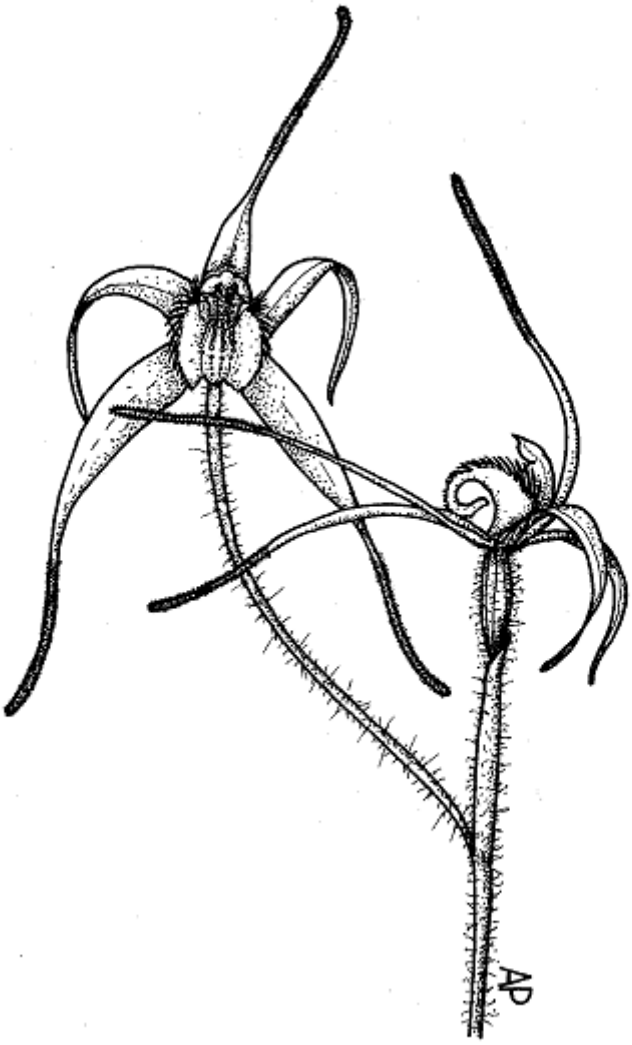
NATIVE ORCHID SOCIETY

of

SOUTH AUSTRALIA



Caladenia rigida

NATIVE ORCHID SOCIETY OF SOUTH AUSTRALIA

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PATRON: Mr T.R.N. Lothian

PRESIDENT: Mr J.T. Simmons
4 Gothic Avenue
STONYFELL S.A. 5066
Telephone 32 5070

SECRETARY: Mr E.R. Hargreaves
1 Halmon Avenue
EVERARD PARK SA 5035
Telephone 293 2471
297 3724

VICE-PRESIDENT: Mr G.J. Nieuwenhoven

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NEXT MEETING

WHEN: Tuesday, 28th September, 1982 at 8.00 p.m.

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

SUBJECT: This meeting will be a Questions and Answers Night.
A panel of four will attempt to solve all your problems.
You may submit written questions before the meeting or
refer them directly to the panel.

SHOW

Don't forget the S.G.A.P. Show on the 25th and 26th of September. Held in the Walter Duncan Hall at Wayville, setting up will be on Friday evening, the 24th. This is probably the most popular flower Show of the year. Why not join us with a plant or two and show South Australia how to conserve our unique Orchid flora through cultivation.

NEW MEMBERS

Mr. K. Gorey
Mr. M. Clements

LAST MEETING

Mrs. Enid Robertson gave us a most informative talk on community pest plants. Armed with slides, dried and fresh specimens and illustrations, she first explained what weeds are - e.g. "Plants out of place". According to records the botanist Ferdinand von Mueller said in 1853, "Native plants are disappearing". By 1873 there were large numbers of weeds, and we had *Poa annua* instead of native grass in many places.

Community pest plants are detrimental to the environment Mrs. Robertson explained, and the State Government has declared several to be pests There are two under Schedule 4 for the State:

1. Bone Seed
2. Bridal Creeper.

Under Schedule 5 (this covers specific areas) we have Olive, Broom, Hawthorn (two species), Watsonia (a common, pretty, red/orange bulbous species) and Castor Oil Plant.

Not scheduled, is the native tree *Pittosporum undulatum* - it is becoming a nuisance in Belair Recreation Park.

We were also shown through slides the regeneration and replanting of Wattieparinga Park and the eradication of weeds and pest plants in this area by Mrs. Robertson and many volunteers - a difficult and large task indeed, but judging by what we saw on the slides, a battle that is slowly being won.

It was obvious Enid spent a lot of time preparing for this talk and we would like to thank her for coming along and showing us how our natural environment is being affected by pest plants.

Plant Display

A wonderful display of plants greeted us last month at our Meeting. Due to the warm winter weather many plants are flowering much earlier than usual.

Some plants that caught our attention by their beauty and size were *Pterostylis x ingens*, one large pot having plants 24" high, some beautiful specimens of *Caladenia patersonii* and *C. rigida*, and quite a few hybrid terrestrials (some natural and some man-made) and epiphytes. Below is a full list.

Terrestrials:

Pterostylis curta x nutans
Pterostylis x ingens
Pterostylis cucullata x baptistii = cutie
Pterostylis curta
Pterostylis plumosa
Pterostylis cucullata
Pterostylis recurva
Pterostylis pedunculata
Pterostylis un-named (Mallee)
Pterostylis nana
Pterostylis trullifolia (New Zealand)
Pterostylis mutica
Glossodia minor
Acianthus reniformis
Glossodia major
Diuris palustris x maculata
Diuris longifolia x maculata = pioneer
Diuris palachila
Diuris longifolia
Diuris punctata
Diuris pedunculata
Diuris maculata - several colour forms
Diuris palustris
Diuris abbreviata
Diuris laxiflora
Caladenia dilatata var. concinna syn. toxochila
Caladenia gladiolata x patersonii

Terrestrials (Continued)

Caladenia fi1amentosa
Caladenia sigmoidea
Caladenia discoidea
Caladenia reptans
Caladenia pallida
Caladenia longiclavata
Caladenia alba
Caladenia clavigera
Caladenia gladiolata
Caladenia deformis
Caladenia catenata
Caladenia patersonii – several colour forms
Caladenia rigida

Epiphytes:

Dendrobium teretifolium
Dendrobium bifalce
Dendrobium speciosum
Dendrobium ruppianum
Dendrobium aemulum
Dendrobium dicuphum
Dendrobium kingianum x hastings
Dendrobium Ellen x falcorostrum
Dendrobium Ellen = kingianum x tetragonum
Dendrobium Judy Leroy

Plant Commentary:

Terrestrials: L. Nesbitt
Epiphytes: P. Barnes
Culture Segment: G.J. Nieuwenhoven

Popular Vote

Terrestrial: Caladenia patersonii - R. Bates

Epiphyte: Den. aemulum - D. Wells

CULTURAL NOTES L. Nesbitt

Terrestrials

Pots dry out rapidly on the surface at this time of year, when it is both sunny and windy. If you are attempting to grow seedlings you must not allow the soil surface under the mulch to get dry. Light waterings every few days may be necessary if it does not rain. Be sure to water gently to avoid disturbing the tiny seedlings.

The non-colony forming genera such as *Diuris, Caladenia, Thelymitra* and *Prasophyllum* must be hand pollinated whilst in flower so that seed pods are produced. The pods take about two months to develop in Springtime. Pods on the Winter flowering species are now fully developed and must be checked daily, so that they can be harvested just as they begin to split open. Store the pods in paper envelopes over the Summer for sowing next Autumn. Don't forget to write the species name on the packet at harvest time.

Adult plants should be watered while the leaves remain green. Some plants begin to go dormant at the end of September, e.g. *Pterostylis vittata* and *Pt. longifolia*. Most species hang on until the end of

October on the plains. After flowering is the time to propagate those easily grown species which do not multiply, such as *Diuris* and the rufa type *Pterostylis*, by pulling off the new tuber and replanting the plant. To do this gently knock the soil out of the pot and place it on the lawn. Using the hose slowly wash away the soil exposing the roots and tubers, then pull off the new tuber leaving the old one attached to the plant. Carefully repot the plant and the severed tuber, in fresh soil and water thoroughly to settle the soil. Place the pot in a shady place and keep moist until the plant goes dormant in a month or two. Usually one or more small additional tubers are produced. Repot again during the dormant period. Christmas is a good time.

Do not let aphids remain on your plants - they are very partial to the flower stems of *Diuris*. They spread disease as well as reducing the vigour of the ripening tubers. Also watch out for small green grubs which love to bore into seed pods and eat all your seed. Malathion will kill both sorts, but be careful with sprays on *Thelymitra* as the leaves burn easily.

Epiphytes

As you all know, the flowering season is in full swing. Plants with developing buds will benefit from a light misting each morning if it is warm and sunny. Plants on slabs will need misting daily if it does not rain. Be sure that the leaves dry off by nightfall. Nights are still cold so take care not to overwater plants in pots or root rot will result. After flowering is over, repot those plants which require new compost. Use a pot just large enough to accommodate one season's growth because most Australian orchids grow better in small pots.

Plants on slabs which are getting too big for their mount should simply be tied to a larger piece of wood or cork, etc. without trying to remove the original support. The least damage to their root system the better. You may need to cover the roots of orchids on trees and slabs with new moss before the hot weather, if they are exposed to the sun. This is perhaps the best time to mount epiphytes on slabs or trees because after flowering they soon make new growths and roots and establish quickly on their new host. They will need a good root system to get them through a hot, dry Adelaide summer.

THE HIGHEST ORCHIDS IN AUSTRALIA R. Bates
Part 4 – On Bogong, Victoria

While on holiday at Mt. Beauty in Victoria in January 1980, I took the opportunity of climbing Mt. Bogong, the highest of the Victorian peaks.

Although the access road ends about ten kilometres to the north of Mt. Bogong there is a rough track used by loggers which winds its way up through tree fern gullies, scrub and tall timber to a high pass only about six kilometres north-west of the summit. As the weather was oppressively hot we decided to take our four wheel drive Subaru up to this pass. It felt a little like cheating, but that hair-raising drive which had the children squealing with excitement turned out to be the highlight of our trip.

All along the track the metre tall stems of the hyacinth orchid, *Dipodium punctatum*, with its deep pink flowers poked up out of the ferns. In shaded places the leaves of *Chiloglottis* and *Pterostylis alpina* were common but the flowers had finished.

After leaving the car we followed a narrow pathway up a steep ridge, so dry that only shrivelled orchid leaves remained, but higher up, along several small creeks *Pterostylis decurva* was encountered. Though orchids were scarce wildlife of other kinds was plentiful especially cicadas! Where cicadas were few, the lyrebirds could be heard and we encountered several fairly tame specimens on the track.

The snowline on Bogong is not reached until just below the summit and just as we reached this level the wind changed and a freezing gale began. It was so cold on the summit that we had time only for a short look at the view over the Mt. Beauty Valley before being forced to return by low cloud, but not before we had noticed that *Prasophyllum alpinum* was common on the very summit, making that species the highest orchid in Victoria, as well as in Tasmania (see Part 3 of this series).

It was quite a scramble down the mountain as we raced back to our car to beat the approaching storm.

Later walks in the area revealed a surprising paucity of orchids around Mt. Bogong, at least at that time of year.

Next Month: "On Bluff Knoll - The Highest Orchids in Western Australia".

FIELD TRIP TO YORKE PENINSULA - 21.8.82 R.J. Markwick

At about 10.30 a.m. on 21 st August, 1982, a nine vehicle convoy of native orchid enthusiasts departed, from Port Vincent in brilliant sunshine. What a contrast to last year's trip to search for orchids in the local scrublands. Talking of contrasts, this year's tally of flowering plants compared poorly with last year's sightings, both in quantity and number of species but more of that later.

We were especially pleased to renew acquaintances with George Mitchener, one of our English members revisiting South Australia, to welcome again Reg Preuss from Yorketown, and to welcome for the first time Nell and Keith Gorey from Corny Point. It was pleasing to have the Yorke Peninsula members join us to explore some of their "home territory".

Just through the fence in the Port Vincent scrub we found *Diuris palustris* flowering. This little plant proved to be of wide-spread occurrence but nowhere near as numerous as the ubiquitous *Caladenia deformis*. However, despite the large number of *C. deformis* in flower, only a single specimen of the white colour form was noted.

It did not take us long to realize that flowering plants were much reduced in number, compared with 1981 which had experienced an unusually wet winter. We were able to observe that the combined effect of early winter frosts and the unseasonable dry spell had resulted in significant deleterious effects on a number of species.

The number of flowering specimens of *Caladenia patersonii* were much reduced as were flowers of *Caladenia dilatata* var. *concinna*, and this year we found only one flower of the interesting hybrid *Caladenia dilatata* var. *concinna x patersonii*. Bob Bates noted that the hybrids seem to have the vigour necessary to withstand drought conditions.

Although large colonies of basal leaves were found scattered through the area only one withered flower of *Caladenia latifolia*, was located. There was evidence of flowers having aborted, probably due to the effects of frost. The same observation was made in respect of

Pterostylis nana although a few flowers were to be seen in the more protected micro-habitats.

Other plants seen in flower were *Thelymitra nuda* and *Acianthus reniformis. Acianthus exsertus* exhibited withered flowers, *Pterostylis scabra* var. *robusta* had seeded, and *Eriochilus cucullatus* was past flowering. Basal leaves of *Pterostylis* affin. *mitchellii*, *Pt. rufa, Microtis unifolia* and *Prasophyllum* sp. (goldsackii and fitzgeraldii?) were recorded.

Although the group did not penetrate as far as the area of non-wettable sandy soil (which harbours species not seen elsewhere in this scrub), the fleet-of-foot Bob Bates did. He reported that *Caladenia filamentosa* was not flowering, that flowers of the un-named *Pterostylis* affin. *alata* had been completely demolished by frost and that while some of the lower flowers in racemes of *Pt. longifolia* had set seed, he had noted that those uppermost (opening later) had aborted. *Pt. mutica* was observed to be flowering. Plants of *Prasophyllum nigricans* had seeded, but, as with the badly affected species, it was noted that there were some where flowers had not matured.

After lunch, instead of heading north as was originally planned, we convoyed south to scrublands near Stansbury, where we hoped that slightly higher rainfalls may have modified the drought conditions so evident at Port Vincent. No such luck! Soils generally gave the appearance of being just as parched and the orchids were no more common. We were, however, able to add very robust leaves of *Prasophyllum elatum*, buds of *Thelymitra antennifera* and lovely pink flowers of *Caladenia catenata* to our list of orchids seen.

At our last stop for the day, some well protected sandier areas (being somewhat moister) yielded in addition to a number of plants seen previously, leaves of *Caladenia dilatata* and *Prasophyllum* affin. *fuscum*, buds of *Lyperanthus nigricans* and *Diuris longifolia*, and *Pterostylis vittata* past flowering.

In Flower	Basal Leaves
Acianthus reniformis	Caladenia dilatata
Caladenia catenata	Microtis unifolia
C. deformis	Prasophyllum elatum
C. dilatata var. concinna	P. affin. fuscum
C. dilatata var. concinna. x patersonii	Prasophyllum sp.
C. latifolia	Pterostylis affin. mitchellii
C. patersonii	Pt. rufa
Diuris palustris	
Pterostylis nana	Past Flowering:
Pt. mutica	Acianthus exsertus
Thelymitra nuda	Eriochilus cucullatus
	Prasophyllum nigricans
In Bud:	Pterostylis affin. alata
Diuris longifolia	Pt. scabra var. robusta
Lyperanthus nigricans	Pt. vittata
Thelymitra antennifera	

WILD ORCHIDS IN ADELAIDE'S SUBURBS R. Bates

Adelaide does not have any areas of bushland near its city centre after the fashion of King's Park in Perth, or those rocky areas which drop down into Sydney Harbour, but there still exist tiny populations of wild

orchids in many areas throughout the suburbs. It is less than 10 km. from the centre of Adelaide to quite large areas of bushland in the Adelaide Hills, but for the purposes of this article I will consider as suburban only those locations completely surrounded by built up areas and excluding the Hills Face Zone.

Examination of early collections held at the State Herbarium shows that the commoner orchids on the Adelaide Plains included *Diuris pedunculata, Caladenia deformis, Thelymitra longifolia, Pterostylis plumosa and Prasophyllum patens* var. *pruinosum*. Rarer species included *Caladenia filamentosa* var. *bicalliata* on the coastal dunes and *Pterostylis cucullata* at Tea Tree Gully.

After noting collections at the Herbarium that had been made since 1969 I searched the locations indicated on those collections. I was surprised and delighted by any finds even though in some cases populations had been reduced to two or three plants. There were *Microtis unifolia* in the Adelaide Parklands and on Kooyonga Golf Course, *Prasophyllum pallidum* at Burnside and a *Caladenia tessellata* at Hope Valley.

At Enfield I found a single plant of a probable undescribed *Pterostylis*. This plant was completely smothered by soursobs and had no chance of flowering, but a 1946 collection showed it to be *Pterostylis affinity mitchellii*. It is surprising that at least three species of *Pterostylis* of the "rufa" group still occur in the Adelaide suburbs.

At all but one of the locations where orchids occur in Adelaide there are stands of native pines (*Callistris* sp.) The native pines seem to inhibit the growth of most exotic weeds and the pine leaf litter provides an excellent medium for germination of orchid seeds.

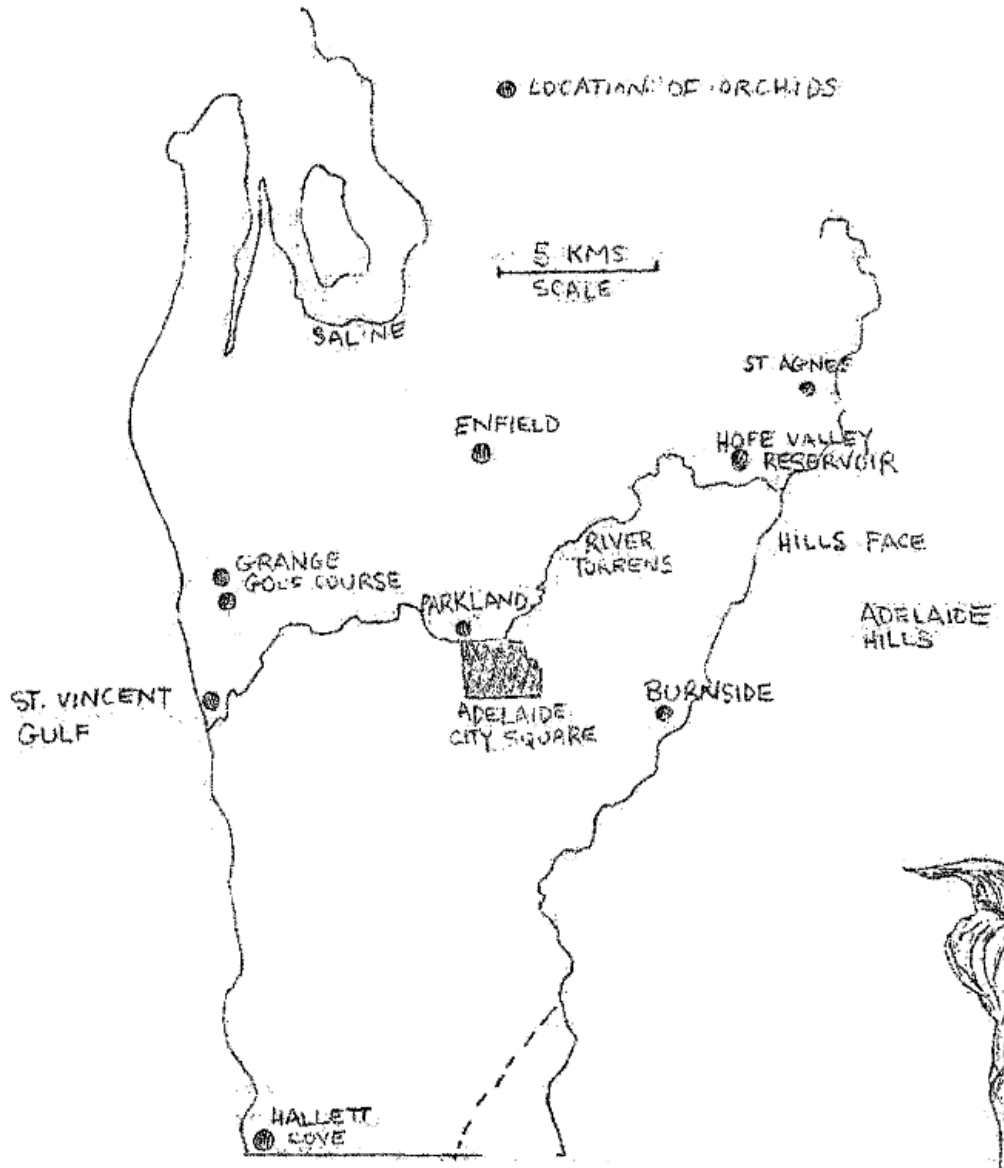
Given below is a list of orchids collected (or seen) in the suburbs in the past ten years. Locations are given only where there is little likelihood of the plants being found and removed.

Acianthus exsertus, A. reniformis
Caladenia catenata, C. dilatata (Burnside), C. reticulata, C. deformis, C. tessellata (Highbury)
Diuris maculata, D pedunculata
Microtis unifolia (Kooyonga, Hope Valley)
Prasophyllum patens var. pruinosum (St, Agnes), P. pallidum, P. fuscum var. occidentale
Pterostylis nana (St. Agnes), P. biseta (St. Agnes), P.; affin. boormanii (West Lakes) P. affin. mitchellii (Enfield), P. robusta (Hallet Cove)
Thelymitra luteocilium (Burnside, St. Agnes), T. longifolia, T. aristata (Hallet Cove), T. pauciflora (Tea Tree Gully).

See Map on next page.

PTEROSTYLIS ALPINA - ALPINE GREENHOOD G.J. Nieuwenhoven

This beautiful species unfortunately does not occur in South Australia. A well grown specimen is stately, yet delicate. It occurs in New South Wales, Victoria and Tasmania generally in hilly or mountainous areas in grassy places - this often makes it grow quite tall so as to reach above the grass.



According to W.H. Nicholls the leaves are cauline which means borne on the stem, and not forming a radical rosette, radical meaning springing from the root.

If you observe a plant closely you will see this is quite so, even the leaves on non-flowering plants appear to be standing on a short stem. They are lance shaped to oblong lanceolate and 2-6 cm long and on the plant in front of me, two leaves ascend the stem and surround it like a lance shaped collar. The flower is about 2.5 cm long, pale green and distinctly striped. It stands erect with the galea or hood gradually curving forward near the apex. The lower sepals rise up from the base and form a very broad sinus, then abruptly sweep backwards almost horizontally; a distinctive feature of the flower and assisting in identification in the field. The labellum is reddish brown or green about 12 mm long, stands upright and then curves near the tip and projects through the sinus.

Pterostylis alpina appears to appreciate fairly shady conditions and I have found it in quite damp soil next to a small stream in the Grampians, also in much drier soil on a hillside in the Dandenong Ranges in Victoria, but every time quite shaded.

These conditions will give some guide to the person attempting to cultivate these beauties. My plants grow in Adelaide Hills soil with a fair bit of coarse Quartz sand, and a bit of peat moss added. The soil is kept moist throughout the growing season and it stands in the shadiest location under 50% density cloth. It does increase naturally but slowly. It is not often seen displayed at meetings - this may indicate it is not easily grown unless it's requirements are properly met.

Two other plants that could respond to the same conditions are *Pterostylis cucullata* and *Pt. foliata*. These three species all appear above ground late each season, approximately June. *Pt. alpina* is a common plant in its natural habitat, but should perhaps only be attempted by more experienced growers.

Illustration by Nancy Nieuwenhoven.

References:

W.H. Nicholls Orchids of Australia
Cochrane, Furher, Rotherham, Willis – Flowers and Plants of Victoria.

METHODS AND MADNESS OF AN ORCHIDOLOGIST R.C. Nash

As experiments on germinating these plants progressed, more small plants of both species and hybrids arrived from Dr. Warcup. Those plants that arrived in autumn to early spring had a very good survival rate, while those arriving from spring into summer presented problems. No matter how I tried to keep them moist and healthy they either died from compost dry-out or a fungi attack. I then asked Dr. Warcup to send only dormant tubers at these times which he very obligingly did, resulting in a better survival of these plants.

Besides the various *Pterostylis* crossings I also made a few in the genus *Diuris* and these will be dealt with after I have discussed that genus.

In making all the above crosses of the various *Pterostylis* species a number of interesting events were observed. It soon became apparent that some species would not react to the pollen of other species even though the reverse crossing brought results. Some species appeared to be receptive of pollen only for a short time, at a specific period after the flower had opened. This should be checked out again with greater care than I attempted, for I must admit that making the crosses was more important than finding out when, what and how, would accept pollen. You will realize that these problems only became apparent after the event. So here again is work for someone to carry out.

It was found that even though a specific crossing resulted in a fat ovary, this was sometimes false, for some combinations suddenly deflated and withered. Other combinations progressed to the stage when the ovary ripened, but no seed at all was produced. Then there were those capsules that contained just dust or very little viable looking seed. About half of the combinations produced apparent viable seed which was then sent on to Dr. Warcup.

One of the first hybrid combinations to be sent to Dr. Warcup and which was returned some months later as small three leaved plants, was the crossing between *Pterostylis curta* (female) and *Pt. nutans* (male). When talking about hybrid combinations the plant receiving the pollen, the female, comes first and the pollen donor, the male, comes second.

From the details received with these plants I assumed that the seed was set down on the 7th of November, 1973, germination had commenced by the 19th of December, 1973, and I planted them out into my pots on the 22nd of March, 1974. The first flower opened in September, 1974, with no dormant period between. As I will show later, this is not an uncommon event even with species.

Another combination that was made in 1973 was that between *Pt. nutans* and *Pt. scabra* var. *robusta*, South Australian form. These were "planted" on the 11th of October, 1973, germination was noted on the 18th of November, 1973, planted into my pots on the 22nd of March, 1974 and flowered in October, 1974. However, this combination was not a hybrid, but pure *Pt. nutans*. No there was not a mix up of seed, etc. for I kept very careful notes on all these matters and have checked and double checked. Now what went wrong? Well first the pollen from the *Pt. scabra* var. *robusta* was not from a young flower but from an aged flower that closed up very soon after the pollen was taken.

At times, so I am lead to believe, the unfertilized egg of all living things can be stimulated into acting just as though they have been fertilized. One story I have been told, and I have also read about this, concerned the stimulation of a hens egg with the points of hot needles. This treatment is supposed to "fertilize" the egg and if incubated a chicken will be born from that egg. Personally I will have to see this to believe it.

However, back to my problem with the *Pt. nutans* supposed cross. It has been suggested that the aged pollen from the *robusta* could have set all the mechanisms going for fertilization without becoming involved. These plants certainly had no trace of *robusta*.

The above non-combination resulted in vigorous plants that multiplied very freely, but two years ago I did something wrong with the large pot they were housed in and now I have only a few left.

Other combinations that were "planted" late in 1973 and which I planted into pots in March, 1974, were: *Pterostylis acuminata* var. *ingens* and *Pt. curta* which flowered in September, 1975, *Pterostylis acuminata* var. *ingens* and *Pt. scabra* var. *robusta* South Australian form, which flowered in September, 1974, *Pterostylis acuminata* var. *ingens* and *Pt. cucullata* which took much longer to flower than the above, holding its secret until 1976.

A combination made by S.C. Clemesha of New South Wales was also germinated along with the above and planted by myself, but I failed to flower these and they died out slowly over the following years. However, Dr. Warcup sent me a flowering plant in March, 1975. This hybrid had as one parent the beautiful *Pt. grandiflora*, while the other parent was *Pt. concinna*. The resulting flower was small like *Pt. concinna* and a growth habit like *Pt. toveyana*. I have received fresh plants of this combination from Dr. Warcup but find them still difficult to grow - one almost flowered in 1981.

Continued next month.

Pt. acuminata var. *ingens* = *Pt. x ingens*.

FIELD TRIP

There will be a Field Trip to the Kersbrook/Williamstown area on Saturday 23rd October, 1982. Meet at Main Street, Kersbrook at 2.00 p.m.