and I ventured to “The Points” in search of Sun Orchids and any other terrestrial that had survived this parched year. We were rewarded. Not only did we see a total of 16 Sun Orchids, some rare, and many hybrids identified subsequently by consultation with Richard Austin, but a further three uncommon “Sun Orchids at Anglesea a week later. Noted also were a number of other terrestrials in bloom.

Commencing at Stony Point while awaiting for the sun to open the *Thelymitra*, we identified the Green Leek (*Prasophyllum lindleyanum*) in full bloom, the Copper Beard (*Calochilus campestris*) opening and several patches of Large Tongue (*Cryptostylis subulata*) in early bud. Then, almost at the stroke of ten, we were rewarded

with a profusion of blue, red, pink and yellow - revealing Spotted Sun (*Thelymitra ixioides*), Rush Leaf Sun (*T. juncifolia*), Pink Sun (*T. carnea*), the hybrid Crested Sun (*T. ixioides x carnea*), Rabbit Ear Sun (*T. antennifera*) finishing, Trim Sun (*T. peniculata*), Salmon Sun (*T. rubra*) and, according to Richard, probably Forest Sun (*T. arenaria*).

We then proceeded to Crib Point where, again, the Sun Orchids were prolific with blue predominating. In addition to the above species, I have never seen so many Merran's Sun Orchids (*T. ixioides x peniculata* .... or is it *T. ixioides x holmesii*) as well as the rare Hoary Sun (*T. mucida*), Pepper Top Sun (*T. brevifolia*), Blue Star (*T. holmesii*), Truncate Sun (*T. ixioides x pauciflora*) and Slender Sun (*T. pauciflora*). Seen also, Cinnamon Bells (*Gastrodia*



L-R: *Thelymitra ixioides*, *T. juncifolia*, *T. carnea*, *T. ixioides x carnea*.



L-R: *Thelymitra antennifera*, *T. peniculata*, *T. rubra*, *T. arenaria*, Merran's Sun Orchid.



L-R: *Thelymitra mucida*, *T. brevifolia*, *T. ixioides x pauciflora*, *T. pauciflora*.

*sesamoides*) and lots of patches of *Cryptostylis subulata*.

Finally, we visited Lorna's Triangle to add the Twisted Sun (*Thelymitra flexuosa*), a hybrid (*T. rubra* x *ixioides*), Yellow Onion (*Microtis atrata*) and Purple Beard (*Calochilus robertsonii*) to the list in flower.

The following week in Anglesea we saw lots of Pale Flowered Sun (*Thelymitra pallidiflora*) in bud or open.



L-R: *Thelymitra flexuosa*, *T. rubra* x *ixioides*, *T. pallidiflora*,



Left:  
*Thelymitra benthamiana*.

Right:  
A wierd  
aberration of  
*T. hiemalis*?  
or  
*T. ixioides*?



In a burnt out area, a fantastic “clutch” of no less than eleven Blotched Sun (*T. benthamiana*) and an unusual Spotted Sun Orchid. I must confess to doing a little “plastic surgery” to help it open as the weather had become cooler. It looked very much like the Winter Sun Orchid (*T. hiemalis*) that had waited for summer to awaken! However, both Margaret MacDonald and Gary Backhouse felt that it was probably a wierd aberration of *T. ixioides*.

Altogether, not bad finds in a few areas that had survived the drought.

*Note the interesting hybrids—and the summer flowering mutant Thelymitra ixioides—Ed.*

# References to wild hybrids of NZ orchids: Ian St George

The Group is to discuss hybridisation in NZ orchids at its AGM this year. I couldn't find a formal classification of putative hybrids, so I invented one... possible, probable and proved.

- **Possible** means a suspected hybrid has characteristics of two known species.
- **Probable** means a possible hybrid found with both parents in the vicinity. Probability is enhanced by
  - \* metric comparisons, such as plotting leaf width against length, or petal and sepal length.
  - \* an explanation of why the breeding barrier(s) have been breached as normally two species should be unable to cross. The barrier(s) may be distance, habitat, pollinators, etc.
  - \* Human disturbance of habitat is a frequent generator of natural hybrids (Graeme Jane, *pers. comm.*).
- **Proved** means the hybrid has been artificially reproduced.
- A **hybrid swarm** is present when two parents and a range of intermediate forms are present in one place. It is “a continuous series of morphologically distinct hybrids resulting from hybridisation of two species followed by crossing and backcrossing of subsequent generations”.<sup>2</sup>

I searched the *Transactions* online for “hybrid +orchid” and got six results, of which only one referred to a possible orchid hybrid: Dan Hatch wrote “Pt. irsonianana appears to have originated as a hybrid between Pt. montana typica Hh. and Pt. venosa Col.”<sup>3</sup>

I searched for the key word “hybrid” in the *Index*<sup>1</sup> to the first 155 issues of the *NZNOJ* and its predecessor, the *NZNOG Newsletter* and found a number of apt records (**vol:** pp) ...

- 41: 5–8: *Corybas macranthus* x *trilobus*; Bruce Irwin’s careful descriptions and drawings. Probable.
- 44: 11–13: *Corybas macranthus* x *trilobus*; more from Bruce Irwin. Probable.
- 58: 4–7: *Corybas trilobus* x *C. “whiskers”*; Ian St George, Bruce Irwin. Probable.
- 61: 10: *Corybas trilobus* x *C. iridescens*; Bruce Irwin. Probable.
- 68: 28–29: Dan Hatch discussed the hybrid origins of  
*T. decora* (= *nervosa*): *T. ixioides* x *T. longifolia*.  
*T. hatchii*: *T. formosa* x *T. longifolia*.  
*T. pulchella*: *T. cyanea* x *T. longifolia*>  
*T. tholiformis*: *T. aemula* x *T. pauciflora*.  
*T. x dentata*: *T. longifolia* x *T. pulchella*. Proved.
- 71: 17–18: Graeme Jane and Gael Donaghy recorded *Corybas macranthus* x *C. orbiculatus* from Waima River (Probable), *Pterostylis australis* x *P. oliveri* at Cobb (Probable); the wide range of forms in the *P. montana* complex also suggested hybridism.
- 77: 14–15: Eric Scanlen’s *P. agathicola* x *P. aff. graminea*. Probable.
- 79: 3: mention of *Thelymitra* “Comet” (Probable) and *Corybas macranthus* x *C. “Trotters”*. Probable.
- 82: 18–20: Gael Donaghy and Graeme Jane’s *Corybas papa* x *C. iridescens*. Probable.
- 83: 18–19: Bruce Irwin discussed hybridism in *Corybas*.
- 93: 26: Margaret Menzies’s *Corybas iridescens* x *C. trilobus* drawn by Bruce Irwin. Probable.
- 93: 29: *Corybas hatchii* x *C. vitreus* (as *Nematoceras longipetalus* x *N. hypogaeus*) with photographs. Probable.
- 94: 9–12: 95: 4–9: 102:12; editorials on hybrids.
- 106: 41: *Thelymitra* “Ahipara” x *T. “darkie”*; Kevin Matthews. Probable.
- 146: 15: Matt Ward’s *Corybas vitreus* x *C. hatchii*. Probable.
- 149: 13–15: Mark Moorhouse’s original paper on natural *Pterostylis* hybrids; *Pterostylis australis* x *P. oliveri* Probable; *P. banksii* x *P. irsonianana* Probable.

One useful outcome is my recognition of the necessity for a searchable file of back issues of the *NZNOJ*.

## References

1. Scanlen E 2020. JI Index 1–155. Vols 1–3.
2. <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803095952549>
3. Hatch ED 1950. The Epiphytic Orchids of New Zealand and a New Species of *Pterostylis* from Mount Egmont. *Trans. NZ Inst.* 78.

## New names?

Amazon has for sale, ***Introduction to the Australian & New Zealand Bulbophyllum & Vandaceous Orchids (with other observations in subtribe Aeridinae)***. Paperback – December 30, 2019. The blurb reads, “This book provides an introduction to the Australian and New Zealand wild orchid genus *Bulbophyllum* and the rather diverse group of vandaceous orchids of the subtribe Aeridinae. 18 of the 29 *Bulbophyllum* are presented with text descriptions and colour photographs and both the New Zealand representatives are also covered. The Australian and New Zealand subtribe Aeridinae genera are covered with a text description for each genus with all publishing details provided accompanied by at least one representative species with a text description and colour photographs. At the back of the book 2 new vandaceous genera are proposed viz. *Arachnopapua* and *Newzealochilus* and one new species of *Taeniophyllum*....”

The proposed new species are *Newzealochilus adversus* for *Drymoanthus adversus* (*D. flavus* isn't mentioned) and *Taeniophyllum northlandicum*, of which Peter de Lange wrote,

“Previously as *Taeniophyllum norfolkianum*, Beadel et al. (2010) noted that the flowers of New Zealand specimens were 7–10 mm long, this is much larger than the range given by Jones (2006) for that Norfolk Island endemic and that of the specimens they lodged of *T. northlandicum* in the Auckland Museum Herbarium. The measurements given in the description here is based on those herbarium specimens. At the time the size ranges given were still larger than those given by Jones (2006) of *T. norfolkianum* suggesting that the exact identity of New Zealand plants may require further investigation. Recently Rice (2019) described the New Zealand plant as a new endemic species, noting that it differs from *T. norfolkianum* in its growth habit, root size (10–25 x 1.0–1.5 mm cf. 15–60 x 1.2 mm),

warty rather smooth raceme axis, with plants producing fewer flowers (1–6 cf. 5–12 flowers). The flowers of *T. northlandicum* have a saccate rather spurred labellum base, and longer, more slender and triangular petal and sepals than the shortly ovate to sub hastate petals and sepals seen in *T. norfolkianum*.

Finally the labellum of *T. northlandicum* is prominently 3-lobed and furnished with a longer, thicker, recurved apical horn at the lip apex (indistinctly 3-lobed, horn slimmer, upright, non-recurved in *T. norfolkianum*).”

**Reference:** de Lange, P.J. (2020): *Taeniophyllum northlandicum* Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. <https://www.nzpcn.org.nz/flora/species/taeniophyllum-northlandicum/> (accessed 30 September 2020).



*Newzealochilus adversus?*

# The Type Locality

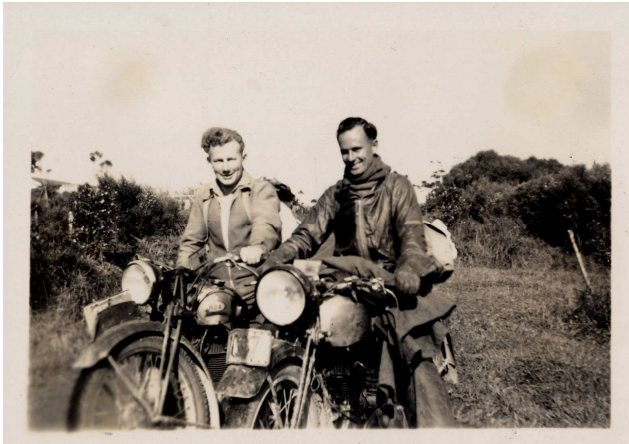
Ian St George. *Thelymitra sanscilia* at Kaimaumau

Bruce Irwin told me,

... (In) October 1949 Owen (Gibson) set off from New Plymouth to search for orchids recorded by RH and HB Matthews near Kaitaia many years previously. At Te Kuiti I joined him. We hurried to our destination on motorcycles, but soon found that "progress" had destroyed most of the choice orchid sites. However the hills above Ahipara showed promise. Owen found there a *Thelymitra* we couldn't identify in Cheeseman's Flora. The following day I found an identical flower at Kaimaumau. These *Thelymitra* flowers lacked cilia on the slender column arms, so we tagged them *T. sanscilia*. Not realising that this was indeed a new species we turned for

home rather disappointed. [1]

They had called on Dan Hatch on their way. Dan photographed the two motorcyclists and later described their find, mixing French and Latin in the specific name [2] (a linguist might have preferred "sinecilia" or "sanscils").



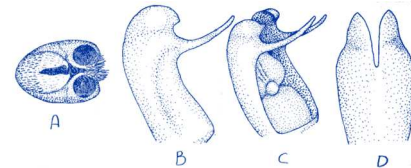
## *Th. sanscilia* Irwin ex Hh. n.sp.

*Thelymitra pauciflora* affinis, subsimilis. Differentis in habitus gracilis, in alae columnae vis late bifida et pulliviridis, et in labae laterales vis horizontalis et nullus cilia.

Up to 25 cm. high, stem very slender and distinctly reddish. Leaf up to 15 cm. long, suberect, narrow-concave with exterior ridges, linear acuminate. Flowers 1–3, dark violet-blue, perianth segments up to 9 mm. long. Column inclined slightly backwards, pale blue. Midlobe higher than the anther, rather widely bifid, dark-green with narrow yellow margins and short yellow anterior points. Lateral lobes secondary, horizontal, without cilia.

Distribution. 2. (North Auckland), Kaimaumau, 10.1949, J. B. Irwin. Ahipara, 10.1949, O. E. Gibson.

Flowers Oct.–Nov., sea-level–1,000 ft.; related to and probably derived from *Th. pauciflora*. Irwin's illustration, reproduced here, can be regarded as the hypotype of the species. Holotype in Herb. Hatch. No. 570—cultivated at New Plymouth from tubers collected by Gibson at Ahipara, 19.10.1949.



- A. *Th. pauciflora*. Column from above.
- B. *Th. sanscilia*. Column from side.
- C. *Th. sanscilia*. Column from half front.
- D. *Th. sanscilia*. Column from back.
- E. *Th. sanscilia*. Column from above.



Lucy Moore dismissed *T. sanscilia*, saying, “The 2 localities are within 20 miles of each other and Irwin’s notes make it clear that in each place only one small 1–fld plant was found. The chief difference from *T. pauciflora*, as shown by description and figures, lies in the absence of cilia. Carse identified as *T. pauciflora* slender 1–2–fld plants from Kaiaka, also within 20 miles of Ahipara... in these fls, as far as can be seen, cilia are almost to quite absent. Similarly abnormal fls occur in other spp.” [3]

*Really?* most new plants are initially found in few sites; why was Carse’s opinion more important than Hatch’s? which other species have abnormal flowers with no cilia? was she suggesting *T. pulchella sensu* Cheeseman with its bare column arms is abnormal? the usually careful Dr Moore was stretching points to support her conservative view here.

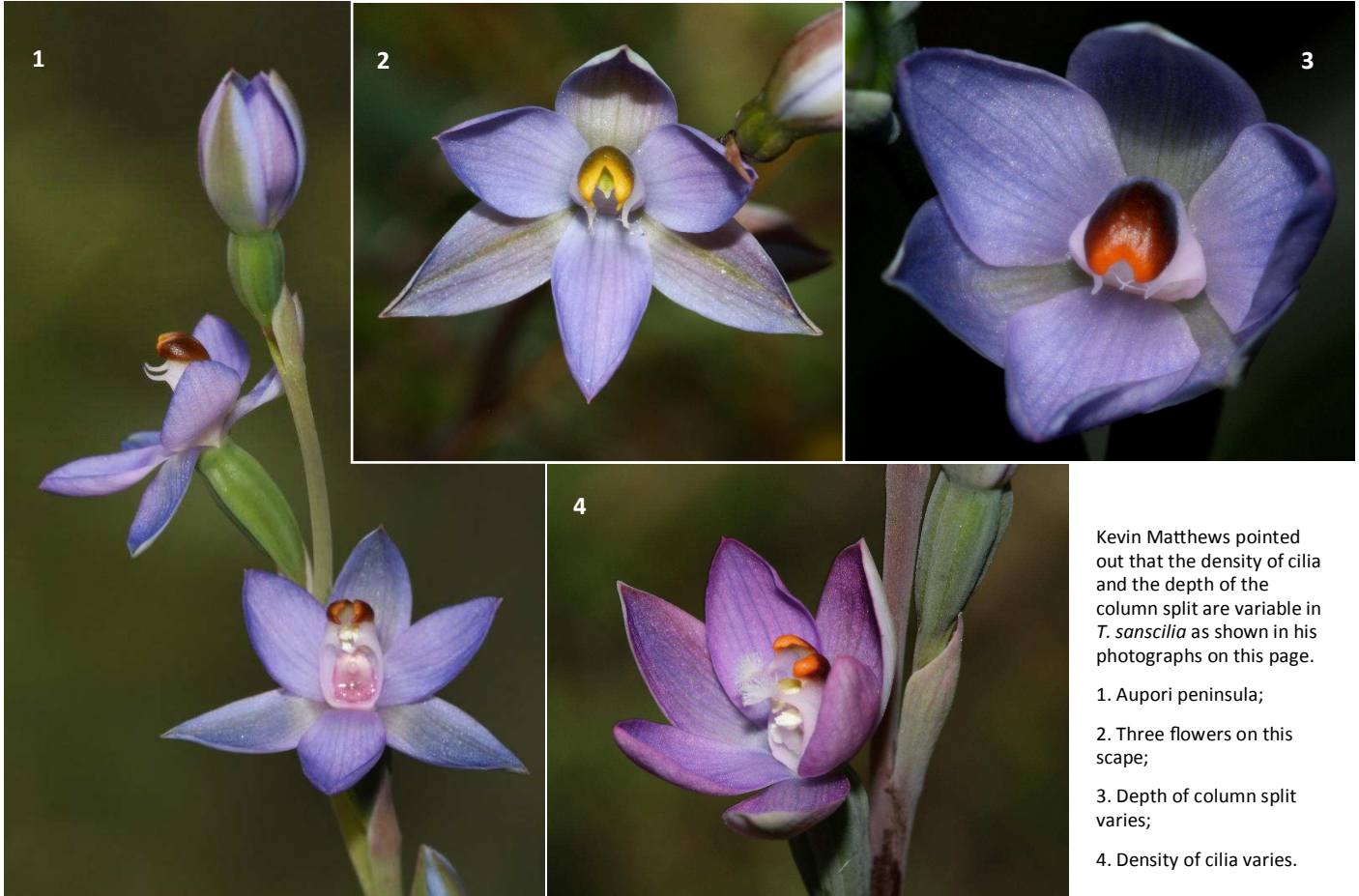
*Thelymitra sanscilia* is now regarded as a valid species, part of the New Zealand *T. pauciflora* complex along with some named and unnamed entities.

It is a robust plant, the flowers shy to open, found in recent years at a range of sites north of the Bay of Islands.

**References**

1. St George IM (with JB Irwin and V Smith) 2011. *Owen Gibson's orchid paintings*. NZNOG Historical Series No.15.
2. Hatch ED 1951. The New Zealand Forms of *Thelymitra* J. R. and G. Forster and Appendices PART I. *Trans. NZ Inst.* 79: 397.
3. Moore LB, Edgar E 1976. *Flora of NZ* Vol II: 130.





Kevin Matthews pointed out that the density of cilia and the depth of the column split are variable in *T. sanscilia* as shown in his photographs on this page.

1. Aupori peninsula;
2. Three flowers on this scape;
3. Depth of column split varies;
4. Density of cilia varies.

# The inbox

## Winter flowering NZ orchids

*iNaturalist* reports of orchids flowering in June 2020 included *Acinanthus sinclairii*, *Corybas cheesemani*, *C.* “pygmy”, *Genoplesium pumilum*, *Pterostylis alobula*, *P. brumalis* and *P. trullifolia*. Leaves of the evergreen epiphytes were also reported, as well as an image (surprisingly early) of *Corybas acuminatus* in bud in the Kaimai-Mamaku forest park and a similar one from south Wairarapa. Added in July were a winter sun orchid (see above) and one flowering and one fruiting *Corybas trilobus* s.l. (“pygmy”) at Whangarei Heads. ▶

A similar plant has flowered near Queenstown in past winters, but had not emerged by 13 July this very frosty (down there) winter. *Corybas hatchii* was flowering north of Karamea on 30 July, *Pterostylis agathicola* near Auckland and *Corybas iridescens* in Tararaki, both flowering on 31 July.



◀ *Corybas* “pygmy” in June: “This tiny taxon is quite common under tall kanuka at the Cape. It flowers at least 2 months earlier than the other *Corybas trilobus* here,” wrote Mike Lusk of Havelock North.



◀ ▼ *Corybas* “pygmy” at Whangarei Heads in July; photos by Andrew J Townsend.



### The New Zealand Native Orchid Group

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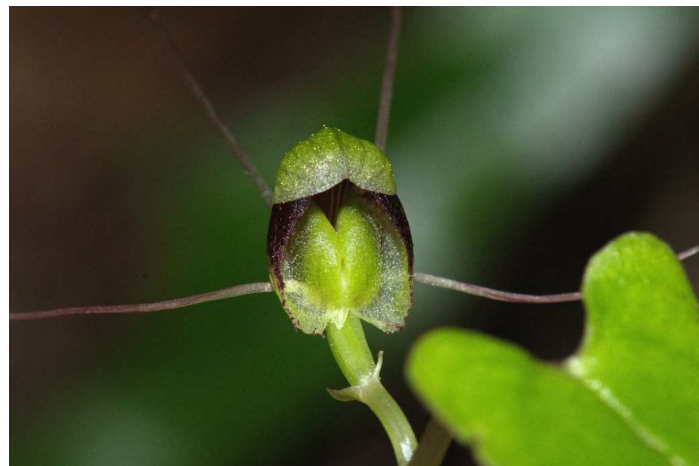
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The *Journal* is published quarterly from February, deadline is 1st of the preceding month. Please send email or printed copy. The *website* posts journals six months after publication. The main aim of the Group is to improve knowledge about native orchids, so authors should be aware we allow others to copy material published in the *Journal*, provided the author and source are acknowledged. Publication here does not imply the editor or members of the Group share authors' views.



▲ Gael Donaghy emailed, “This taxon is what we have called *Corybas* ‘sandhills’ which flowered in May / June when I lived in Golden Bay, but there were a few in late flower on 23 July 2020”.

► At right and above are early flowering *Corybas vitreus*, photos by Pat Enright from the Tatarua in early August

**E**ric Scanlen’s *NZNOJ Index* contains a number of references to *Corybas* “pygmy”, the small, winter flowering *Corybas trilobus* s.l. His paper suggesting there may be a number of entities in *C.* “pygmy” warrants close scrutiny (*NZNOJ* 154: 24–28). Some—but by no means all—may be early-flowering *C. vitreus*—*Ed.*





Kevin Matthews emailed, "If you ever get to the Chatham islands in say January have a hunt for this unusual *Thelymitra* aff. *longifolia* around the Kaingaroa Te Wapu Lake area. It has an extended anther point and retains diminished cotton wool cilia."

## Isn't it time we sorted out *Thelymitrae cyanea* s.l., *pauciflora* s.l., *longifolia* s.l. and *pulchella* s.l.?

I have grizzled repeatedly about the nomenclatural confusion in *Thelymitra longifolia* and *T. pulchella* but the same applies to *T. pauciflora* and *T. cyanea*. These four are arguably our most familiar orchids yet all may be aggregates of different entities.

*T. longifolia* and *pulchella* are New Zealand endemics so we can expect no overseas help, but Australian workers have elucidated *T. pauciflora* s.l., notably in two important papers,

- Jeffrey A. Jeanes (2004). A revision of the *Thelymitra pauciflora* R.Br. (Orchidaceae) complex in Australia. *Muelleria* 19: 19–79.
- Robert J Bates (2010). The *Thelymitra pauciflora* R.Br. complex (Orchidaceae) in South Australia with the description of seven new taxa. *J. Adelaide Bot. Gard.* 24: 17–32.

Jeanes has also written on *T. cyanea* s.l.

- Jeffrey A. Jeanes (2012). Two new rare species in the *Thelymitra venosa* complex (Orchidaceae) from south-eastern mainland Australia. *Muelleria* 30(1): 8–22.

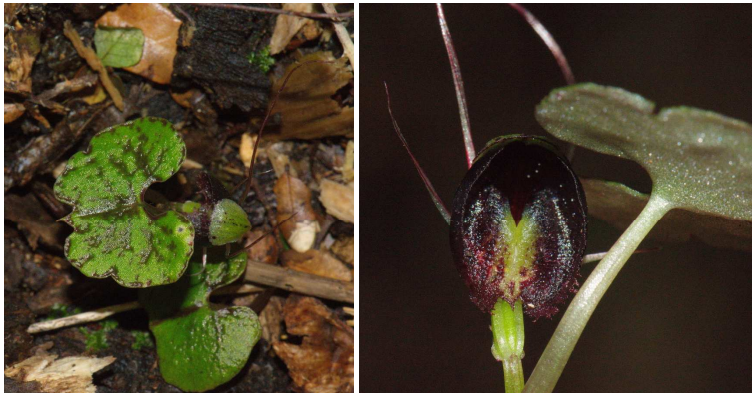
*We may well have some of these new taxa in New Zealand; these papers are all available online by googling the references above—Ed.*

▼ Pat Enright found these two in the Haurangi range in mid-August. The Haurangi Range (aka Aorangi) is in the southern Wairarapa and extends over 20 km north from Cape Palliser. Mt Ross 983 metres is the highest point. *Do the stripes and the differing acuteness of the angle of the labellar "saddle" make them different?—Ed.*



▼ From our Two-Heads-Are-Better-Than-One department, this of *Corybas hatchii* by Pat Enright, late August.





Forms of *Corybas* "Remutaka" by Pat Enright, including a hypochromic flower and a form with a wide dorsal sepal.

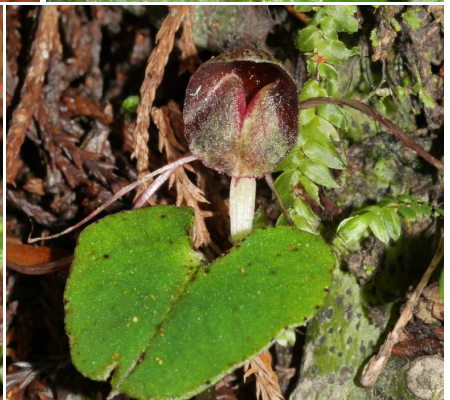
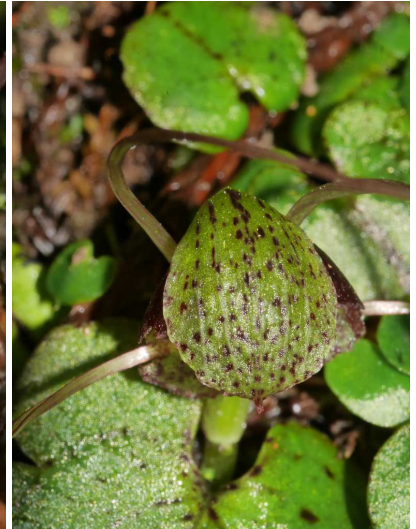
A new biography of Richard Sanders Rogers, Australian doctor and native orchidologist, is available via Amazon: go to <https://www.amazon.com.au/Richard-Sander-Rogers-Naturalist-Orchidologist/dp/0648290441>.

Colenso found the Type specimen of *Corybas trilobus* (his no. 161) at Kahurangi, Wairarapa, on 30 October 1845. He found another, (no. 2347) between Castlepoint and Cape Palliser, probably near Te Oroi, in the first week of November 1848. It was clearly a late flowering entity. The plant with a striped labellum, informally recognised as *Corybas trilobus* s.s. was flowering in the Wairarapa from mid- to late August 2020. Will it continue till the end of October?



An interestingly hypochromic *Corybas hatchii* (?) from Burwood, Christchurch, posted on *iNaturalist* by Colin Muerk on 15 October 2019.

Another hybrid? Matt Ward found this in the Otaki gorge area in early September. It looks like a hybrid between *Corybas iridescens* and one of the *C. trilobus* group.





Another new *Corybas* aff. *trilobus* “pygmy”? Matt Ward found this in the same area on the same day.



A white (hypochromic?) flowered *Pterostylis* identified as *P. irsoniana*, and photographed at Franz Joseph on 12 November 2019 by Wendy Bedgood.

—from *ANOS Victoria Group Bulletin* Oct 2020.

# The Pinnacles 30Aug20: a glance at *Corybas* “Remutaka”

The track to the Putangirua Pinnacles up from the southern Wairarapa coast is well known and much appreciated by orchidophiles. In late August it provided extraordinary numbers of flowering *Corybas* “Remutaka”. Photos by Pat Enright and the editor.

Several things struck us,

1. The size was variable.



2. The little point on the dorsal sepal was not always present.



3. It was sometimes sessile and flowering plants sometimes but not always had a trulliform leaf.



4. It differed from other *Corybas* flowering at the same time.

(a) the plant informally identified as *C. trilobus* s.s., front and back lit. ▼



(b) *Corybas vitreus* ▼



5. It is very catholic in its choice of habitat. Moss, wet ground, dry ground, under beech, under scrub. (Colony photograph by Pat Enright) ►

