

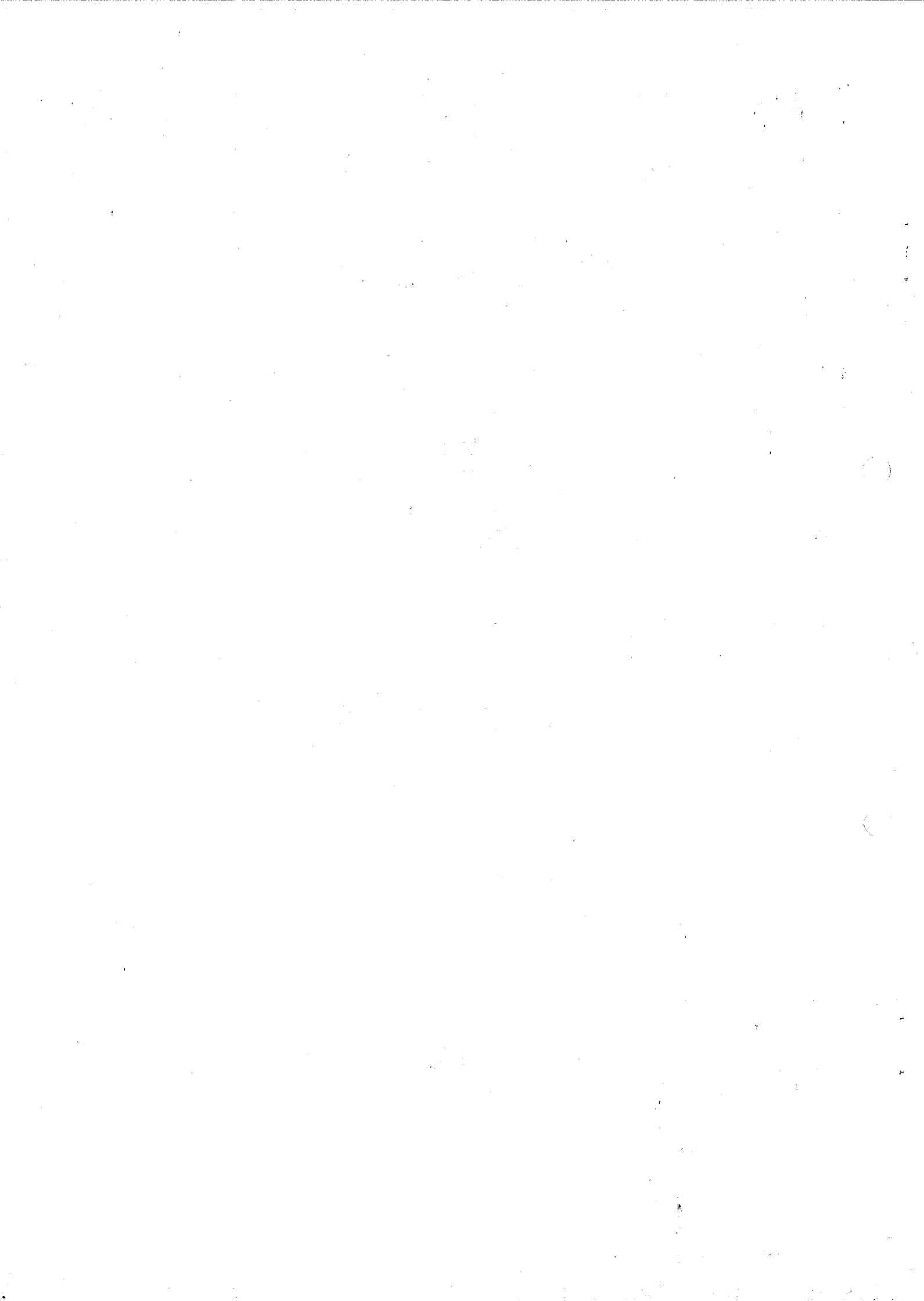
NATIVE ORCHID SOCIETY  
of  
SOUTH AUSTRALIA  
JOURNAL

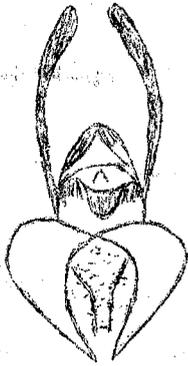


*Pterostylis unnamed*

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NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

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NEXT MEETING

When: Tuesday, October 23 at 8.00 p.m.

Where: St Matthews Hall, Bridge Street,  
Kensington.

Subject: Cultivation of orchids. This night there will be demonstrations and participation in repotting of terrestrials and mounting of epiphytic orchids.

LAST MEETING

Armed with microscopes, hand lenses and with several experts on hand to explain the intricacies of the orchid flower we all learned a few of the basic terms, shapes and the reasons why an orchid is different from other flowers. It was a much needed and appreciated exercise judging by the bent backs and peering into microscopes by those keen to get a closer look at the marvels of nature. As one person was overheard to remark "we are always urged to pollinate our flowers but until now I didn't know how and where".

Many thanks to Wayne Harris and Kevin Western for organising the event.

ON THE BENCH

Commentaries: Terrestrials - Les Nesbitt. Epiphytes - Reg Shooter.

Terrestrials:

Pterostylis nana	C. leptochila	D. sulphurea
P. pedunculata	C. cardiochila	D. pedunculata x longi- folia
P. hildae	C. filamentosa	D. pedunculata x maculata = x palachila (this man-made hybrid was almost pure yellow)
P. nutans	C. patersonii	Chiloglottis gunnii
P. cucullata	C. catenata	C. trapeziformis
P. furcata	C. reticulata	Prasophyllum occidentale
P. curta x nutans	C. cairnsiana	P. patens var pruinosum
P. pedunculata x curta cutie	C. alba	P. fitzgeraldii
Caladenia dilatata (both hills and mallee forms)	Glossodia major	
	Lyperanthus suaveolens	
	Diuris punctata	
	D. aurea	

Epiphytes:

Dendrobium tetragonum	D. suffusum
D. aemulum	D. delicatum
D. linguiforme	D. Bardo Rose
D. gracilicaule	D. rhomboglossum x dicuphum
D. gracillimum (one very large specimen on its natural host)	D. Blushing Star
D. falcorostrum (two large plants in pots)	Sarcochilus hartmannii
D. golden fleck	S. melba (2 - one beautiful large- flowered form)

THANKYOU TO PAT MARKS

One of the Societies founder members is Ms Pat Marks and since our inaugural meeting in 1977 she has organised the monthly raffle, rarely missing a meeting in that time. Pat now feels she would like a rest and an opportunity to view the plants before each meeting. The Committee, on behalf of the members, would like to say a sincere thank you to Pat.

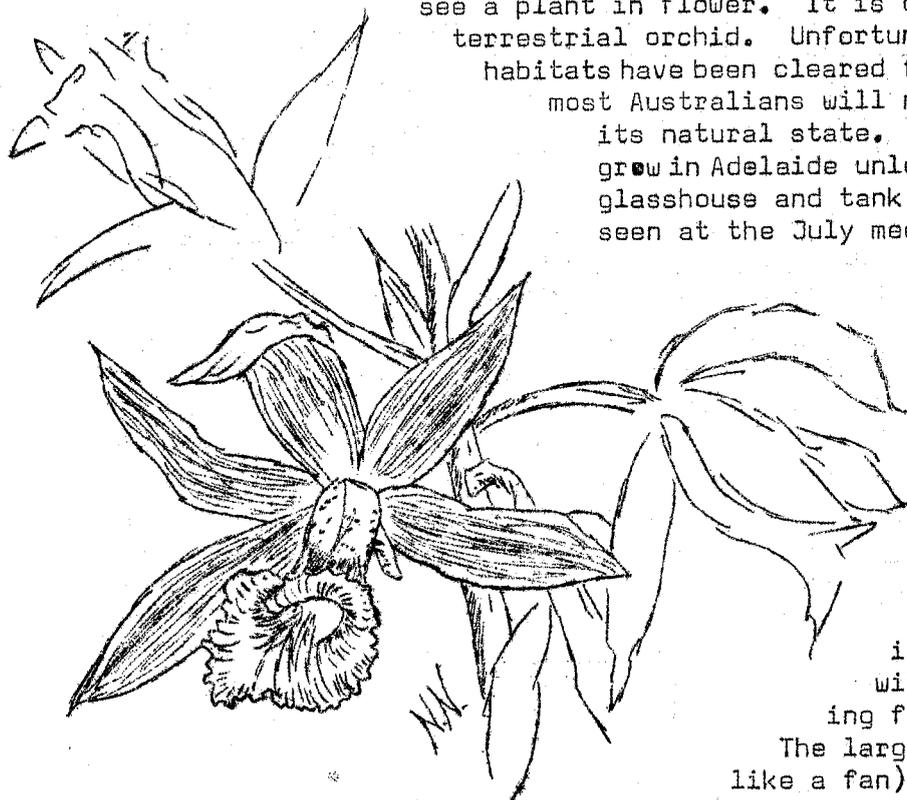
In response to the call for a volunteer to take over this task one of our newer members, Mrs Chris Green, has agreed to do so as from next monthly meeting. Thanks Chris.

NEW MEMBERS

Mr R.H. Edge	Mrs P. Meyers
Mrs J. Garwood	Miss M. Redfern
Mr T.D. Hutchinson	Mr D. Chinnock
Mrs R.F. Maclean	Mr D. Smith

PHAIUS TANCARVILLIAE

Les Nesbitt

Phaius tancarvilliae

Everyone likes the Queensland Swamp Orchid when they see a plant in flower. It is our most spectacular terrestrial orchid. Unfortunately its coastal habitats have been cleared for agriculture and most Australians will never see a plant in its natural state. It is not easy to grow in Adelaide unless you have a heated glasshouse and tank water. The plant seen at the July meeting had two spikes

about a metre tall, the larger spike carrying three buds and twelve large reddish flowers which are white on the back surfaces. The bottom buds open first and then the others open progressively up the spike, with each flower lasting for about a month.

The large plicate (folded like a fan) leaves grow from an underground tuberous rootstock. The flower spike emerges from inside the base of the first large leaf in autumn.

When I grew this plant in the shade-house, it flowered in October. The ends of the leaves used to go black in winter and gradually die back. The severe frosts of 1982 killed outright all the aboveground parts of the plant. I then bought a glasshouse which is heated to a minimum of 14°C. The Phaius was moved inside where it has taken two years to recover.

A well grown plant will have flower spikes 2 metres tall. I grow my plants in a cymbidium compost containing peat moss, isolite, rice hulls and pine bark. The compost is never allowed to dry out and because the root system is vigorous, a large pot is called for. Scale insects love this species and it seems to be impossible to eliminate them, although they can be kept in check with white oil.

The botanical name of this species has been spelt in various ways in books over the years. Phaius tancarvilliae is generally accepted as the correct spelling today.

At the close of the July meeting four flowers were pollinated in an attempt to get seed. A method of propagation recommended by northern growers is to cut the flower spike off after flowering and cut it into three node lengths and lay them on a bed of spagnum moss. Plantlets grow from the nodes of the stem. So far this method has not worked for me but I will keep trying. The plant sends up multiple leads and can be divided after two or three years.

SOME THOUGHTS ON THELYMITRA MACMILLANII AND  
T. CARNEA IN WESTERN AUSTRALIA

A. Brown

Reading Bob Bate's article "Experiments with Thelymitra x macmillanii" (NOSSA Journal, June 1984) and R.J. Markwick's follow up "Concerning the status of Thelymitra macmillanii and T. carnea" (NOSSA Journal, July 1984) prompted me to put pen to paper in the hope that I may shed some light on the situation in relation to the plants known by these names in Western Australia.

Western Australian orchidologists have long considered T. macmillanii to be of hybrid origin with T. antennifera being the putative pod parent. Several observations have led to this conclusion:

1. T. macmillanii is distributed widely throughout the wheatbelt and into the Eremaean in locations as far afield as Esperance, Cranbrook, Coolgardie, Paynes Find and Northampton, but it is nowhere common, with usually only a few plants being found at any one locality.
2. Throughout its range it invariably occurs in association with T. antennifera, in winter-moist situations. This habitat may be created by granite outcrops in the drier inland or by low-lying clay soils nearer to the coast. It is not unusual to find one or two plants of T. macmillanii amongst literally hundreds or thousands of T. antennifera, however, it has been seen on at least one occasion growing in a pure colony of some twenty plants near Paynes Find.
3. Plants found at the same, as well as widely-separated localities, differ markedly in both colour (which varies from red through pink to orange) and flower morphology. Tepal and anther size are quite variable, while the column lobes can have or lack papillae, have crenulate margins or be almost entire.

As neither T. rubra nor T. luteocilium occur in Western Australia and as T. carnea is confined to several winter-wet swamps on the Swan coastal plain near Perth (where incidentally, T. macmillanii has never been collected) none can be considered as possible parents of this putative hybrid in Western Australia. As suggested by R.J. Markwick, T. macmillanii must therefore have arisen from different origins in Western Australia, if in fact it is a hybrid.

What then is the pollen parent?

Apart from T. antennifera the only other Thelymitra which consistently occurs with T. macmillanii is T. nuda. Could the Western Australian T. macmillanii be the result of hybridisation with this species? Perhaps it obtains most of its morphological characteristics from T. antennifera and little apart from colour and an increase in flower number (occasionally up to four) from T. nuda. The larger flower size could be due to hybrid vigour?

The only other combination which could conceivably be mistaken for T. macmillanii is T. spiralis x T. antennifera. A hybrid which can occasionally be found along the western edge of the wheatbelt at locations such as Wickepin and Narrogin. Ron Heberle showed me this cross some years ago and although at first glance it appears similar to T. macmillanii it is obviously not that plant.

Some Thoughts on *T. macmillanii* and *T. carnea* in W.A. (contd.)

This now brings us to the *Thelymitra carnea* question. As mentioned earlier, the orchid known by this name in Western Australia, is confined to a few winter-wet swamps just to the north and south of Perth and in my experience is not common in any of them (only a few plants ever being found after much searching).

As pointed out by R.J. Markwick, the Western Australian taxon does not quite match either *T. carnea* or *T. rubra*. I became aware of this some years ago and after talking to Mark Clements, received three plants of *T. carnea* which had been grown at the National Botanic Gardens. As I already had a plant of *T. carnea* from Western Australia I placed them together in the same pot. The plants flower at the same time and though not identical are obviously closely related, the slight morphological differences possibly being due to the isolation of the western from the eastern plants.

In comparing specimens collected from Jandakot, Western Australia, in September 1959 with type material at the British Museum \*A.S. George had this to say: "Flowers larger than in type of *T. carnea* R.Br. at BM, column looks longer, more acute, less rugose, dorsal crest somewhat more prominent." He also states that Western Australian plants compare favourably in size, colour and general morphology with plants from Blackwood, South Australia, with some minor variation.

One collection contained in the *Thelymitra* spp. folder contains flowers which are slightly larger than *T. carnea* with a distinct dorsal crest and prominently tufted column wings. Flower colour is pink and the plants general habit is quite like that of *T. carnea*, however, it would appear that this orchid is the result of hybridisation between *T. flexuosa* and *T. cornicina*.

Perhaps *T. carnea* in Western Australia is also a hybrid. Floral morphology appears to be consistent, however, flower colour varies from pink to red and the stem may be either flexuose or straight.

Other *Thelymitra* spp. which occur sympatrically with *T. carnea* and flower concurrently are *T. pauciflora* and *T. flexuosa*. *T. mucida* also occurs here but flowers later in the year.

Could the western *T. carnea* be a cross between *T. pauciflora* and *T. flexuosa*? I have my doubts due to its apparent reproduction from seed (e.g. the plants obtained from the National Botanic Gardens) and consistent nature. It does, however, have some characteristics which could be regarded as intermediate between the above two species.

I hope these notes have not added even more confusion regarding the status of the two species in question but have provided an overview of the situation in Western Australia.

Researchers are currently engaged in the study of several fields involving orchids in Western Australia including cytogenetics, taxonomy and symbiotic germination.

An offshoot of these studies may result in some answers to the questions posed in Bob Bate's, R.J. Markwick's and this paper.

\* Notes by A.S. George appended to specimens of this species housed at the Western Australian Herbarium.

CALADENIA DILATATA VAR STRICTA:  
ILLUSTRATIONS AND KEY

R. Bates

(Refer to NOSSA Journal, April, 1984, page 23.)

The key below is given to enable C. dilatata var stricta to be recognised and separated from other closely related green, yellow and maroon-flowered spider orchids in South Australia.

- 1 Labellum margins entire or with a few small teeth, plants usually  $\leq$  10 cm tall . . . . . 2
- 1 Labellum margins deeply-fringed or denticulate, plants usually  $>$  10 cm tall . . . . . 3
  - 2 Labellum ovate-lanceolate, rather small, with a long crenulate decurved apex; sepals and petals with large aromatic, glandular, bayonet-shaped clubs; rare plant now confined to northern Lofty and southern Flinders Ranges . . . . . C. gladiolata.
  - 2 Labellum ovate, large in comparison to rest of flower, the apex short and entire; sepals and petals not clubbed or with minute glandular tips, widespread plant mainly of dry areas . . . . . C. taxochila.
  - 3 Sepals clubbed, labellum calli, golf-club shaped, in regular, uncrowded rows - C. dilatata var. dilatata (note form with markedly falcate sepals closely approximate var. falcata).
  - 3 Sepals not clubbed or glandular, labellum calli pyriform in crowded, indistinct rows . . . . . C. dilatata var. stricta.

TUBER BANK 1984-85

D. Wells

A list of tubers for distribution through the Tuber Bank is required prior to the printing of the December Journal.

Would members with surplus tubers for donation kindly let me know which species are available later and approximately how many.

Contact can be made at the October meeting or  
 telephone 261 6030, or

86 Pitman Road,  
Windsor Gardens. S.A. 5087

Caladenia dilatata var. stricta:  
Illustrations and key (contd.)

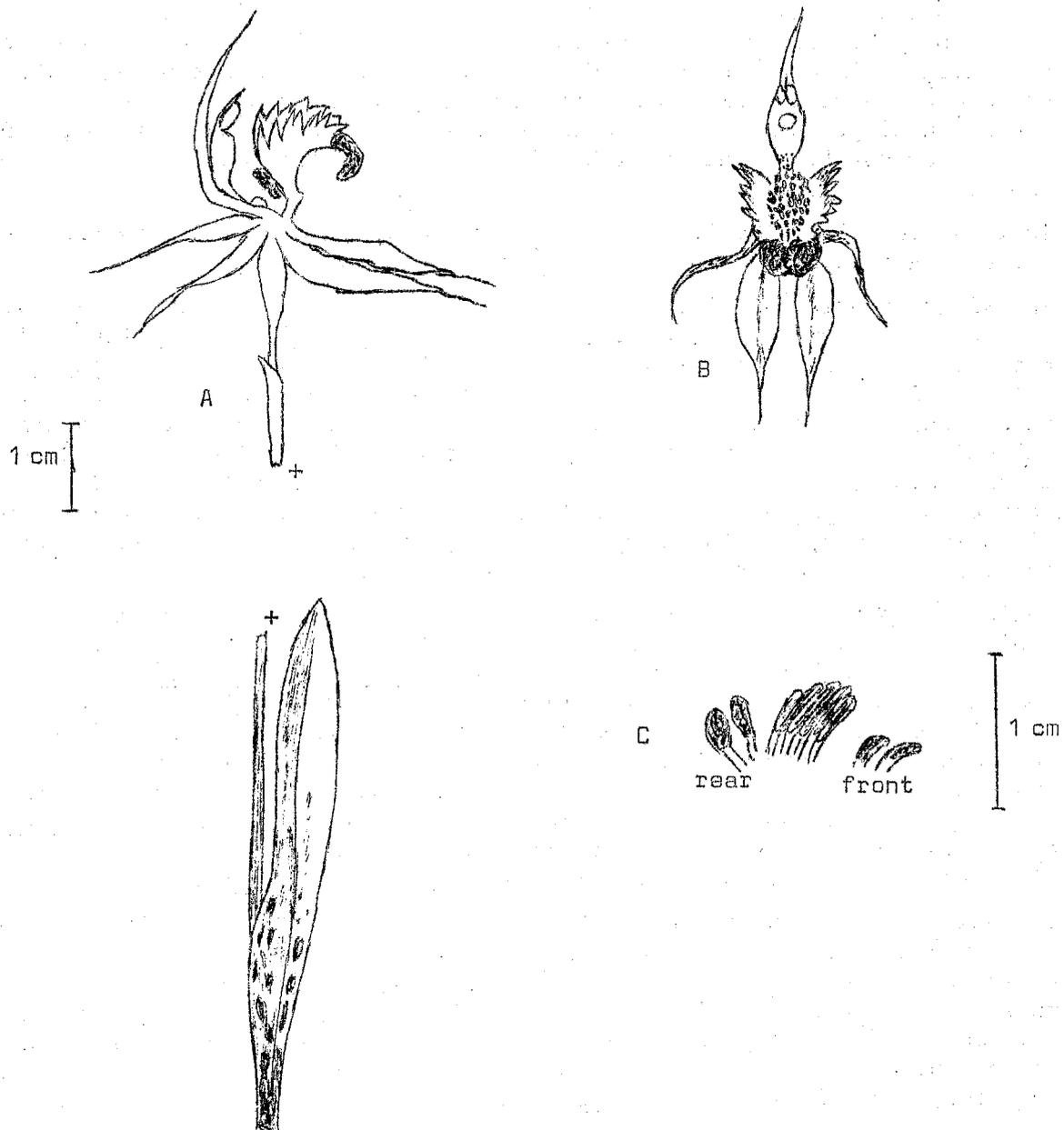


FIG. 1 A, flower of C. dilatata var. stricta, side view with leaf and base of stem below;  
 B, smaller flower, front view;  
 C, calli showing changes from large rear to smaller ones toward apex. (from R. Bates)

FIELD TRIP TO YORKE PENINSULA  
18 August, 1984.

R.J. Markwick

The purpose of this trip was to search for orchids in roadside scrubs and in particular to try and locate further plants of the putative hybrid C. patersonii x latifolia, described by Bob Bates in the NOSSA Journal, October, 1983, page 83. The inclement weather experienced in Adelaide during the 24 hours or so prior to the scheduled meeting time in Moonta apparently discouraged all but the most dedicated enthusiasts from attending. The six souls who braved the elements were, however, rewarded with a good days orchid hunting. Apart from one or two heavy showers in the morning, the day turned out to be mainly fine, with the sun occasionally shining through in the afternoon.

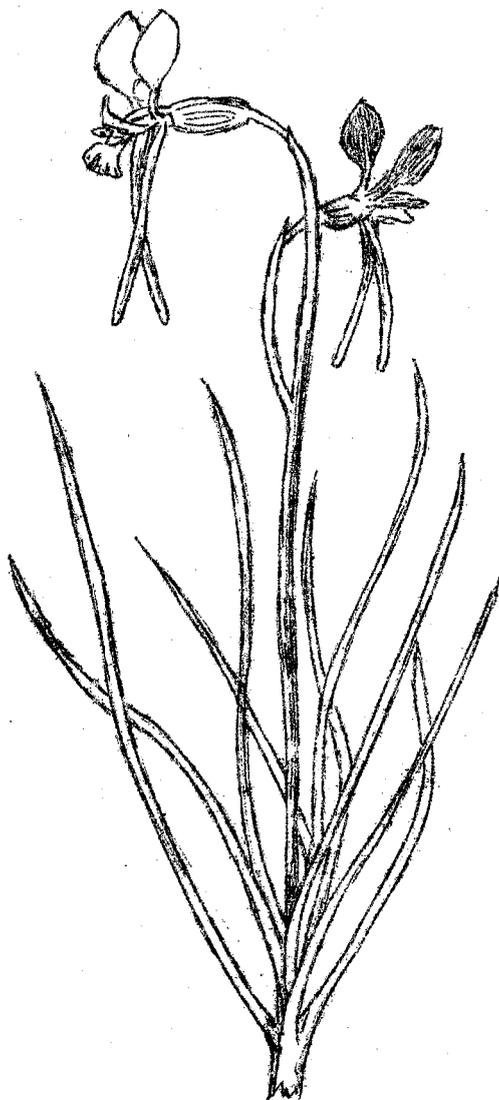
In this account of the trip, only the names of noteworthy plants are recorded. A full list appears at the end.

The first location visited was scrubland in Victoria Park at Moonta (1). Here we found numerous flowering plants of Pterostylis mutica growing in extensive moss-beds beneath the trees. Dozens of flowers of Caladenia patersonii were found, many exhibiting the variations in colour and form for which this species is noted. Colour varied from pure white through yellowish-green to pink, and, while some flowers had quite long filamentous tepal endings, others were comparatively short. Don Wells uncovered the only plant of Caladenia cardiochila seen in this area. Fortunately it was flowering nicely, but the downpour shortly following its discovery didn't provide optimum conditions for easy photography.

While attempting to change a film and hold an umbrella at the same time (ah! the trials and tribulations of field photography) excited calls heralded Bub Wells' discovery of flowers of Caladenia bicaliata. We were remarkably fortunate in finding plants of this rare species at every locality visited, although plants found further south were generally not so well advanced, being mainly still in bud. This tendency was also noted for several other species, and it was theorised that some of the more southerly areas may have missed the early rains hence the later development. Diuris palustris flowers were relatively common, and an interesting non-orchidaceous plant seen only at this locality was a red-flowered Eremophila qlabra.

The next stop was at an area of predominantly limestone soils in road reserve 6 kilometres south of Moonta (2). Here the land is regenerating after having been scraped at some time in the past, presumably as part of road building activities. This patch is interesting in that plant associations more usually associated with desert areas provide an unusual environment in which a number of orchid species thrive. Apart from grasses including Triodia sp., trees including Santalum (Quandong) and Pittosporum (Wild Apricot) were noted.

Interesting orchids found here were a green colour form of Acianthus reniformis and a beautiful pure yellow colour form of Diuris palustris. Of particular note were flowers of Pterostylis affin. scabra. Their discovery here represents a northerly extension to their previously known range on Yorke Peninsula. P. affin. scabra is a short-stemmed August-September flowering species usually growing in limestone-Mallee areas, having attractive flowers with distinctive reddish markings and a thick protruding labellum. Other orchids included Caladenia deformis and Pterostylis longifolia in flower, and basal leaves of Prasophyllum patens. A diligent search, however, failed to uncover Corybas despectans which had previously been recorded from this locality.

Field Trip to Yorke Peninsula (contd.)Diuris palustris

Lunch was eaten at the roadside 8 kilometres north of Maitland (3), and afterwards an adjacent area of private scrubland was surveyed for orchids. Several additional species were listed here, among which were delightful flowering specimens of Caladenia filamentosa var. tentaculata, buds of Thelymitra luteocilium and T. nuda, and basal leaves of Prasophyllum affin. fitzgeraldii, P. goldsackii, Pterostylis affin. mitchellii and P. plumosa. The second (and as it turned out, the last) specimen of C. cardiochila was located, making it the most uncommon flowering species seen on the day. It was suggested that the decline in the numbers of insect pollinators could be a reason for this species reaching near extinction in some areas.

The last location visited was an area of Allocasuarina woodland approximately 15 kilometres west of Maitland (4). The last few kilometres leading to this location was over a fairly rough un-made track, but earlier concern that it may be untrafficable owing to the heavy rain proved to be unfounded. When we alighted from the cars it was not possible to walk without treading on orchid plants. Speaking personally, I have not seen a greater massed concentration of orchids. There must have been many thousands of plants of Pterostylis boormanii represented by basal leaves which were to be seen everywhere, but, although a number were found in bud, none were flowering for we had arrived about two weeks too early. It is also no exaggeration to say that there were many hundreds of Diuris palustris flowering.

This was the area where we were to search for the putative hybrid Caladenia patersonii x latifolia. Although numerous C. patersonii were in flower, only occasional clumps of C. latifolia flowers were observed. Since many more plants had flowered last year it was postulated that the prolific flowering may have caused the plants to "burn themselves out". Although several kilometres of ground was covered, our search for the hybrid proved fruitless. Perhaps next year, if the plants revert to a heavier flowering pattern, we will be more successful. It may be (for reasons advanced earlier) that we were just a little too early to see them in flower.

The only other plants of special interest seen here were a single all-white flower of Caladenia deformis, flowers of Pterostylis nana, and Prasophyllum occidentale with buds just about to break through the leaf.

So, on a note of mild disappointment in not locating the hybrid, we headed for home after an otherwise very successful days orchid hunting.

Field Trip to Yorke Peninsula (contd.)Orchids seen:

- (1) Victoria Park, Moonta.
- (2) 6 km south of Moonta.
- (3) 8 km north of Maitland.
- (4) 15 km west of Maitland.

Flowers

- Acianthus exsertus*, 3.  
*A. reniformis*, 1, 2, 3, 4.  
 green form, 2.  
*Caladenia bicalliata*, 1, 2, 4.  
*C. cardiochila*, 1, 3.  
*C. deformis*, 2, 3, 4.  
 white form, 4.  
*C. filamentosa* var. *tentaculata*, 3.  
*C. latifolia*, 4.  
*C. patersonii*, 1, 4.  
*Diuris palustris*, 1, 2, 4.  
 pure yellow form, 2, 4.  
*Pterostylis longifolia*, 2.  
*P. mutica*, 1, 2, 3.  
*P. nana*, 4.  
*P. robusta*, 1.  
*P. affin.*, *scabra*, 2.

Buds

- Caladenia bicalliata*, 3.  
*C. dilatata*, 2.  
*C. dilatata* var. *stricta*, 2, 3.  
*C. latifolia*, 1, 3.

- C. patersonii*, 3.  
*Prasophyllum occidentale*, 4.  
*Pterostylis boormanii*, 4.  
*Thelymitra antennifera*, 3.  
*T. luteocilium*, 3.  
*T. nuda*, 3, 4.

Leaves

- Caladenia dilatata?*, 1.  
*Microtis unifolia*, 1, 2, 3, 4.  
*Prasophyllum affin.* *fitzgeraldii*, 3.  
*P. goldsackii*, 3, 4.  
*P. patens*, 1, 2.  
*P. patens?*, 4.  
*Pterostylis affin.* *mittellii*, 3.  
*P. plumosa*, 3.

Past flowering

- Acianthus exsertus*, 1, 4.  
*Eriochilus cucullatus*, 1, 3, 4.  
*Prasophyllum nigricans*, 1, 2, 3.  
*Pterostylis affin.* *alata*, 1, 3.  
*P. longifolia*, 3.  
*P. robusta?*, 2.

ON THELYMITRA MACMILLANII

It is very pleasing indeed to have received such response to the original article by R. Bates. It has, I am sure, gone some way to shedding light on the question of its origins, however, the problem has by no means been solved. I invite further informed comment on the subject. Carefully monitored hand-pollinated crosses of all possible putative parents will perhaps help to solve the question fully in the end.

My thanks to all correspondents who have taken part in the discussion so far.

Editor.