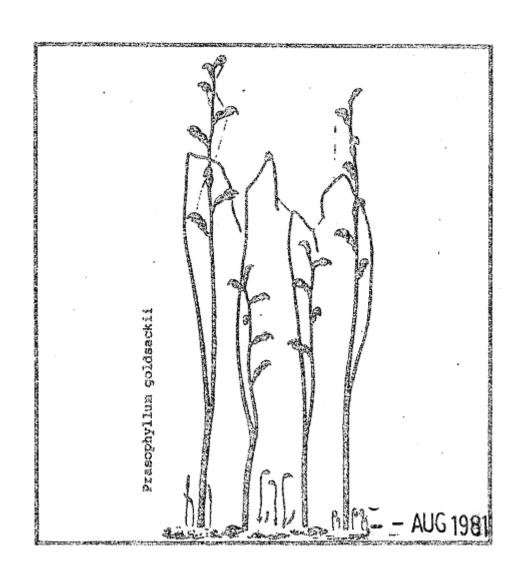
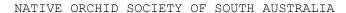
# NATIVE ORCHID SOCIETY

of

# SOUTH AUSTRALIA

# **JOURNAL**







TREASURER:

**JOURNAL** 

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NEXT MEETING WHEN: Tuesday 25th August, 1981 at 8.00 p.m.

WHERE: St. Matthews Hall, Bridge Street, Kensington.

SUBJECT: Our own member, Les Nesbitt, well known to all and highly regarded Australia wide, will speak on Terrestrials and Terrestrial hybrids. This is going to be a very informative evening, and if you dabble in terrestrial orchids in even the smallest way, should not be missed (even if you are into them in a big way you are bound to learn something.) Les will illustrate his address with slides.

### NEW MEMBERS

G. O'Brien
G.J. Shegog

## ORCHID RESCUE

Written permission has been obtained to rescue orchids from a property at Hartley that has been rolled in preparation for burning and ploughing next season.

Dates : Sunday 6th September. Wednesday 16th September

Meet at Gill Terrace (side of Toll Gate Motel, Glen Osmond Road). Second pick up of cars, Main Road at Showgrounds Oval, Mount Barker on road to Woodchester.

Time: 8.30 a.m. Gill Terrace - 9.15 a.m. Mt. Barker

Bring pots, digging equipment, food and drink. For any other information contact D. Wells - 261 6030.

FRONT COVER ILLUSTRATION BY KATH ALCOCK.

#### LAST MEETING

Despite the cold night, 38 hardy souls turned up to be entertained by six experts who answered all manner of questions about orchid culture. Harold Goldsack brought in a Phaius tancarvilliae with leaf tip die back. It was suggested this disease also occurs amongst wild plants and no cure is known. Many other problems were cleared up for those present - in all a very interesting meeting.

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Raffle: Foliar nitrophoska B. Ebert
Pterostylis baptistii R. Hargreaves
Dendrobium linguiforme Chris Lindsay
Plant Display and Commentary
Terrestrials - L.T. Nesbitt
Epiphytes - G.J. Nieuwenhoven
A very good display of plants was benched particularly terrestrials. Some of the finest
plants seen were hybrid Pterostylis and Caladenia.
Terrestrial species
Pt. nana - 4 pots, two good ones.
Pt. curta - 3. Pt. species (rufa group from Halbury) - nice pot.
Pt. longifolia - 2 large pots.
Pt. several species in community pot (regularly seen)
Pt. spp. Eyre Peninsula.
Pt. aff. decurva - 2.
Pt. alata var. robusta - 1.
Pt. cycnocephala x mutica.
Pt. concinna - 1.
Pt. nutans - 1.
Prasophyllum parvifolium (W.A.).
Spathoglottis spp - 1.
Caladenia deformis 1.
Caladenia caerulea - 1.
Caladenia patersonii - 1.
Chiloglottis formicifera.
Acianthus reniformis (early form) - 2.
Corybas diemenicus - 2.
Corybas dilatatus - 1.
Terrestrial hybrids
Pt. x ingens 3. Two very large.
Pt. cucullata x baptistii 2.
Pt. curta x nutans.
Caladenia gladiolata x patersonii (rare).
Epiphytes
Only one species benched.
Den. bracteosum (N.G.)
Den. canaliculatum x dicuphum.
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Den. fleckeri x gracilicaule

Den. kingianum x tetragonum - Ellen.

Popular Vote

Den. judy leroy R. Shooter

Pt. cucullata x baptistii H. Goldsack

It is not surprising Harold took the terrestrial vote with his *Pt. cucullata x baptistii* hybrid as this is an excellent clone created by himself and grown from a single seedling a fine effort indeed.

#### FIELD TRIPS

Saturday  $22^{nd}$  August - to look for *Corybas despectans*, an un-named *Pterostylis*, *Caladenia dilatata* var. *concinna*, and *C. dilatata* var. *concinna* x patersonii.

Meet at Port Vincent at 9.30 a.m.

Saturday 12th September: to look for Caladenia rigida and C. patersonii.

Meet at Golden Grove Store at 1.00 p.m.

Saturday 19th and Sunday 20th September - to Alligator Gorge.

We plan to meet outside of the Wilmington Caravan Park at 9.30 a.m. on the Saturday morning

#### DIURIS PIONEER Les Nesbitt

Notification has been received from the R.H.S. that our application for registration of Diuris maculata x Diuris longifolia has been accepted. This cross will now be known as Diuris Pioneer. As far as I am aware this is the first man-made Australian deciduous terrestrial hybrid to be registered - a true pioneer in the best Australian tradition. The best known clone is D. Pioneer 'Big Ears' which was given a N.O.S.S.A cultural certificate in August 1979.

Diuris Pioneer also occurs as a natural hybrid. It has hybrid vigour, producing large robust plants with big flowers. It is usually sterile, but we have one clone which will set seed.

PHOTOGRAPHING NATIVE ORCHIDS: No. 9 of a Series.

R.J. Markwick.

Lighting the Subject with Flash, Part II.

The guide number is a very convenient way of obtaining consistent exposure, subject of course, to the angle of the flash to the subject, and the reflectivity of the subject. However, close-up flash lacks the benefit of normal fill-in, and unless discretely placed reflectors are used, contrast can be very harsh.

In close-up photography, lighting is more effective when the flash is oblique to the subject providing modelling. In fact, it may only be possible to aim the flash at an oblique angle if the camera is very close. Depending on the surface texture of your subject, the light is reduced by approximately 1/3 of a stop at an angle of 55 degrees, 2/3 at 45, and 1 stop at 35 degrees.

Ring-flash can be used, but the light is shadowless and provides no modelling. Never-the-less, these units can be quite effective where the subject's own colours give depth. They are also useful with segments blacked out, since this produces sidelight with built-in fill-in. It also obviates the need to use neutral density filters to reduce light.

Auto-flash. The latest state-of-the-art SLR cameras take the calculation and guesswork out of flash photography. Used with compatible flash-guns, these cameras electronically control the flash output at the film plane using special flash sensors, quenching the flash when sufficient light has been delivered to the film. Examples of these cameras are the Olympus OM-2, the Contax 139 Quartz, and the Nikon F3.

Photographing orchids in the field using available light can be very frustrating because of long exposure times necessitated by the use -of small apertures, and the fact that unless the day is perfectly still, they are rarely without movement.

The greatest advantage of flash is that can be used to freeze movement to give pin-sharp results, and the photographer can enjoy the benefit of maximum depth-of-field by being able to use the smallest aperture.

Next month: Practical Aspects (Techniques), Part I.

#### METHODS AND MADNESS OF AN ORCHIDOLOGIST R.C. Nash

Aphids will probably visit your plants, often a common pest at flowering time; pyrethrum or a plain household, insect spray will control these. When applying a household spray, some may contain an oily base, try to do so late in the afternoon or when the plants are shaded for some time, and do not get too close.

Sometimes scale will attack some species - for these apply white oil as recommended, via a camel hairbrush or a fine spray, avoiding spillage, run off, etc. to the soil.

Birds, cats, dogs, possums and the kids next door can also cause havoc in a collection. The best fix for these is the same treatment used on the unknown two legged visitor -lock your pots up.

Quite often your plants will suffer from Damp Off. This can be caused by two major factors, the most common being due to over-watering or the pots dry out and then too much water is applied. This is often associated with poor drainage. The second cause is fungi infection often the result of wounds made by insects. Quite often the acidity and heat of the humus material on top of the mix will start rot off due to tissue damage. Some of the infections that rot the leaves can be controlled by painting affected parts with a little fungicide, be careful not to spill any onto the compost as we do not want to kill the fungi the orchid lives with. Another method is to remove the leaf which leaves a wound that can itself become the host to infection. Sometimes these problems can be solved by putting the affected pot in a dryer location and watering with care.

Rust sometimes attacks *Diuris* and *Thelymitra* species, this appears as very small raised yellow spots on the leaves which spoils the growth causing the affected plant to perform poorly. I know of no control for rust and once a plant has become infected it is passed from mother tuber to daughter tuber. It is spread by small mites that carry the yellow spores around, these I have seen when examining affected plants under a microscope. From what I have been able to learn about these insects, they are specific to each species of rust. Here is a whole new world to be investigated by someone.

Before we leave the world of pests I must mention several problems that some of my plants have suffered with for a number of years. The most devastating I will deal with first and this attacks species of *Diuris* just as the flowering spikes are rising, usually after a wet period.

The first indication that the plants are suffering this complaint is a slight silvering of the leaves near bends or at places where two leaves may touch. I call this disease 'Silver Leaf' and has been known to me since 1976 in various collections. The end result of this complaint is the complete collapse of the leaf and in a bad case even the flowering stem. The tubers will survive but much weakened. On examination of an infected leaf, especially in the early stages many small punctures are observed, each topped with a little black covering. The silvering comes from shrunken cells about the area of the punctures. I have also observed small insects resting or hiding in protected parts of the plant. For treatment I am trying various insecticides which, it seems must be applied as soon as the plants break the soil.

A similar complaint as the last attacks *Thelymitra* but is not quite so disastrous; this shows as withering tips or black spots on the leaves and again I suspect small insects. A similar method of control is used. In both cases an infected plant can be preserved to a certain degree by placing it in a protected spot and water is then applied to the compost only. A good open sunny situation also seems to give the plants some protection from attack. The last statement may seem to contradict the first, but I mention both as these are things that I have found by experience that have helped. You may know or find some other method which I hope you will write about.

Another complaint that I have had with several species and one that first appeared in *Pterostylis curta* twenty years ago is a form of leaf mottling. This appears as light green patches or dark green patches in the leaves, if left unchecked it eventually causes the leaf, and later the flower and its stem to distort badly and eventually complete failure of the plants, but this last event takes several years to come about.

I am currently using two methods to control this complaint - one, remove and destroy all affected plants, two, apply "Disyston 5" throughout the year. This does seem to be a virus that is transported by mites and other small insects, for on examination of diseased leaves I have seen small punctures and feeding wounds besides the probable instigators.

Species subjected to this complaint have been *Pt. curta, Pt. pedunculata*, one *Pt. cucullata*, *Acianthus exsertus*, *Thelymitra* sps. and *Caladenia* sps. Wild plants in the bush have been seen to suffer from similar complaints to those mentioned above and may have been introduced to my collection from this source, so be careful with plants introduced to your collection from the bush

Having worried you with all the things that can go wrong, let us now return to the things that can go into your pots. First we will look at potting materials. Besides the materials mentioned previously I now intend to discuss others, beginning with the very bottom of the pot. Into this area such material as charcoal pieces, scoria, chips of terra-cotta pot or metal (gravel) may be placed, but make sure you keep those holes covered to keep the slugs out. Finer fractions of the above can be used in the mixture in the higher parts of the pot, this being a suggestion only, as I know of no one who has tried this material in such a situation, but it should work.

It is now time to look at the materials used for the humus content in our mixtures and also as a topping. Besides peat and sphagnum moss, some of the prepared orchid and packaged composts have been tried by some growers with very good results, but these have always been diluted with sand.

The material that collects around a wood heap can be a supply of humus material; I used this for many years with success growing such species as *Pterostylis curta*, *Pt. scabra* var. robusta, *Pt. pedunculata*, *Acianthus exsertus*, *A. reniformis*, *Microtis* sps., *Diuris* sps., some *Thelymitra* sps. notably *T. nuda*, and a few *Caladenia* sps. This material was sieved and the finer fraction used while the coarse fraction went to the kitchen stove.

The decision to use wood heap material did not come to me in a flash of brilliance, no it came about after a long period of trial and error. Some of the original compost formulas would shock you. From the primitive methods more realistic potting systems developed, one notably and which had a dramatic development consisted of putting some sand into a tin with some old horse manure. Into this 'mixture' was placed a couple of *Pterostylis pedunculata* tubers. To my surprise they not only grew, but multiplied. That happened more than thirty years ago, and I still have plants growing whose ancestors were the few tubers in the above experiment.

Due to problems with tins causing rot out I decided to visit a pottery at Magill and to my delight was able to buy seconds pots at one hundred for a pound for five inch pots, and thirty-shillings a hundred for six inch pots. About the same time my mother requested that the wood heap be sieved so that she could burn the course material in the stove. From this activity I soon gathered a large pile of sandy material with much organic content. The Pterostylis curta were multiplying quite fast and I still had not developed a satisfactory compost. During experiments later I was to find that Pterostylis curta would grow in just about anything, which explains why this species was doing so well while others very poorly. That pile of fines from the sieving looked interesting, so into a few pots it went with various species, most did well, especially the curta. So now my orchid growing career really began.

Continued next month. © Copyright

## FIELD TRIP TO HORSE GULLY AND WARREN CONSERVATION PARK - 25/7/81. R.J. Markwick

Despite a cold and somewhat windy day, and petrol rationing notwithstanding, a dozen or so native orchid enthusiasts turned out for the Society's second field excursion for 1981. We were especially pleased to welcome noted local orchidologist, Mr. Ray Nash, and were appreciative of the informative comments he offered during the course of the afternoon. His contributions injected even more interest than usual into the outing.

On this occasion, the prime objective was to locate and study a plant of uncommon occurrence in the Adelaide Hills, a member of the Pterostylis group displaying affinities with Pt. alata (Labill.) Reichb. f. which is native to eastern states and the lower south-east of South Australia. In former times the plant in question was thought to be Pt. alata and was recorded as such. It is now considered to be intermediate between Pt. robusta and Pt. alata, the flower being generally larger than the typical Pt. alata. Bob Bates' article `Pterostylis of the Alata - Scabra - Robusta Complex in South Australia", published in the May 1981 Journal, suggests that it may represent a relict population of an ancestral form or it may be a geographically isolated race of Pt. alata which has been modified, perhaps by hybridisation with Pt. robusta.

Our first destination was an area of dry sclerophyll forest near the Warren Conservation Park, known as Horse Gully. Within a few metres of the parked cars, flowering plants of Acianthus exsertus, Corybas dilatatus, and Pterostylis vittata were quickly sighted.

A short walk to the edge of a nearby creek uncovered the plant we had come to see, hiding amongst the wreckage of a fallen Hakea. This situation appeared to provide a very favourable environment as it sheltered many fine flowering specimens and literally dozens of non-flowering rosettes. Sporadic occurrences were found elsewhere in the vicinity, but not in numbers to match this particular colony. Measurements were taken of the flowering specimens, and plant and flower characteristics were noted so that they could be compared with typical plants of *Pt. robusta* known to be growing nearby.

Other orchidaceous plants seen in this locality were *Prasophyllum rufum* in seed, *Corybas diemenicus*, *Pterostylis nana* and *Pt. nutans* in bud, and basal leaves of *Acianthus reniformis* (late form), *Caladenia dilatata*, *Glossodia major*, *Pt. pedunculata*, and *Pt.* sp possibly *Pt. biseta*.

Moving along to the area where *Pt. affin. alata* and *Pt. robusta* were growing together, we were able to conveniently compare the differences between the plants. The results are tabulated below, but it is stressed that the comparison is only for plants growing at this locality.

Features	Pterostylis affin. alata	Pterostylis alata var.
		robusta
Plant habit	Slender, averaging 15cm. high,	More robust, none
	some individuals exceeding	exceeding 15cm. high.
	20cm.	
Flower size	Galea less than 3cm. high,	Galea greater than 3cm.
	most c. 25mm. high.	high, c.33mm. high.
Flower colour	Greyish-green, with reddish-	Striped white and green.
	brown stripes.	
Leaves	3-4, all similar in size and	4-6, gradually increasing
	shape, c. 2cm. long x c. 2mm.	in size from the bottom
	wide, clasping attenuate	up, c. 25mm. c. 45mm.
	bract-like,	long x c. 5mm. wide,
		clasping, lanceolate,
		acuminate.

Close by, we were able to record occurrences of *Pterostylis plumosa* in bud, and basal leaves of *Diuris maculata. Pterostylis longifolia* which so often occurs in association with *Pt. vittata* was notable by its absence, and this fact was remarked upon by several members present.

The group then reconvened at the cars and moved down the road to Warren Conservation Park. There we re-encountered many of the species seen at Horse Gully, and were able to add flowers of Pterostylis nana, Caladenia patersonii in bud, and basal leaves of Caladenia menziesii, Calochilus robertsonii, Microtis unifolia, Pterostylis sp. (Pt. rufa?), Thelymitra aristata, T. longifolia, T. luteocilium, and T. sp. to our list for the day.

A remarkable specimen of pink coral fungus (Clavaria sp.) measuring  $20\,\mathrm{cm}$ . x  $17\,\mathrm{cm}$ . by  $16\,\mathrm{cm}$ . high, was found by Les Nesbitt. No-one present could recall ever having seen one larger.

Bob Bates noted that a rust disease (Uromyces) had attacked plants of *Prasophyllum rufum* growing here. It is known to also attack *Thelymitra* sp. and *Diuris* sp.

The old adage that "It pays to look beneath stands of Native Pines (Callitris sp.) for native orchids" again proved its worth. The

shelter afforded by these trees seems to provide an ideal environment for the proliferation of many species. Under just such a stand high on a ridge, a veritable carpet of orchid plants included *Acianthus exsertus*, *Corybas sp.*, *Pterostylis vittata*, and unexpectedly, our plant of the day, *Pt. affin. alata*, proving it to be far more widespread than, previously recorded for this area. Orchids seen

1. Common to Horse Gully and Warren Conservation Park.

In Flower: Past Flowering:

Acianthus exsertus Prasophyllum rufum

Corybas dilatatus

Pterostylis affin. alata Basal Leaves:

Pt. alata var. robusta

Pt. vittata Acianthus reniformis (late form)

Glossodia major

Pterostylis pedunculata Pt. sp. (Pt. biseta?)

2. Horse Gully only.

In Bud: Basal Leaves:

Corybas diemenicus Caladenia dilatata Pterostylis nana Diuris maculata

Pt. nutans Pt. plumosa

3. Warren Conservation Park only.

In Flower: Basal Leaves:

Pterostylis nana Caladenia menziesii Calochilus robertsonii

In Bud: Microtis unifolia

Caladenia patersonii Pterostylis sp. (Pt. rufa?)

Thelymitra aristata

T. longifoliaT. luteocilium

T. sp.

NATURALLY OCCURRING AUSTRALIAN TERRESTRIAL ORCHID HYBRIDS. A LIST WITH REFERENCES. R.

R. Bates

All plants listed are generally accepted as being of hybrid origin unless preceded by a question mark. (In these cases the plant is mentioned in the literature cited as a hybrid but there is little evidence to support it.)

It should be realized that the list is by no means complete as there is much literature yet to be checked.

The existence of these hybrids was mentioned over one hundred years ago by botanists such as Bentham, Fitzgerald and French, but in the early part of this century the influence of Dr. R.S. Rogers discouraged others from recognizing these hybrids. (Rogers refused to accept that such plants as *Diuris palachila* and *Caladenia tutelata* were of hybrid origin even though they were generally considered as such by the field naturalists of the day who referred to the former as 'Diuris intermedia' and the latter as a 'Glossodia, Caladenia hybrid'.)

It is only recently that interest in terrestrial orchid hybrids has resurged. I suspect that much will be written on the matter in the next few years.

Part I - Named Hybrids: with accepted parentage.

Caladenia ericksonae W.H. Nicholls = C. filamentosa x C. cairnsiana (Sheppard 1976; S. Hopper pers. comm.)

- C. triangularis R.S. Rogers = C. patersonii x C. flava (Sheppard 1976; S. Hopper pers.
  comm. 1979)
- $C.\ tutelata$  R.S. Rogers = C. deformis x Glossodia major (Willis 1972, Cady & Rotherham 1970; Weber & Bates 1979).
- C. variabilis W.H. Nicholls = C. patersonii x C. tessellata (Willis 1972; Weber & Bates
  1979)

Chiloglottis pescottiana R.S. Rogers = C. gunnii x C. trapeziformis or C. gunnii x C. cornuta (Nicholls 1969; Curtis 1980)

Diuris fastidiosa R.S. Rogers = D. palustris x D. pedunculata (Willis 1972; Nicholls 1969)

- ? D. flavopurpurea Messmer D. maculata x ? (Nicholls 1969; Curtis 1980)
- ? D. maculosissima Rupp = D. maculata x ? (Ingram 1970)
- D. palachila R.S. Rogers = D. maculata x D. pedunculata (Goldsack, Willis 1972; Jones
  1970)
- D. polymorpha P. Messmer = D. longifolia x D. pedunculata (Jefferies 1956; Ingram 1970)
- ? D. victoriensis P. Messmer = D. pedunculata x (Willis 1972)

Pterostylis x conoglossa W. Upton = P. concinna P. ophioglossa

- P. toveyana Ewart & Sharman = P. alata x P. concinna (Willis 1972; Cady & Rotherham 1970)
- P. x ingens D.L. Jones = P. falcata x nutans (Jones 1976; Beauglehole 1978)

(Cady Rotherham 1970 suggest that Pterostylis alveata J. Garnett is a hybrid between P. obtusa and P. concinna but this is not generally accepted).

Thelymitra chasmogama R.S. Rogers = T. luteocilium.  $\times$  T. nuda (Nash 1972; Hornsby 1979; Bates, March 1980)

- ? T. cyanea Lindl. ex Benth. = T. venosa x ? (Beauglehole 1978)
- T. irregularis W.H. Nicholls = T. ixioides x rubra (Jones 1972; Beauglehole 1978)
- T. macmillanii F.Muell. = T. antennifera x luteocilium (Bentham 1873; French 1878; Nash 1972; Bates 1978)
- T. truncata R.S. Rogers (Syn. T. decora Cheesem) = T. ixioides x T. pauciflora (Nash 1972; McAlpine 1978; Bates 1978, 1980; Richards 1980)

Next Month: Part II - Un-named Hybrids

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