Coordinator

ASGAP INDIGENOUS ORCHID STUDY GROUP **ISSN 1036-9651**

Group Leaders: Don and Pauline Lawie
P.O. Box 230, BABINDA 4861
Phone: 0740 671 577

Newsletter 52 September 2005

CULTIVATION OF DIURIS SPECIES by Graeme Krake

In the cultivation of Diuris species, as with other terrestrial native orchids, the first priority is to know the specific growing conditions of the orchids in their natural habitat. Although native species do seem to be adaptable to a variety of conditions, with a species growing in a variety of habitats, it is still advantageous to have this knowledge. With this in mind, the following recommendations on cultivation have been put together from my own limited growing experience over the past five years and from information by our best growers here in Victoria. The culmination of their advice appears in ANOS Victoria Group's publication of the *Cultivation of Australian Native Orchids* 2nd edition, 1988.

Potting Mix The following basic mix has been developed by growers over several years:

2 parts coarse river sand or fine gravel (2-5mm). Beach sand is not suitable. The amount of fine gravel can be increased to allow for better drainage.
1 part rich loam (mountain soil), although some growers replace this component with grey coastal loam for coastal species and red sandy loam for species favouring Mallee conditions.
1 part buzzer chips (with sawdust removed), which must be aged in moist conditions for at least six weeks prior to use. Some growers have replaced this with commercially available products such as Eucy mulch.
1 part leaf mould. Freshly fallen eucalypt leaves will decompose nicely if kept moist for six months.
1 deSsert spoon of blood and bone can be added to each nine litres of mix.

As with epiphyte growers, terrestrial enthusiasts are always looking to improve their mix, but the rule of thumb is: "Do not mess around with it too much." Having said that, some growers have had some success with equal amounts of Green Wizard potting mix and fine gravel.

Containers Plants grow better in pots rather than the garden as the culture is more easily manipulated. Black pots are recommended with a 150mm diameter taking about 20 tubers. Some growers have moved to 200mm for the *Diuris orientis/corymbosa* group which seem to appreciate the extra space for their noodle-like tubers. Terracotta pots are used successfully for display pots but, as they dry out quicker, they require closer monitoring with the watering regime.

Potting Procedures

1. Prepare mix with the ingredients damp enough to have no dust present. Some growers use cement mixers to combine the mix.
2. Insert an open weave piece of shade cloth in the bottom of the pot and fill to two thirds.
3. Arrange tubers evenly. With fewer tubers they can be grouped in the centre. The *Diuris orientis/corymbosa* tubers can be laid flat. Larger tubers should be 4-5cm below the final

level of the mix.

4. Fill the remainder of the pot to within about 10-20mm of the top to allow for watering. Some growers water in their orchids at this stage to help settle the tubers, while others do not.
5. Label the pot with relevant information.
6. Add a layer of coarse Casuarina leaves to the top of the pot, or substitute coarse gravel or gravel and dry leaves and twigs. If the layers are too thick the pot tends to stay too damp which can result in collar rot. This layer filters the water so the top of the mix is not disturbed during watering and it provides an airy environment around the base of the plant.

When repotting, it is recommended that half of the old mix is used with the new.

Watering This is the hard one; too much water means death and too little may result in limited growth and smaller or no replacement tubers. Irregular watering with fluctuations between wet and dry will result in distorted tubers or aborted plants. Terrestrial growers in Victoria use shade houses with solid roofs, while South Australians have shade cloth roofing. A hand-held hose with a shower nozzle is the preferred watering method with the pot filled to the top and allowed to drain. The water should not remain on the surface for longer than ten seconds if the mix is draining sufficiently. The label can be withdrawn to monitor the dampness of the mix. This is always a variable as not all pots drain at the same rate. Average watering frequency is roughly every one to two weeks during the drier months, and two to four weeks in the colder periods.

Watering during dormancy is also tricky with most growers opting for a swish of the hose once a week, which seems to prevent dehydration and keeps the pots cooler. Extra 70% shade cloth is added to the roof during the hotter months.

Most Diuris are repotted from December to January with the watering commencing in mid to late February. When the leaves start to yellow and dry off, watering is reduced over the next few weeks until dormancy. The harder to dampen soils (such as grey coastal loam) might need to be soaked in a bucket of water until the soil is saturated.

Lighting Diuris species tend to favour only about 25% shade, but some will take full sun during the growing season.

Fertiliser Few growers tend to use fertilisers with terrestrial orchids as the decomposing organic matter in the mix seems to supply adequate nutrients. However, the Diuris are a hardy lot that have responded to a limited amount of native plant fertiliser, but I am not willing to recommend any at this stage.

Propagation Most Diuris reproduce vegetatively with some plants producing more than one new tuber each season, and most also respond well to tuber removal and seed propagation. After pollination the seed can be harvested and stored in paper envelopes in an airtight container in the fridge with a drying agent added. Seed can then be sown around the parent plant at the beginning of the growing season. The top of the pot should be sprayed lightly to keep it moist to aid in germination. Most Diuris also seem to respond quite well to flasking.

Tuber removal can be used for those species that only produce one replacement tuber annually. For mature plants, the flowers can be cut off and the plant gently removed from the pot. The new tuber can be carefully cut off with a sterilised blade then stored in dry sand in a plastic bag in a cool place until repotting time. The original plant is then returned to the pot.

Although usually repotted annually, most Diuris seem to respond well to being left for two years.

Diuris orientis/corymbosa, chryseopsis, aurea, sulphurea, maculata, punctata, laxiflora and drummondii are some of the better Diuris to cultivate.

Graeme is keen to exchange tubers with anyone interested. If that is you, let us know and we'll give him your address. He might also be able to answer Leon's query,...if I were able to get southern ground orchid seed ... is there a special fungus that is needed to get them up?

MEMBERS' REPORTS

Margaret Bradhurst writes: So far this year flowering has been poor for many of the terrestrial orchids in our area. Hopefully, it may improve from now on as we are finally getting some rain after continuing drought conditions.

I have noticed that the *Chiloglottis* (mentioned in your Newsletter) have formed large colonies of leaves here this year, but not a single flower. I have located several colonies over the years which I am still trying to identify. I have not been able to ascertain if they are autumn or spring flowering or which species? Very frustrating! I have read that some species can be stimulated into flowering by fires which occur the previous summer.

Our small volunteer Bushcare group at Lilli Pilli have been very encouraged lately by noting that some species of orchids (particularly *Pterostylis nutans*) have started to appear in areas where we have been hand weeding beside our main walking track. We have a large bushland reserve bordering Port Hacking, nearly five hectares in all, consisting of *Eucalyptus* bushland and remnant tropical and sub-tropical littoral rainforest. I have identified 16 species of native orchids to date. We will probably never be able to rid it of all the weeds and dumped rubbish, but obviously every little bit helps and so see orchids where we have not seen them before is very heartening."

(What I find so heartening about the orchids is that Margaret says they are appearing where weeds have been removed. I believe they don't NEED fire at all! P)

Barbara Henderson: "I spoke to three orchid Societies in Brisbane's northern suburbs, and we were invited to two of their Christmas break-ups. I've now spoken to at least one Society two or three times; they ask me back, mainly to talk about the terrestrials of the Wallum heaths and the coastal woodlands. Some of the people are very knowledgeable, so we all learn together."

Our mate, Doreen from Malanda, has been in the wars off and on for the last couple of years and maybe not being able to get around so easily has been good for her orchids at home. "*D speciosum, D curvicaule, D pedunculatum, D monophyllum, D jonesii, and Sarcochilus falcatus* have all been in bloom as well as a couple of exotics. Cheered me up somewhat. Been a bit more regular with fertilising this year and seeing the results now I feel. Had Searle's Orchid Booster with a fertigator which makes it easier for me so gets done more regularly I suppose." She adds, "I had a beaut display of *D linguiforme* growing on a shadecloth bag filled with quincan and bark and Bob Nevin (judge) gave it first and champion native. Couldn't believe it!"

(I went out and fertilised my plants this afternoon P)

A VISIT TO MOUNT LEWIS CLOUDFOREST by Don Lawie

The Great Dividing Range about 75 km northwest of the City of Cairns in Far North Queensland divides the narrow coastal plain from the sprawling inland of Cape York Peninsula. West of the sugar town of Mossman is a series of high peaks (high for Queensland that is) that constitute some of the ancient refugia of plants and animals that date back beyond The Dreaming.

These peaks are magnets for botanists, zoologists and ornithologists since they harbour plants, animals and birds seen in few or no other places in Australia or, indeed, the world. The peaks bake in unrestricted sunshine or they can suddenly become mist-covered and endure freezing winds. Anything that lives there has evolved techniques to survive, and this has resulted in plants and animals of great interest.

Most peaks can only be accessed by arduous climbing, but one, Mount Lewis, affords access by a reasonable road which branches from the Mossman - Mt Molloy Highway. The turn-off is at about 450 metres altitude, and the road climbs to about 1300 metres in the first 11 km, then contours around the mountain for a further 17 km in a narrow, winding ascent.

Tablelands Branch of SGAP arranged permits for an outing to Mt Lewis on Sunday 11 September 2005, and a total of 27 people attended. We travelled in carpool convoy up the road, stopping at various places to admire the flora which became increasingly unusual. As one member put it "Everything on Mt Lewis is different." The road is unsealed and makes little mark on the forest which does its best to obliterate the road. National Park Rangers work constantly to clear fallen trees, and a permit to traverse is required.

Our first orchids for the day were the ubiquitous Pencil Orchid, *Dendrobium teretifolium*, which, though flowering on the coast, showed no sign of bud here. Their long, drooping round leaves - looking like pencils - can be seen almost anywhere in the Wet Tropics. A few small *Dendrobium adae* with long slim stems and clustered terminal leaves clung to the trunks of large trees, and a magnificent flowering specimen of *Dendrobium jonesii* shone in the sunlight high above the road. This widespread species has dark, fusiform stems up to 15 cm long, and masses of ivory flowers in early springtime.

We were treated to some of the endemic plants - Archontophoenix Mt Lewis palm, similar to the common Alexandra palm but with larger fruit and a purple crownshaft; *Aceratium ferrugineum*, which has beautiful rose-colours flowers but today was in full fruit; a type of walking stick palm, *Laccospadix australasica*, grows to a weird shape here, and the Grey Palm, *Oraniopsis appendiculata*, is a denizen only of high altitude, high rainfall, forests of the region.

After lunch at the end of the road, we were taken on a scramble through the forest that eclipsed anything that I had previously seen. Like a well written mystery novel, the surroundings became increasingly complex and unusual. At a series of huge granite boulders topped by large trees with their roots snaking to the ground we encountered our first orchids en masse. *Liparis bracteata* grew in profusion on rocks large and small in the gloom of the forest floor under full canopy cover; many *Dendrobium adae* appeared at eye level, some in flower; *Calanthe triplicata*, the Christmas Orchid so named for its flowering time, grew higgledy-piggedy in leaf litter jammed between rocks; tiny Bulbophyllum orchids grew in chains along thin outer twigs and were frequently seen where their supports had fallen to the ground.

Notoriously difficult to positively ID unless in flower, names suggested were *B macphersonii, bowkettiae, johnsonii, lilianae* and *lewisense.*

Those who read our report on the Paluma Forest in our last Newsletter will not be surprised to hear that we enjoyed delicious sightings of Crimson Rosellas on the road up the mountain, but now, in the midst of an orgy of orchids, we diverted to the call of a Golden Bowerbird and were enchanted to observe the bower in use. This is the third sighting of such a rare bird and bower, and the bower was again different with a small tree entwined with sticks and old vines to about waist height, a transverse perch running to the other upright which had little adornment. The display place had only a few bits of lichen but we were told that this bird uses the flowers of *Dendrobium fleckeri* in the display, and we found one such orchid in flower not far away.

We continued on through the forest until a change of aspect marked a profound difference in flora. Great rocks covered in small shrubs and permanent moss caused us to creep and crawl past them, brushing masses of orchids. *Dendrobium agrostophyllum's* grass-like stems were over 70cm long, *Cadetia taylori* clung to any support in multitudes. Bulbophyllums and Calanthes were everywhere, then we burst out onto a granite cliff that gave us a panoramic view north-westwards to the valley of the Mitchell River which flows into the Gulf of Carpentaria. This cliff top was carpeted in a type of sphagnum moss, which in turn nurtured hundreds of *D agrostophyllum, D jonesii* clinging to the cliff face, and a small number of *Thelymitra* probably *nuda* flowering a pretty pink. Small shrubs on the rock hosted *D fleckeri, D adae* and *Cadetia taylori* in flower.

Other plants on the rocks were a flowering *Rhododendron lochiae*, Australia's native Rhodo and only found on the highest peaks such as this, along with the cloudstripping tree *Leptospermum wooroonooran*, its contorted growth evidence of the harsh conditions that occur here. Today though we had perfect mild sunny weather and the Misty Bell flowers of the vine *Agapetes meiniana* iridesced before our eyes.

Pauline had been here previously and I had thought her enthusiasm was a bit over the top, but now I've seen it for myself and Mount Lewis is well worthy of all the superlatives that have been applied to it.

CRAWLY CRUNCHER by Pauline Lawie

I know one reason my *Spathoglottis plicata* plants had a flowering hiccough was due to experimentation with ready mixed Diazanon sold as "Crawly Cruncher". I tried it out firstly on a large *Dendrobium discolor* (one of Don's) as something was already having a go at it and it had little to lose. I waited till late afternoon and the heat had gone out of the sun. The stem continued to grow without a blemish. Emboldened by this, after a suitable interval, I tried it on a few other things. Unfortunately I did not keep notes so I'm not sure whether it was the Diazanon or the Pyrethrum which caused a set back to one *D carronii* and one *D canaliculatum.* The reaction of the *S plicata* was so dramatic I had no need to make notes.

With the intention of wowing the residents of Carinya Nursing Home I wanted to ensure a bunch of beautiful purple flowers. I was also keen to make sure there were no Black and White Tit grubs to deposit black droppings on the table there. I left it till late afternoon again and sprayed "Crawly Cruncher" generously with the intention of thoroughly washing the blooms

before picking in a few days time. The garden gets the full morning sun. The following day the temperature hit 42^0 and within the following 24 hours the leaves were burnt black and the flowers deteriorated drastically. I can guarantee there were no grubs on them but I had to resort to heliconias!

My conclusion is that this is a very effective insecticide for robust plants when it is not too hot. I'm not sure if I'll continue the experiment on flowers unless all Don's *D discolor* plants flower well this year! (They are flowering magnificently, but while the weather was cool enough to give it a try, we had almost constant drizzle, so they are still safe.)

Come on! Own up! What have you killed lately? Alternatively what has done especially well?

With this issue we commence our 11th year as leaders. We have just received a copy of Jan Sked's report as ASGAP Study Group Liaison Officer for the next ASGAP conference which is just about to get under way in Perth. Although we are one of the smaller ones, we compare pretty well with the other study groups. We issued the equal top number of newsletters in the past two years and we would like to thank those members who have made our job easier, particulary in more recent times, by submitting articles for publication. (One study group closed as the leader received no support at all.)

FINANCIAL STATEMENT 2004-2005

BALANCE BROUGHT FORWARD 1/7/04			$691 93
INCOME: Subscriptions, grants, donations		210 00	
Bank Interest		38	210 38
			902 31
EXPENDITURE: Printing		57 20	
Postage	97 45		
Stationery		17 85	
Miscellaneous (Photocopying)		16 00	188 50
BALANCE CARRIED FORWARD 30/6/05			$713 81

Bendigo Bank a/c No. 114 030 240 in the name of SGAP Indigenous Orchid Study Group with the signatures of Donald C Lawie and Pauline M Lawie, one to sign.

ASSETS: The assets of the Indigenous Orchid Study Group consist of $713 81, three 50c stamps, a reasonable ballpoint pen, the current ream A4 paper and some DL and C5 envelopes.

☺ ☺