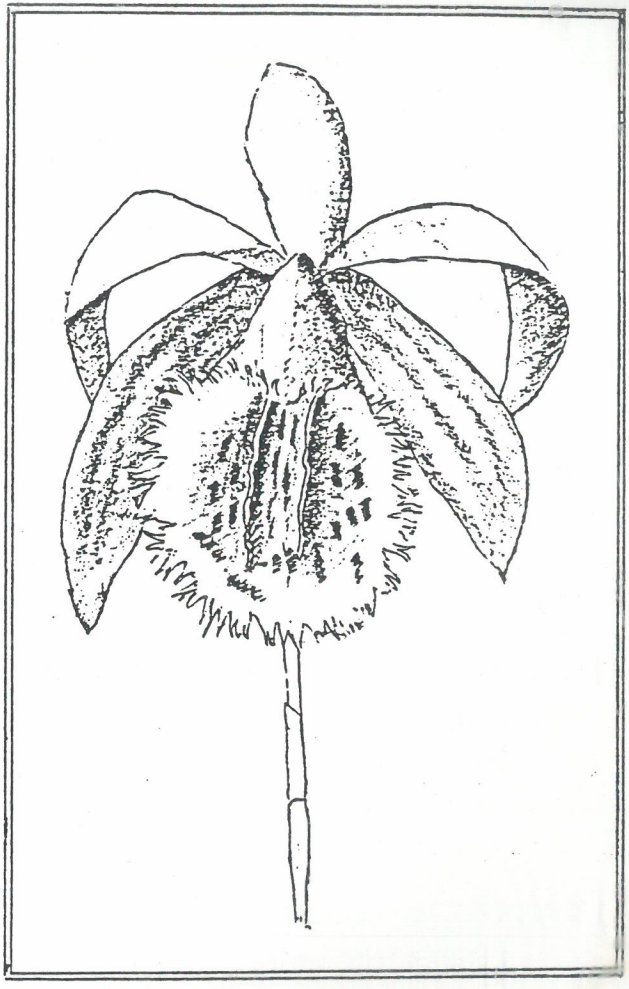
NATIONAL PLEIONE REPORT



NATIONAL PLEIONE REPORT
1988
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Report compiled by Peter Bradbury who will be pleased to receive any letters or articles for inclusion in next years edition.

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Somerset Pleiones

About 35 years ago I purchased four Pleione Formosana from Simmons of Finchley. The recomended potting compost was the standard one for those days. Osmunda fibre and sphagnum moss. The bulbs had to be pressed jently into the top of the moist compost, with a topping of fresh sphagnum pressed around them for support. The bulbs all flowered to my great delight. I was completely captivated by their modest beauty and have been a slave to them ever since.They grew well in the moss/fibre medium, in fact looking back, I believe they grew better in fibre than any other type of compost. A very endearing quality is their ease of culture; they will grow in almost any medium provided it is free draining. I have grown them in John Innes No.2 with a third of coarse sand and in a mixture of J.I.2. and Peat Based compost with coarse sand or perlite. One component they do like is added moss, preferably chopped fresh sphagnum. Unfortunately it is increasingly difficult to obtain the right type of sphagnum these days so I am reduced to hunting for local mosses which appear to have a suitable texture. They certainly prefer this to a compost lacking moss, but there is no doubt that chopped fresh sphagnum gives a magical boost to their growth.

Pleiones are shade loving plants. Mine are grown in a home made greenhouse attatched to the north facing wall of my garage. The garage roof being higher they only receive direct sunlight in the early morning and late evening. From late May to early September half of them are placed out of doors under the north facing wall of my bungalow. In a good summer they grow better in this situation but in a

summer such as we had last year, with cold nights and dull days, they were inferior to the greenhouse bulbs, hence my practice of only placing half out of doors. In general they didn't grow quite as well as the previous year. Pleiones thrive in cool conditions. An average of 50F. in summer and around 40F. during the dormancy period. Last winter my lowest recorded temperature was 32F. and my highest 88F. The latter was only on one or two occasions.

The "Achilles Heel" of pleiones is their root system. Once the roots are broken or damaged they will not regenerate and the bulb will cease to grow. The two main causes of root damage are over saturated compost and the tiny moss or fungal flies. The compost should never be allowed to remain sodden, particularly during early growth when the tender emerging roots are most easily damaged. The type of compost used for pleiones containing moss and/or peat is attractive to moss flies whose larvae feed on decaying moss. They also enjoy tender emerging roots of the pseudo bulbs and if all are damaged the bulb becomes useless. Spraying with Malathion will kill the flies and the larvae can be killed by a watering with Malathion at normal spraying strength. The pots should never be left in saucers of water.

Pleiones tend to be shallow rooting and prefer half pots or pans. As the compost must be free draining crocking of the pots is not really necessary. Feeding is a must if you want good sized flowering bulbs. I commence feeding mine when the roots start to penetrate the compost, usually in April, using half the recomended strength for pot plants, a high nitrogen fertilizer from May to the end of July then switching to a high potash one. From May to July I feed "Phostrogen" and "Maxicrop" alternately and from August onwards I

use "Tomorite". Every third watering I flush with clear water to remove any collected salts from the compost.

From mid October to mid November the leaves turn brown and fall off. During this period feeding should cease and watering reduced. When all the leaves have fallen watering should cease completely and the bulbs kept cool and dry, preferably between 32F. and 40F. If completely dry they will withstand one or two degrees of frost. I find mid January to early February the best time to repot, a job which must be carried out annually. Tip the bulbs out of their pots, remove the compost and cut the dead roots back to within half an inch of the base. Be careful not to damage the eyes during this process. Before repotting wash out the pots in a disinfectant bath with Jeyes Fluid. Fill the pots with compost to within 1½ inches of the rim. Sprinkle a little bone meal over the surface of the compost. Place the bulbs on this, ½ inch apart and ½ inch from the side of the pot (Pleiones like to grow close together). A finer compost with rather more chopped moss is then poured around the bulbs leaving their apex peeping above the compost. Do not firm the compost too tightly otherwise the roots may find difficulty in penetrating the mixture and tend to push the bulb out of the compost. If this does happen carefully lift the bulbs out of the compost with a thin blade, loosen the compost and carefully resettle the bulb being careful not to damage the tender roots.

My favourite compost is :- 6 parts by volume of ungraded orchid bark, 2 parts sphagnum moss peat, I part coarse perlite, I part fresh sphagnum moss cut in quarter inch lengths, ½ part fine grade charcoal. Rubbed out dry beech or oak leaves are a useful addition and the sphagnum moss can be replaced by the chopped up fronds of dry bracken. I have used this for a number of years now. If any of

these components are not available J.I.2 or any peat based compost can be used with the addition of coarse sand or perlite to make it free draining and some finely chopped moss. Keep a lookout for greenfly on the young growths. Slugs and snails can also do untold damage.

The flowers appear first, before the leaves which enfold them. All of my flowering sized bulbs flowered well this year as they did last. They will last from two to three weeks depending on ambient conditions. The cooler they are grown the longer they will last and the flowers will have a much better crystaline texture. Temperatures should be kept below 50F. during early growth and flowering. When the flowers have died they are best removed by holding the leaf sheath between finger and thumb of one hand and carefully withdrawing the flower with the other.

Of all orchids Pleiones are the easiest to grow and flower. They are not fussy as to compost provided it is free draining. Each pseudobulb will produce two new bulbs each year plus a number of little bulbils which, if grown on in a finer compost will reach flowering size in two or three years. They are ideal house plants if placed in a northerly facing window. In a kitchen or bathroom they will receive welcome airborne moisture. Dry, centrally heated rooms are most unsuitable.

Other species of Pleione will extend the flowering season from September to May. The earliest, P. praecox flowers in September/October followed by P. maculata in October/November. The last to flower is P. hookeriana in April/May. Between these dates are many hybrids to fill the gaps. Colours range from pure white to deep pink and there is a yellow variety; P. forrestii although as yet

vary rare in cultivation and somewhat expensive to buy. A natural yellow hybrid Pleione x confusa is more easily obtainable and somewhat cheaper to buy.

What nicer present could you give a friend on a cold winters day than a potful of these beautiful orchids in flower.

Ivor Baldwin, 3 Waverly, Somerton, Somerset. TAII 6SH.

London Pleiones

Most of the Pleiones I grow are housed in a very small greenhouse, a converted coal bunker in fact. Most spend the winter in here and are later transferred to Corex cold frames for the summer. I put capillary matting in the base of the frames, I put the lights on leaving enough gaps between the lights for ventilation, the lights are left on throughout the summer and provide diffused sunlight.

2 I find they grow particularly well under these conditions, and grow on rapidly to make large bulbs, in part due to the warm conditions within the frames.

3 The plants housed in the small greenhouse are grown unheated and apart from covering them with newspaper they are subjected to the prevailing winter temperature. I have occasionaly lost some of the very large bulbed varieties such as P. shantung due to freezing during the very severe winter conditions experienced during the winter prior to the one just gone. However most seem to have come through safely thus treated.

4 The autumn flowering species and hybrids are grown in a north facing attic room with a minimum winter temperature of 45F. rising

to 80F. in summer.
5 This is the only place I can grow P. bulbocodioides to flower each year due to the fairly consistant high summer temperature which they need. Pleiones hookeriana, maculata and praecox have also grown well in the same location, although less reliably.
6 Most of the Pleiones are repotted each year between November and February period. The compost that I have used for a number of years with success is as follows ;- 6 parts medium grade orchid bark, 2 parts fine grade orchid bark or Cambark 100, 2 parts Fisons Greenleaf Tree and Shrub planting compost and I part Perlite (medium grade) I also put a few lumps of charcoal (barbecue) and a pinch of bonemeal in each pot, each pot is half filled with drainage material.
7 I am experimenting this year with a slightly different compost consisting of :- 8 parts Silvaperl bark chips, 3 parts chopped sphagnum moss, 1 part broken up apple leaves, I part broken up oak leaves and I part Perlite.
8 Early indications seem promising, the compost is more stable in the pots, and supports the bulbs firmly in place.
All Pleiones are fed from the end of May to mid July with half strength Liquinure once per week. This is changed to half strength Phostrogen until the end of October at approximately weekly intervals.
9 Plants are generally removed from their pots as they become dormant and are then trayed up prior to replanting. This helps to reduce damage from slugs hiding in the still damp compost. Some plants are left a second year in their pots depending on the condition of the compost and the time available for repotting.
10 The plants grew very well last summer and I have had a very

good show of flowers this spring, and at the time of writing I am hoping to flower P. hookeriana for the first time from home grown stock, grown in the attic room.

I1 Scarid flies can cause damage as they will feed on Pleione roots and can cause havoc particularly to Pleione seedlings, however an occasional soil drench with Pirimiphos Methyl will help control them.

I2 The Pleione pseudobulbs can be covered over completely with compost if you are using an open bark mix. I am of the opinion that some species are light sensitive and will only produce large bulbs when buried in the compost. This seems to be the case particularly with P. bulbocodioides, and P. hookeriana seems also to like to be buried just under the compost. I probably get fewer flowers than I would normaly get as I am developing new hybrids and use most of the flowers for breeding purposes which in turn puts extra strain on a lot of my stocks, and results in some plants not flowering every year.

M.J.Hazelton, 58 Moring Road, Tooting Bec, London, SW17 8DL

Malvern Pleiones

Housing Until very recently we had no greenhouse facilities and our Pleione collection was grown on windowsills around the house until frost danger was past, when they were put outside in a series of wooden boxes in a N.E. facing angle of the house, well sheltered and with direct sun only in the early morning. Growing conditions around the windowsills are very variable (no central heating either) depending on aspect. Bulbs were harvested before serious danger of frost in autumn and were packed into plastic boxes and put on a south windowsill to ripen and until leaf fall, but last year a cold greenhouse was available and the boxes were moved there to ripen in full sun (after removal of tomatoes). After leaf fall the bulbs are cleaned and old roots cut off and are stored in labelled bags in the coldest place available (temperature range probably 5-8C, never below 0C) and are checked over during January and potted up when there are signs of growth.

This spring an orchid house has been available and all Pleiones we have only small numbers of have been grown in the cool section after flowering, or earlier in the case of imature bulbs, to be hardened off and put outside with the rest.

Culture of our 'quantity production' robust cultivars from Jan. 1987

About the middle of January the first signs of new growth were evident and the bulbs were laid out on dry peat in shallow plastic trays on windowsills of unheated rooms and at intervals inspected and the most advanced potted up at close spacing so that each potful flowered together; potting was done with the flower bud fairly advanced but root development hardly initiated. Some pots were brought into warm conditions and some kept cool to give a

long spread of flowering season; Pleione flowers decorated the house for about three months. Some were flowered in decorative pottery bowls and carefully potted up after flowering at the risk of some root damage.

In late May they were carefully removed from the pots keeping the rootballs as intact as far as possible; the small amount of root damage had no noticeable effect on performance although we wouldn't do it to our delicate and precious stocks; removing the pot allows of a larger free root run as they are initially flowered at close spacing in quite small pots because of limited space.

In 1988 our 'quantity' cultivars were required in quantity for the British Orchid Congress show at Cheltenham, so as they were potted up the advanced ones were kept cool and the least advanced brought on in the orchid house or on a warm windowsill to try to synchronise the whole flowering; some even had a spell in the fridge at an early stage to hold them back. The operation was very successful in that several hundred flowers were produced in peak condition for the show. (End of March 1988)

All other Pleiones are grown on in community pots; bulbs of P. bulbocodioides 'Yunnan', limprichtii and speciosa and their hybrids are completely buried in compost topped with moss, and all other Pleiones are planted about two thirds proud of the compost. They are potted in small flimsy plastic pots with extra drainage holes cut in them, to ensure free drainage and also that the pot can be plunged into additional compost and allow the roots to extend out into the extra compost during the summer, when they are also put outside, but remain in their pots to avoid root damage

and to ensure that the various taxons are not muddled up.

Performance for our I987/88 season was very good; bulb sizes up exept for the exceptions noted, and very good flower production.

Compost For many years we have used bracken litter leafmould collected from under stands of bracken, taking the fresh surface layer which has crumbled but not decomposed, and this gave good results with the robust growers with very little in the way of fertiliser.

Recently we acquired a garden shredder, and now use fresh bracken fronds and stems, and oak leaves collected dry in the autumn, with the addition of some peat (granulated) to improve moisture retention; the compost is probably around 2 parts bracken, 2 oak, 1 part granulated peat, by volume.

The boxes made up outside for the summer are still pure bracken litter.

Last year for our new expensive, delicate or very small bulbs, we used a bark/Finish peat/shredded oak leaf/charcoal/Perlite mix; this year we have used the shredded bracken and oak with peat mix as above with the addition of chopped moss (Rhytidiadelphus squarrosus). The compost change has been made partly because we were unable to get a supply of a peat of similar quality to that used last year, also in an effort to develop a compost based on free local ingredients which will be suitable for the delicate species as well as the robust ones so that we can standardize

Fertilizer In earlier years 'Bio' or other general purpose seaweed based fertilizer was used at low contration while plants were indoors, little or none once they were outside.

We are now using Mr dadd's orchid fertilizer with increased trace elements (Greenaway Orchids Nr. Bristol) at half strength.

Watering In earlier years compost was kept almost dry until root development was evident; this season bulbs and compost surface were lightly misted regularly in the early stages (including bulbs put on peat prior to potting as explained elsewhere) which has resulted in far less shrivelling of the old pseudbulbs without any danger of a wet rooting medium.

Once growth is under way watering is carried out cautiously until the leaves are expanded, at which time it is assumed that there is a strong root system established. Watering thereafter is frequent and copious, the compost being very free draining. When outside, watering is by hosepipe straight from the mains. (one year we watered copiously too soon and several of our precious Pleiones failed to establish a good root system; one was lost altogether and the rest took two to three years to fully recover)

Pleiones being grown P. limprichtii was our first acquisition about twenty years ago, we have not found it a robust grower and our stock has gone through various adventures. One winter it was left outside accidentally and only a very few small bulbs were rescued, and we still only have a small supply; we've had much better performance recently since the advice to incorporate fresh moss in the compost and to bury the bulbs completely in a surface layer of moss.

P. formosana 'ordinary form' and 'greenhill' are very vigorous and we have built up large numbers of large bulbs sometimes producing three flowering shoots; these increase rapidly and never fail to give a very good flowering performance.

P.f. alba (possibly polar sun) we have also had for many years but is much less robust, bulbs remain very small and we have only recently succeeded in obtaining a good show of flowers.

We have recently extended our collection substantially to include all the available species , an assortment of hybrids, and several more cultivars of P.formosana, some as flowering size bulbs and some as tiny bulbils.

This year we'd seen advice to keep the yellow Pleiones very cool while developing to retain the best colour, we sited our growing area for all our small quantity Pleiones on a very cool windowsill (west facing in a north unheated room) but this resulted in problems with P. humilis and its hybrid P. eiger which having flowered failed to continue growth until it was removed to a much warmer site a few weeks later; the leaves have finally expanded but are streaked with maroon, presumably a result of temperature stress, and we are not expecting a very good bulb size. Other Pleiones have been noticeably slow to come into leaf. P. humilis produced a crop of microscopic bulbils on the bulbs apex in 1986 and an attempt was made to propagate from these in 1987 using a mini propagator made from a plastic lemonade bottle to contain a small pot of chopped boiled sphagnum, a procedure we have been using for very small seedlings of other orchids. These have successfully reached their second season but are still very small; however the same P. humilis in the following year produced a single normally sized bulbil, so it appears that the type of bulbil production can vary with conditions and is not genetically determined as we have seen suggested.

P. maculata. We have not done well with this; we acquired a pot of bulbs in growth two years ago, and the bulbs were found not to be properly rooted, we blamed the bark/peat mix which seemed rather close and not free draining; but also we've recently discovered that this species is warmer growing so our two small surviving bulbs are

in the intermediate house in a bark/moss/perlite mix and they'r only just coming into growth. We also have a small pot of newly acquired seedlings; these arrived in December on agar, already showing advanced shoots, and were potted in the same mix and kept initially in a warm propagator where they made very good growth. However since moving them to the intermediate section of the orchid house the leaves have browned from the tip, brown blotches appeared then coalescing; we think the dieback indicates a problem at the roots, similar to that often seen as a result of stale compost or salt buildup in other orchids; is our compost suitable? Have we under or over watered? is the fertilizer incorrect in strength?

P. praecox. We have a similar problem, with one pot of these received, purchased in flower; as the compost appeared to be in good condition and as the autumn flowers made new roots at about flowering time we were reluctant to repot so they are in the old compost for a second year and they are also showing some leaftip dieback. A P. praecox bulb from an earlier purchase was repotted and has much better leaf colour and no signs of dieback, and has been treated identically except for repotting; two P.praecox hybrids are also doing very well; so we beleive the problem to stem from the old compost. P. praecox and its hybrids were put in the cool section of the orchid house during late winter.

P. hookeriana. We recently purchased a small flask of seedlings which had to be reflasked urgently within days of receiving them as mould had developed on the agar. They are very small indeed and appear never to have formed roots into the agar, each seedling consisting of a minute bulb and leaf, no roots and a couple of back

bulbs of similar size, so they had not been increasing in size from one growth to the next. They are now in chopped boiled sphagnum in a mini-propagator in a shady part of the cool section of the orchid house. We beleive this to be a fairly high altitude species requiring cooler conditions than most; we would be most grateful for any further information on this species.

The other species we have a very small stock of are :-

P. forrestii and its hybrids P. x coniusa and shantung

P. Yunnanensis

P. bulbocodioides Yunnan

P. speciosa

Hybrids :- Etna, Vesuvius, Stromboli, Erebus, Eiger, Alishan, Barcena, Tarawera, Danan, El Pico, Hekla, Katla, Tolima, Versailles Buckleberry and Heron.

P. Formosana cultivars :- Blush of Dawn, Avalanche, Snow White, Cairngorm, Clare, Iris, Lilac Beauty, Oriental Splendour, Polar Sun Greenhill and ordinary form.

Some of these are only single bulbs or imature bulblets as yet We would be happy to exchange Pleiones where we have sufficient. stocks; and we are particularly anxious to increase the supply of the species still fairly scarce in cultivation from seedlings, so as to improve the genetic variability, so would be very interested in the possibility of exchanging pollen of P. Forrestii, Yunnanensis and bulbocodiodes in the hope that someone may be holding stocks unrelated to ours.

We are making our first attempts at raising Pleiones from seed this year and have some developing seed pods, including a remake of 'Shantung' using our clone 'Greenhill' which we beleive has not

previously been available.
P. formosana "Greenhill" This clone obtained many years ago from a local alpine nursery under the name "P. Taiwanensis" which is clearly spurious. The nursery had obtained various imported Pleiones and allowed them to increase in number but decrease in size for some years before dividing up the colonies and potting them for a few years until it flowered again, since when it has increased prolifically, flowered profusely and produced our biggest bulbs. We have been unable to find a valid cultivar name for it, so have named it after our cottage. We'll be happy to supply bulbs to anyone interested. Perhaps someone will recognise it and can name it correctly.
K.Fairhurst(Mrs) Greenhill Cotage, Cradley, Malvern, Worcs.WR13 5JE

Chilterns Pleiones

I think I have had more flowers this year than any previous season. As flower production is largely a reflection of the previous seasons culture it looks as if I have done something right.

I repotted all my bulbs with the exception of seedlings in January 1987. I used a compost of:- three parts sphagnum moss, five parts ungraded orchid bark, two parts chopped oak and beech leaves, one part Perlite and one part charcoal.

If needed add thirty grammes of Gamma B.H.C. dust to each gallon of compost to prevent vine weevil and scarid fly larvae. If using Gamma B.H.C. in the compost wear rubber gloves when potting up so to avoid prolonged skin contact with the chemical.

The only differences to this compost this year is that I have

added one part water repelant rock wool and have left out the charcoal. I am not convinced that the addition of charcoal has any great benefit. I have also potted quite a number of bulbs in a mix of three parts composted bark (Silvaperl) and one part coarse Perlite.

My greenhouse is an 'Alton' glass to the ground 13 ft. x 8 ft. I have partitioned it, and heat three fifths of it with the rest left unheated. It is in the unheated part that the majority of my Pleiones are grown until they have flowered. If the weather is extremely cold I leave the partition door open about two inches and this allows just enough warmth to flow from the 50F. end to prevent the temperature falling below freezing.

In spring 87 as soon as the flowers had faded I moved the plants from the greenhouse into a cold frame. This year I kept all the pans inside until the middle of May before moving them to the cold frame as I think this may give the plants a chance to make an even better root system. For a while last year the frame was left covered but by mid June I removed the covering completely and the plants received all the rain of last season and seemed to enjoy it. They certainly didn't suffer from the wet. From this I conclude that the plants can be grown close together, and wet, provided the drainage is good. Close together for me is a 10 Ft. x 4 Ft. frame where only leaves can be seen, no pots showing. One word of advice I offer if you are going to grow your plants outside, cover the frame or growing area with a net to keep the birds away from the pots. It's not the cats I have a problem with, but inquisitive blackbirds who love to kick the compost around to see if anything in it is edible. The trouble is they don't put it back when they have

finished.

Although the season was very wet and dull I still watered with liquid feed. I used 'Maxicrop Seaweed' fertilizer and watered it on at two weekly intervals at full strength from May to the end of September. It depended on how much water ran down the leaves as to how wet the compost became. I have never seen better leaves on my plants. I don't think there was one that had a brown mark on it. Shantung grew to an enormous size with leaves eighteen inches long.

In mid September I replaced the frame lights, leaving them open a few inches for ventilation. Autumn came and the leaves fell and at the end of October I moved the pots back into the glasshouse to dry out.

I started to clean the bulbs about the middle of December and got them finished about the middle of January. (I don't like to rush such an enjoyable part of the culture). I buy paper sweet bags from the local confectioner to keep the bulbs in until they are repotted. Repotting was done immediately after the cleaning was finished. The majority of the bulbs are planted with just their nose showing through the compost, but P. bulbocodioides and P. hookeriana I completely cover.

Unless the pots get too dry I don't water until I can see the flower buds showing through. If the compost does look too dry I set my 'Kilaspray' on coarse and spray over the whole lot to create a little humidity.

The first to flower are usualy the pink and cream Eigers. Many of the flower stems have two blooms on. If they hang too far over the pot edge, I make up some little supports from plastic covered garden wire. If this is done carefully the wires hardly show and the flowers

are seem much better. For the same reason I have a shelf at eye level where flowering plants can be stood. When they go over a new selection is put up for viewing.

Almost everything flowered this year and a number of plants produced flowers which lasted much longer than usual, three weeks or just over, but the exception was a yellow Shantung that had Confusa as the seed bearer which lasted over four weeks. No special precautions were taken to achieve this and I am unable to explain this unusual phenomenon. Tolima gave it's usual vibrant display, and I think it's for it's willingness to grow and for the cheerfulness of it's flowers it must rate as one of my favourites.

I was very encouraged this spring to have flowered my own remake of P. alishan.I used P.f. achievement X P. Versailles Bucklebury and the result based on just the one flower is that it is a much more upstanding plant than some alishans appear to be. Maybe i'm prejudiced, but I like it. I have had trouble with another cross which hasn't flowered yet, and unfortunately for me just as I was deflasking the seedlings the hybrid was registered by a German nursery as 'Fu Man Chu'. Even more unfortunately most of the seedlings have died (probably from dissapointment). If anyone has a secret formula for keeping seedlings growing well it would be very nice to share it. I don't seem to have had any other disasters and my plants are growing well.

October saw P. praecox flowering but very sparsely indeed. On one occasion I managed to get two flower spikes on a bulb with two flowers to a stem and had eleven flowers from three bulbs. It was a different story this year with only a couple of flowers from a dozen bulbs. When the bulbs were cleared I could see how small

they had become in comparison with previous years and the texture felt spongy but they did't otherwise look unhealthy.

What a delight in December when P. barcena(P.f. avalanche X P. praecox) flowered. It had plenty of blooms with good colour and lasted well.

As it is not harmful to beneficial insects I use I.C.I.'Rapid' to clear any aphids from my plants. It's nearly always the flower buds or the flowers they attack. A chemical spray can damage the blooms so if I do get greenfly on open flowers I use a hand sprayer set on coarse and wash the pests off with plain water.

Watering the plants and their surroundings twice during the season with liquid 'Slugit' ensures that slugs and snails are no problem.

About mid season I spray all the plants with 'Dithane 945' fungicide which also contains zinc and manganese trace elements.

I am running a trial of simplified composts this year as I feel it must be offputting when would-be growers see the recomended make-up of the compost needed to grow Pleiones. Anything to encourage people to enjoy growing Pleiones is worth a try. I have used bulbocodioides X bulbocodioides as the trial plants and have put the same quantity all the same size in each pot. At the end of the season it will be interesting to see what the differences are.

Peter Bradbury, 72 Blind Lane, Bourne End, Bucks. SL8 5LA.

Anglesey Pleiones

Spring 1987 The compost used was very much in line with that recommended by Ian Butterfield:-

Coarse compost (basal) = 6 parts coarse grade bark obtained by sieving (¼) the finer particles out of medium grade bark. 1 part horticultural grade perlite, 1 part finely chopped forest moss (obtained from local Forestry Commision spruce forest), 1 part moss peat and ½ part fine horticultural grade charcoal.

Fine compost (fine) comprised the same ingrdients except the coarse bark component was replaced by the fine bark sievings.

A scattering of bone meal was used on the basal compost before the pseudobulbs were placed on it and the fine compost sprinkled in around and over them.

For a number of species it has been found that they do better if they are buried just beneath the compost. Particularly suited to this method of cultivation are:- limprichtii, bulbocodioides, humilis and hookeriana. Primary hybrids containing these species are also buried.

Feeding was carried out weekly using ½ strength Phostrogen. Watering almost every day with tap water, which forturately is soft in this area although I understand it's pH varies quite a bit.

No pesticides were necessary except for the occasional scattering of slug pellets during prolonged wet spells.

General growing conditions - pots are placed directly on wooden slatted benches in a 6'x 8' greenhouse. Maximum ventilation is given day and night unless frost is anticipated.

Shading by regular applications of "Coolglass" was found to be inadequate in bright sunny weather so white sheets had to be sus-

pended above the plants for the summer months. Some green (expensive) nylon shading was used at one stage of the growing season but this served to heat up the greenhouse unnecessarily and caused the plants to appear drawn so it was removed. In the spring of 1988 in a desperate attempt to provide reliable, cheap, adequate and white shading, on a dry day the inside of the roof glass was cleaned and painted with ordinary domestic brilliant white undercoat. The results have been excellent- there is no intention of removing it even for the winter. The greenhouse gets sunshine on three faces so to encourage the plants to flower facing the centre walkway the ends and one side have been lined with polystyrene tiles. These have been stuck onto the glass with five evenly placed blobs of clear silicon adhesive. On the sunniest side the shading of the tiles has been increased further with the application of "magnolia" colour emulsion paint.

Growth of most plants was good and good size pseudobulbs developed by October. Some heat was provided in the spring (minimum of 10C . to get the plants to grow in what was one of the coldest April to Junes on record. There was, however, considerable leaf tip die-back on many species and hybrids (especially limprichtii). This is something that has occurred repeatedly over the years to varying degrees.

Air movement has been greatly improved this winter by the installation of an oscillating fan which is left to run continually- undoubtedly a good investment.

Spring 1988 - the base compost was made up as previous year except the bark was left unsieved. The top compost was made up of seedling grade bark and finely chopped moss.

All but praecox and it's hybrids were treated (as a routine) to two months (Jan. and Feb) of refridgeration- temperature 0C.-2C. At the end of December the new seasons pseudobulbs are wrapped up in polythene bags containing a good sprinkling of charcoal dust. The higher altitude hookeriana and it's hybrid with bulbocodiodes, "Sorea", are left in the fridge until the first week in May with great flowering success. Out of curiosity as much as anything the bags are inspected every couple of weeks or so to see if there is any deterioration occurring, ie desiccation or rotting.

This year watering was commenced much earlier than usual, ie. one watering immediately after potting up and increasing in frquency as flower buds emerged. Care was taken with the late rooting humilis and it's hybrids, however, and watering frequency was low until the leaves began to appear. The purpose of the earlier watering is to see if the leaf tip die-back problem can be overcome as the lack of water in the spring is said to be the cause of this condition. Fears of root death through over watering in spring are probably left over from the time when I used to use less freely draining composts with relatively high nutrient status. For this reason I have decided to omit bonemeal from the compost and pay strict attention to the regular weak liquid feeding programme from the beginning of June until leaf-fall.

Flowering this season has been excellent starting with praecox- which incidentally I have five clones that have single leaves for the second year running. I've also had my first winter flowering season of the praecox x spring flowering hybrids. "Barcena" (P.F. "Cairngorm x praecox) was my favourite- one pseudobulb produced two flowers the first of which opened on 9th. Jan. and the last died 25th.

March. The first flower lasted a good eight weeks. This winter was very mild and although the thermostat to the electric fan heater was set at 0C. the temperature was not often at this level for long. When the nights were frosty the following days tended to be sunny giving a rise in temperature of 4-10C. All my species and hybrids have flowered well except a clone of formosana "alba". This is a true alba form with no yellowing on the lip. The small but attractive flowers have proved rather shy of flowering over the years. I have eighteen flowering size bulbs but none have flowered this year and only one flowered last year. They receive the same treatment as all the others including the two months cold treatment. They must require other conditions, has anyone got any suggestions?

At the time of writing my "Sorea" (two bulbs) is just opening and my four hookeriana bulbs are just pushing up flower buds through the compost. Last season one shoot was double budded and a sheer delight. I give both these extra moss as also confusa, humilis and it's hybrids.

List of species flowered successfully this year:-
bulbocodioides "Yunnan"; x confusa; formosana (nine forms); humilis; hookeriana; limprichtii; praecox; speciosa and yunnanensis.

Numbers of hybrids successfully flowered this season:-
winter flowering three out of four; spring flowering thirteen out of thirteen.

The one winter flowering hybrid not flowered was "Sangay" (limprichtii pink form x praecox)-this produced a bud which was deformed and came to nothing.

Pollination:-
This year I tried pollinating my Pleiones for the first time.

A selfing of confusa has produced developing pods but whether or not they contain viable seed remains to be seen. Pollinia of confusa was stored at 2C. over silica gel desiccant in a small screw top bottle for a month before being used to pollinate two forms of formosana (a"shantung" cross attempt) but these did not take. The flowers died in reaction to the pollen but no pods developed.

Bulbils-humilis Last year one of my four humilis bulbs produced a tuft of bulbils (estimated to be around 40 in number). This, I understand, is a fairly common occurrence with this species but I also understand it is difficult to grow these on. After cold treatment (Jan. and Feb. 0-2C) the bulbils were placed on or under a layer of fine woodland moss over ordinary compost and kept continually moist since "sowing". At the beginning of this month considerable activity was observed on the "germination" front so it is looking very hopeful.

Contribution from Llandegfan, Gwynedd, North Wales. June 1988.

Essex Essentials

At the time of writing this article, on the first day of June, I am pleased to see a few remaining Pleiones still in flower. Pleione limprichtii is always one of the last into bloom with us - not very well grown alas but the delicate blooms are so alluring.

My wife and I have been growing Pleiones now for almost ten years. The "addiction" was acquired when we lived in Buckinghamshire - little more than a stones throw away from the "U.K. home" of Pleiones at Harvest Hill. In common with many dedicated amateurs we have had our successes, failures and even near disasters. Thankfully, we

have learned from some some of our experiences - at least hope springs eternal.

Our own Pleiones, which number some fifteen species and hybrids share an 8 x 12 feet greenhouse with a whole host of alpines, some truly hardy like the Androsaces, Dionysias and Saxifrages, and others more sensitive to cold such as some of the Cyclamen and Mediterranean bulbs.

For this reason the greenhouse has to be heated during the winter months, albeit if only to avoid the most penetrating frost. The thermostat on the electric fan heater is set at +1C. (34F) and has to date operated faithfully and efficiently. The Pleiones would I believe benefit from one or two extra degrees of warmth in deepest winter and this I am considering.

In the event of an electrical failure a propane gas heater can be used as a standby. In the recent past, this gas heater was the major heat source, but accumulation of water vapour and noxious gases has led me to change to electricity. Not that the gas heater adversely affects the growth of the Pleiones, which are dormant during the coldest months - January and February, but it is resented by some of the Cyclamen. Perhaps of greater importance is the strong tendency for stratification of the heated air within the greenhouse: this phenomenon was most marked on particularly cold nights, when the air in the ridge of the greenhouse would reach 20C. whilst pots were frozen to the paved ground. A fan mounted in the roof did aleviate the problem but failed to eliminate it entirely.

So much for heating but what about temperature? During the coldest months immediately after Christmas, the air temperature in the greenhouse seldom exceeds 5C. (41F) and rarely more than 10C. (50F)

during the daytime. This past winter, being exceptionally mild, has been the exception that proves the rule and some ventilation has been necessary on more than one occasion- when the temperature has exceeded 10C. (50F). Being an alpine house with extra side ventilation and gable end louvres, this is easily achieved.

March sunshine is always powerful and both ventilation and shading need close attention if scorch and sudden drought are to be avoided. Pleiones are perhaps less susceptible in this respect than many of the early alpines, but seem to appreciate some shading especially later in the year.

In the past I have always used a proprietry brand of "white-wash" Coolglass applied in a vertically striped fashion, appropriately removed by finger, to produce a dappled shade effect. However, I dislike wasting valuable light in the early spring when there are so many overcast days. This year an investment in some green shade cloth and six good lengths of plastic-coated, elasticated curtain wire has partly solved the problem. On dull days the shading can be simply pulled up to the ridge and clipped in place in a matter of minutes - not automatic but at least manageable single-handed.

Operating the greenhouse at relatively low temperatures does necessitate careful choice of compost and judicious watering especially early in the year. In common with most growers I expect, I have experimented with various pots and composts over the years- and will probably continue to do so.

At present I favour clay pans. These are filled to three-quarters of their depth with coarse peat pieces - hard in much the same way as lignite and made from broken pieces of peat-block walling. Some coarse pieces of charcoal are also added for "sweetness" and extra

drainage, and the whole covered with 2-3 cms. (1 inch) of bark based compost. The latter is composed of bark-chippings, perlite, charcoal, uncomposted leaves, Sphagnum moss and basal orchid fertilizer. This medium is soft and porous in texture and offering a minimum of resistance to the succulent, searching Pleione roots. Formerly I have made this surface compost too dense and inpenetrable, which has resulted in the pseudobulbs being forced out of the compost and suspended in mid-air by "buttress roots". An ugly and unstable combination.

When potting-up, I have also found it essential to carefully presoak the peat/charcoal sub-soil before planting. Once fully moist the peat maintains it's water-holding capacity for long periods. On the other hand attempts to wet an excessively dry peat base can be a difficult if not impossible task, and can result in seriously overwatering the dormant pseudobulbs planted above. The objective is to produce a well-drained but moisture-retentive compost, open in texture to offer a micro-climate sufficiently damp to encourage root development and prevent bulb shrivelling, and suffiently dry to discourage root rots and bud browning.

Usually we repot annually during the Christmas holiday period, but this year we decided against. Instead the pots will be left until they are obviously overcrowded - now seemingly after two seasons. The reason for this practice is to establish a community of bulbs, which ought to be more tolerant of the extremes of the potted environment. Certainly the very small bulbs appreciate the company of their larger neighbours, wedging themselves into the nooks and crannies available, and protected from overwatering by a large and active leaf canopy.

Normally the pots receive little water until flower bud elongation in the early spring - the bulbs protected from desiccation by the damp peaty sub-soil and plunge medium. Even when growth starts water is given only sparingly to the margin of the clay pot and leca plunge (leca is a product of A.R.C.). However, once leaf development is well under way, water and liquid feeding is increased markedly and up to twice daily during the very hottest weather.

Rain-water is used whenever possible as the pH. of our Anglian tap-water is well to the alkaline side of neutral. The former is collected from our bungalow roof and stored in two forty gallon water-buts. From early spring onwards, soluble Bio-feed is added at a rate of I gram per gallon($I\frac{1}{2}$ ozs. per 40 galls.) rising to 2 grams per gallon (3 ozs. per 40 galls) during peak summer growth. This constant feeding at a low concentration reduces both the chances of overdosing, or memory lapse/laziness and under feeding.

And what of the results of our labours?

Well for whatever reason(s) flower number and quality has been exceptionally good - probably our best year to date. Almost a surfeit of multiple flower stems per bulb and "twins" per stem, and only one flower lost through bud rot. A continuous succession of blooms beginning in mid-March with Pleione Eiger; peaking in mid-April with P. formosana "Avalanche", P.f. "Clare", P.Tolima and P. Shantung; and ending more than a month later with P.f. "Oriental Splendour" and P. limprichtii.

Almost ten weeks of uninterrupted pleasure - what more can one ask of nature?

19/6/88

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A Passion For Pleiones

Pleione orchids must be some of the most interesting and rewarding plants one can grow, providing interest all the year round. Of coarse the main enjoyment comes from the plants flowering in the spring, but there is a certain achievement in being able to grow good pseudo-bulbs, in order to get good flowers the folowing spring. The spring of 1988 has been one of the better seasons for me, the plants producing a show of flowers much superior to previous years. In this part of the country my plants are always later than many growers, this year being no exception. However in comparison to last year, my plants have come into growth, about one month earlier than usual. Flowering taking place over several months, my humilis started to flower at the begining of February, and now, writing this article at the beginning of June, my bulbocodioides are just going past.

As usual last year, during the Christmas holidays, I cleared the pseudo-bulbs removing all dead material, and trimming the old roots to about half an inch in length. The pseudo-bulbs are then graded, large flowering size, flowering size, smaller bulbs and so on, then these are potted up into my own compost mix. I grow exclusively in clay pans or half pots, which are thoroughly cleaned in Jeyes fluid every year. Once the bulbs are potted up, all the pots are plunged into ¼" gravel to their rims, on a plunge bench in the greenhouse. I feel growing plants this way has a number of advantages. Firstly in the spring when new roots are forming on the plants, only the plunge bench is watered, so stopping the plants being overwatered, and also encouraging good root growth, making the roots look for moisture. When the plants are in full growth, and the weather is hot and dry, in summer, the plunge bench is always kept damp, this creat-

ing a certain amount of humidity around the plants. Plunging also helps to keep the roots cool, and stops the plants drying out too quickly, without the pans ever completely standing in water. Judging by the amount of good healthy foliage produced, then the Pleiones must be happy in this environment.

Being a relative newcomer to growing Pleione orchids, then initially I encountered a great many problems, which have been gradually overcome, mainly by studying the plants and assessing their needs. One of the main problems encountered was rotting of the young roots, when they first emerge in the spring, which weakens the plants and greatly reduces the chances of growing good sized pseudo-bulbs for the following years flowers. I was satisfied my growing conditions were adequate for the plants, however the loam based compost I was using at that time was obviously not free draining enough. What was needed was a compost which would drain freely, but still retain enough moisture to encourage good root growth. The mixture I came up with, which has proved successful enough, for me to keep using over the last six years is, equal parts of, Sphagnum moss peat, fine grade orchid bark, sphagnum moss, chopped into $\frac{1}{4}$-$\frac{1}{2}$ inch lengths and Terra-green, a calcined montmorillonite mineral, with water holding properties. Added to this mixture is a quarter part of charcoal, to keep the compost sweet, plus a base fertilizer like Vitax Q4, applied at about half the recommended rate, to get the plants off to a good start, when they begin to grow.

The pleiones are grown in a small greenhouse, where the windows are continually open, weather permitting, this provides plenty of fresh air around the plants. This airflow helps to control botrytis, which is especially prevalent with plants growing so close together.

During the winter months when we get some very severe frosts, the greenhouse is maintained at 1-2C. by means of a thermostatically controlled electric fan heater. I try to make sure the temperature in the greenhouse never falls below zero, some growers mantain some species, especially the higher altitude species are frost hardy, but I have never been brave enough to put them to the test.

When the Pleiones are growing, regular liquid feeding certainly improves the size of pseudo-bulbs, which can be grown in one season. Last year after the plants had finished flowering they were fed with VITAFEED 30I, a high nitrogen liquid fertilizer, which was applied at half strength every two weeks. This feeding produces good leaf growth on the plants, which is important, since the leaves are helping to feed the newly forming pseudo-bulbs. Then at the beginning of July, the plants were fed with CHEMPAK No.4, a high potash feed applied as before. This feeding helps to build up, and towards the end of the growing season ripen off the bulbs. On cleaning the plants last year, I was particularly impressed with the size of pseudo-bulbs, they were, much larger than in previous years, especialy on forrestii and bulbocodioides 'Yunnan', the latter I find difficult to flower. However I was particularly pleased with bulbocodioides 'Yunnan' this year producing a beautiful pan of flowers, something it has never done before, with me, long may it continue. No doubt this year i'll be trying something new, to improve my growing of Pleiones.

Experimenting with growing in different ways is important, to improve growing conditions, which may better suit the plants.

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Pleiones on the Pennines

The winter of 86/87 lasted for months. The frosts started in the previous October and together with the snows were still with us in late April. At 900 Ft. above sea level the warming rays of the spring sun take a little longer to stimulate spring growth. A year earlier the flowers had gone and the seed pods were developing.

Seedlings ex-flask tend to suffer from dehydration if kept in a dormant state to long. 10 degrees centigrade is needed to promote growth. In a small house this isn't possible for me, so they had to be moved indoors. Second year bulbs and small bulbils don't seem to have this dehydration problem. Maybe their skins are more resistant to the cause.

Autumn came, not a bright one; yet again P. maculata didn't flower well. A bright sunny autumn has proved to produce the most P. maculata flowers. The pennines tend to attract autumnal fogs and mists that hang around for days. P. praecox responds in a similar way but the hybrids tend not to be bothered by this situation. Has anyone tried growing plants under lights in the autumn to prolong the growing season?

Last summer I was given a growth regulator which I was told was "good for cabbages". He was correct, we are still eating them. I tried this product on my Pleiones with some very good results and some indifferent results. The species produced nice large bulbs and all of the P. confusa flowered, but it was the hybrids that excelled themselves. Some examples are listed below:-

Vesuvius "Linnet"	4	bulbs weighing from	25-35	grammes
" uncloned	15	" "	20-30	"
Versailles "Holt"	39	" "	8-20	"

Eiger with multi spikes	17	bulbs weighing from	25-37 grammes
Hekla " " "	5	" " "	18-36 "
Danan " " "	3	" " "	25-31 "
Katla	7	" " "	15-17 "
Shantung	4	" " "	30-37 "
Rakata	3	" " "	30-35 "
Irazu	3	" " "	25-36 "

Large bulbs do not always produce a prorata increase in flowers. Example:-

Versailles "Holt" an 8 gramme bulb, one flower
" " a 20 " " , two flowers.

The increased bulb size may not mean a substantial increase in bulbils, this was noted in October 88. The exposure of the old leaf scar to moisture and light may stimulate their production, this would be convenient for desirable clonal increases. Basal buds are increased on large bulbs, not all will be flowering buds.

Compost can be a problem area for some growers, difficulty in obtaining components at a fair price is the main problem. It is easier to say what not to use.

Peat, loam and dusty materials, these will clog with water and drown the roots. Pleione roots will branch, but never regenerate once damaged.

My compost is approximately:-

Bark, medium grade	25%
Perlite	50%
Moss I" pieces	25%

Other materials that could be used are:- clean plastic machine turnings, charcoal $\frac{1}{8}$-$\frac{1}{4}$ inch, grit, granite and marble pieces,

rockwool-new trial or sponge pieces.

Feed as we know will not correct the results of poor culture, only improve growth where culture is good. Tomato feed at full strength is used normaly once each ten days. Feed all areas of the leaf, feed onto a damp compost on days that will be warm so that the water can dry off before evening temperatures fall too low for evaporation to take place. Moisture left in the leaf bract overnight may result in the leaf damping off and the loss of a new plant.

Gibberellic acid and Gibberelin A3. Growth regulator that affect growth rates and the ability of plants to grow under low light levels and temperatures, results of this work are not available yet.

As salts build up in the composts, water inbetween times with water only, salt build-up will damage the roots, and in time they will die. Roots will branch under good conditions but never re-generate.

No shade is ever used, if the humidity level is right and the compost is moist there isn't any need to shade.

Pots, anything, clay, plastic including trays and boxes have been tried. As long as they are well drained they will be suitable.

Winter 87/88 came and went with little inconvenience. To reduce the chance of bulb dehydration all my bulbs were repotted and covered in compost. The early P. humilis hybrids flowered, Eiger, Danan and Hekla produced many multi-floral stems, very pleasing.

A winter temperature of 2C. will suit most Pleiones as long as they are dry, plants potted up and covered will stand a temperature of -2C. On a sunny day I ventilate to keep the temperature low. High winter temperature may be the cause of dead flower buds.

In the summer the temperature is allowed to rise to 80F/26C. as

long as the compost is wet the plants will be O.K. Ventilation is important, a balance between humidity and ventilation must be reached.

Pests, other than human are slugs, these are dealt with the normal methods.

Humans can be, but a good lock solves that.

These are my findings, they work for me in my situation.

Good Luck.

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